3R - 128

REPORTS

DATE:

1999-2000

CROSS TIMBERS OPERATING COMPANY

GROUNDWATER REMEDIATION REPORT

1999-2000

STEDJE GC #1
(F) SECTION 27, T30N, R12W, NMPM
SAN JUAN COUNTY, NEW MEXICO

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

MAY 2001

PREPARED BY:
BLAGG ENGINEERING, INC.

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

Cross Timbers Operating Company (CTOC)
Stedje GC # 1 - Separator Pit
Se/4 Nw/4 Sec. 27, T30N, R12W

Site Assessment Date:	**April 30, 1992 (Documentation Included)**
Pit closure Date:	**Jul. - Aug. 1993 (Documentation Included)**
Monitor Well Installation Date:	**November 11, 1999**
Monitor Well Sampling Dates:	**11/29/99, 2/21/00, 3/15/00, 6/19/00**

Groundwater Monitor Well Sampling Procedures:

Groundwater samples were collected from site monitor wells (MW's) following US EPA: 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 US EPA Method 8021. Additional groundwater was collected and place in laboratory supplied 500 ml plastic containers and analyzed for general water quality per US EPA 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:

BTEX and general chemistry results for the three (3) quarterly sampling events are summarized in the following tables. All MW BTEX constituents satisfactorily meet the New Mexico Water Quality Control Commission's (NMWQCC) allowable concentrations for groundwater. The general water quality results also met NMWQCC standards for groundwater or was less than/statistically equal to the apparent background levels derived from MW #1 (except for fluoride MW #1 = 1.96 mg/L & MW #3 = 4.40 mg/L).

Summary:

Based on the determined groundwater gradient (figures 2, 3, and 4), MW #3 appears to be positioned to sufficiently substantiate and delineate the source area.

In accordance with the attached correspondence (*refer to letter dated May 11, 2001 - RE: CTOC, 2000 Annual Groundwater Reports, San Juan County, NM, Permanent Closure Requested*) and the NMOCD previously approved groundwater management plan (GMP), specifically Section 2.0, CTOC respectfully request permanent closure for the site separator pit.

This document contains all pertinent information detailed in section 5.0 (Reporting) of the GMP. Upon receiving permanent closure notification from NMOCD, CTOC will conduct plug and abandonment of all sampling points as addressed in Section 6.0 of the GMP.

CROSS TIMBERS GROUNDWATER MONITOR WELL LAB RESULTS

SUBMITTED BY BLAGG ENGINEERING, INC.

STEDJE GC #1 - SEPARATOR PIT

UNIT F, SEC. 27, T30N, R12W

REVISED: JULY 10, 2000

FILENAME: (S1-2Q-00.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 8021 (PPB) Benzene	Toluene	Ethyl Benzene	Total Xylene
29-Nov-99	MW #1	11.51	15.00	466	935	7.2		ND	ND	ND	ND
21-Feb-00		11.59						-	-	-	-
29-Nov-99	MW #2	10.80	15.00	450	910	7.1		50.0	37.3	124	621.8
15-Mar-00		10.57			800	7.3		ND	ND	ND	ND
19-Jun-00		9.75			500	7.6		ND	ND	0.8	ND
29-Nov-99	MW #3	10.51	15.00	475	960	7.2		9.9	3.5	75	154.6
21-Feb-00		10.61			700	7.7		ND	ND	ND	ND
19-Jun-00		9.50			1,100	7.5		ND	ND	ND	ND

GENERAL WATER QUALITY

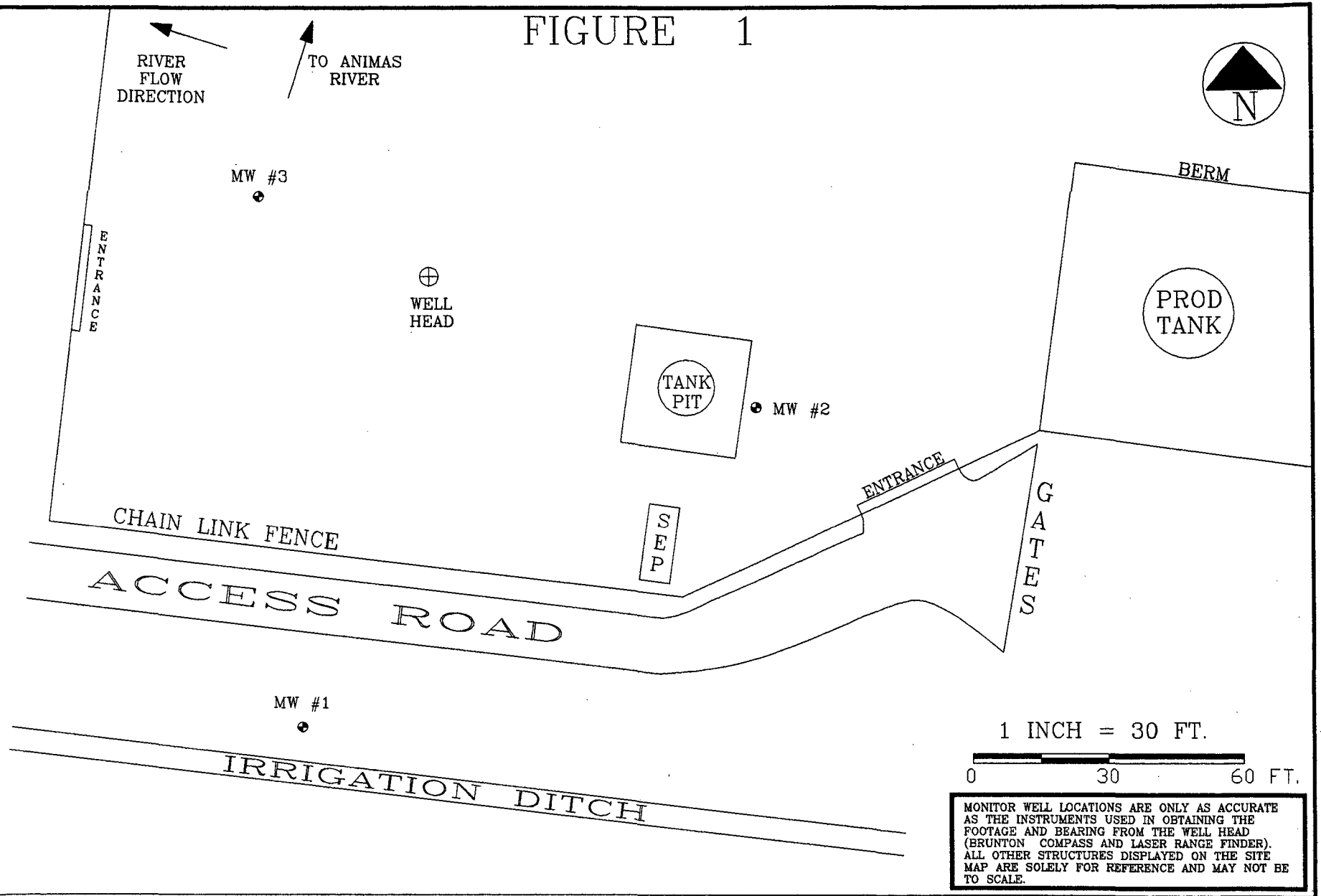
CROSS TIMBERS OPERATING COMPANY

STEDJE GC #1

SAMPLE DATE : November 29 , 1999

PARAMETERS	MW # 1	MW # 2	MW # 3	Units
LAB pH	7.17	7.14	7.15	s. u.
LAB CONDUCTIVITY @ 25 C	935	910	960	umhos / cm
TOTAL DISSOLVED SOLIDS @ 180 C	466	450	475	mg / L
TOTAL DISSOLVED SOLIDS (Calc)	460	430	460	mg / L
SODIUM ABSORPTION RATIO	0.0	0.6	0.6	ratio
TOTAL ALKALINITY AS CaCO3	212	198	210	mg / L
TOTAL HARDNESS AS CaCO3	372	298	322	mg / L
BICARBONATE as HCO3	212	198	210	mg / L
CARBONATE AS CO3	< .01	< .01	< .01	mg / L
HYDROXIDE AS OH	< 0.1	< 0.1	< 0.1	mg / L
NITRATE NITROGEN	0.1	0.1	0.4	mg / L
NITRITE NITROGEN	0.002	0.002	0.006	mg / L
CHLORIDE	24.0	23.3	32.0	mg / L
FLUORIDE	1.12	0.60	0.94	mg / L
PHOSPHATE	0.4	2.2	0.7	mg / L
SULFATE	160	145	150	mg / L
IRON	0.01	0.08	0.01	mg / L
CALCIUM	122	105	107	mg / L
MAGNESIUM	16.6	8.8	13.2	mg / L
POTASSIUM	4.5	2.1	4.4	mg / L
SODIUM	< 0.1	23.2	23.5	mg / L
CATION / ANION DIFFERENCE	0.17	0.02	0.19	%

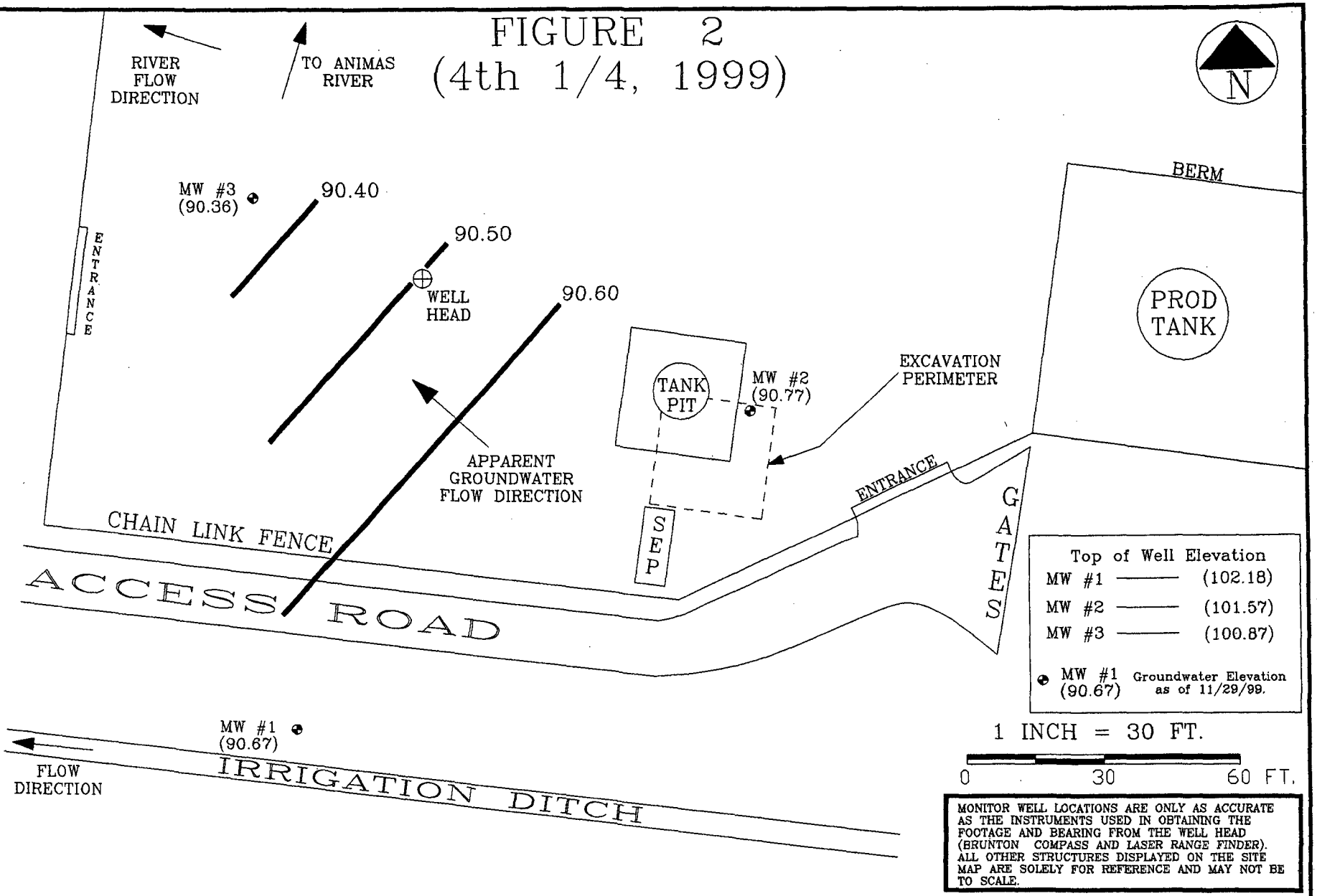
FIGURE 1



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 MAY NOT BE TO SCALE.

CROSS TIMBERS OPERATING CO. STEDJE GC #1 SE/4 NW/4 SEC. 27, T30N, R12W 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: STEDJ-SM.SKD	SITE MAP 11/99

FIGURE 2
(4th 1/4, 1999)



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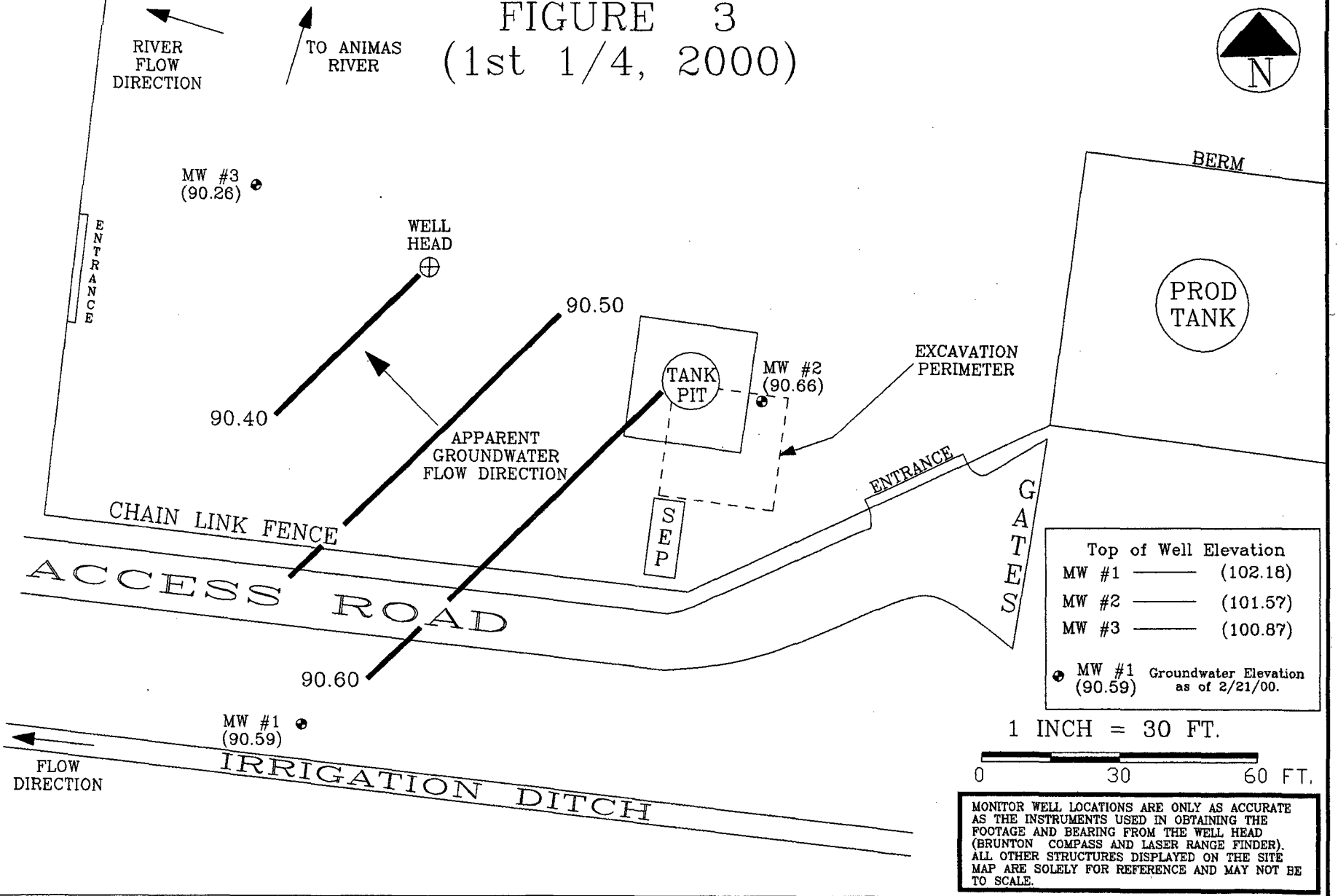
CROSS TIMBERS OPERATING CO. STEDJE GC #1 SE/4 NW/4 SEC. 27, T30N, R12W SAN JUAN COUNTY, NEW MEXICO	BLAGG ENGINEERING, INC. CONSULTING PETROLEUM / RECLAMATION SERVICES P.O. BOX 87 BLOOMFIELD, NEW MEXICO 87413 PHONE: (505) 632-1199	PROJECT: MW SAMPLING DRAWN BY: NJV FILENAME: 11-29-GW.SKD	GROUNDWATER GRADIENT MAP 11/99

FIGURE 3
(1st 1/4, 2000)



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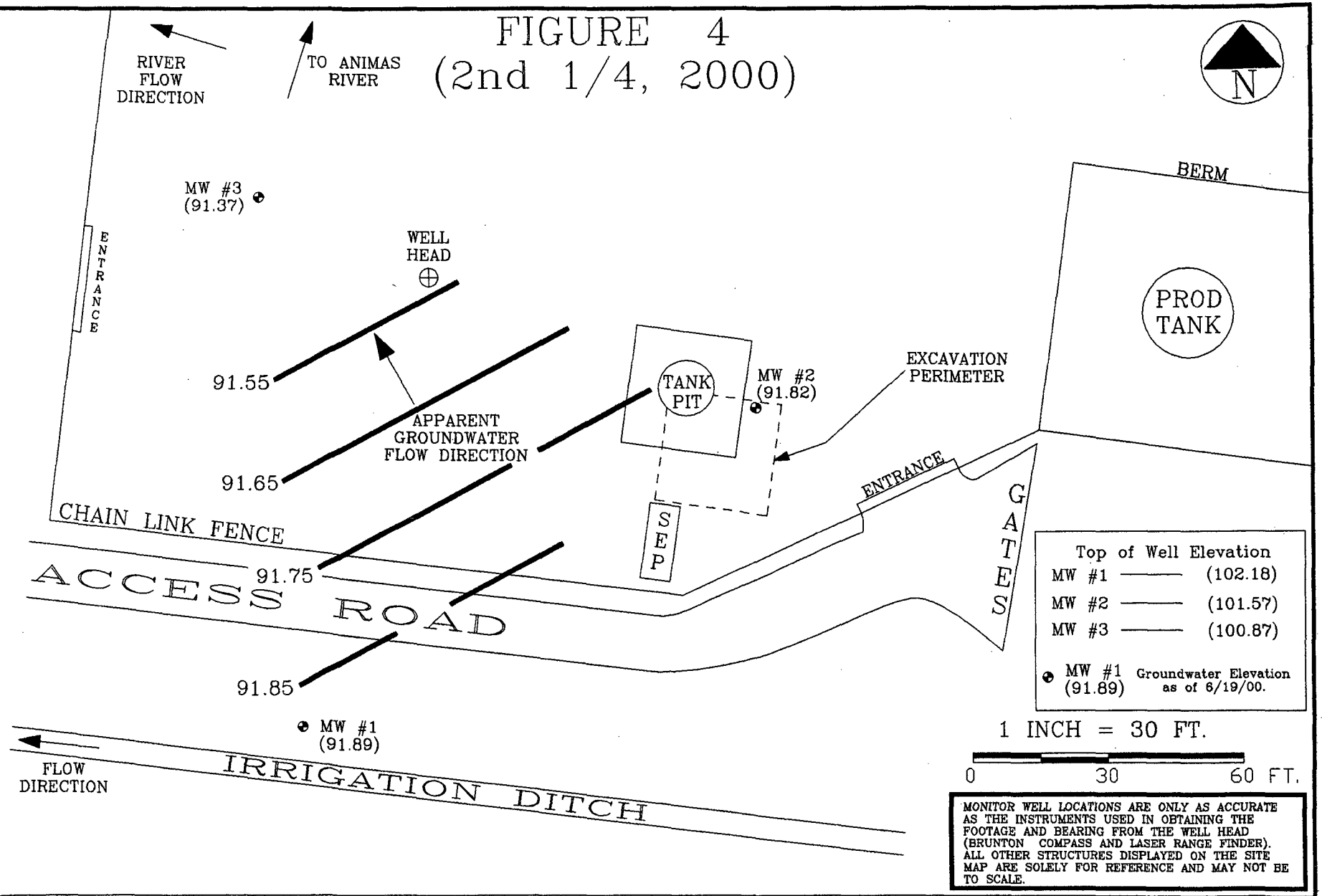
CROSS TIMBERS OPERATING CO. STEDJE GC #1 SE/4 NW/4 SEC. 27, T30N, R12W SAN JUAN COUNTY, NEW MEXICO	BLAGG ENGINEERING, INC. CONSULTING PETROLEUM / RECLAMATION SERVICES P.O. BOX 87 BLOOMFIELD, NEW MEXICO 87413 PHONE: (505) 632-1199	PROJECT: MW SAMPLING DRAWN BY: NJV FILENAME: 02-21-GW.SKD	GROUNDWATER GRADIENT MAP 02/00

FIGURE 4
(2nd 1/4, 2000)



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 MAY NOT BE TO SCALE.

CROSS TIMBERS OPERATING CO. STEDJE GC #1 SE/4 NW/4 SEC. 27, T30N, R12W 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: 06-19-GW.SKD	GROUNDWATER GRADIENT MAP 06/00

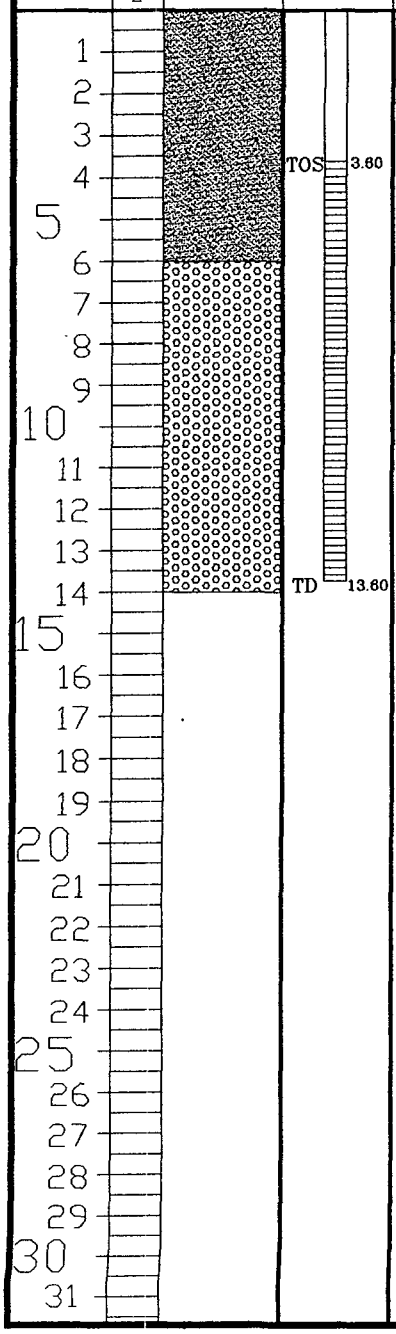
BLAGG ENGINEERING, Inc.

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

BORE / TEST HOLE REPORT

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

CLIENT: CROSS TIMBERS OPERATING COMPANY
LOCATION NAME: STEDJE GC #1
CONTRACTOR: BLAGG ENGINEERING, INC.
EQUIPMENT USED: MOBILE DRILL RIG (ENVIROTECH CME61)
BORING LOCATION: 104 FT., S15.5W FEET FROM WELL HEAD.



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 1.40 FT. ABOVE GROUND SURFACE.

DARK YELLOWISH ORANGE SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (0.00 – 6.00 FT. INTERVAL).

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

▼ GW DEPTH ON 11/29/99 = 10.11 FT. (APPROX.) FROM GROUND SURFACE.

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

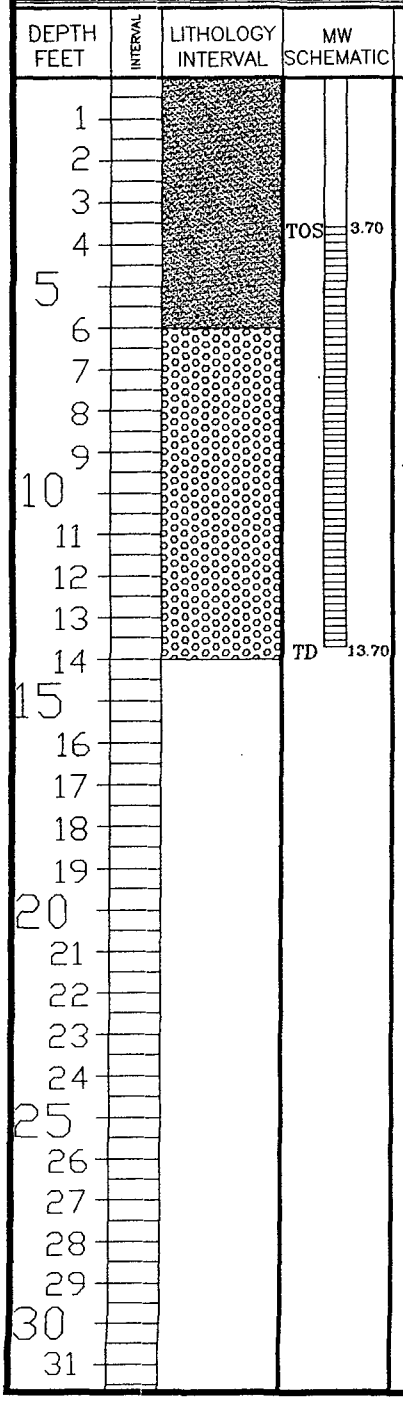
BLAGG ENGINEERING, Inc.

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

BORE / TEST HOLE REPORT

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

CLIENT: CROSS TIMBERS OPERATING COMPANY
LOCATION NAME: STEDJE GC #1
CONTRACTOR: BLAGG ENGINEERING, INC.
EQUIPMENT USED: MOBILE DRILL RIG (ENVIROTECH CME61)
BORING LOCATION: 78 FT., S68W FEET FROM WELL HEAD.



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 1.30 FT. ABOVE GROUND SURFACE.

DARK YELLOWISH ORANGE SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (0.00 – 6.00 FT. INTERVAL).

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

▼ GW DEPTH ON 11/29/99 = 10.00 FT. (APPROX.) FROM GROUND SURFACE.

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-2.SKD	DATE: 1/29/00	DWN BY: NJV

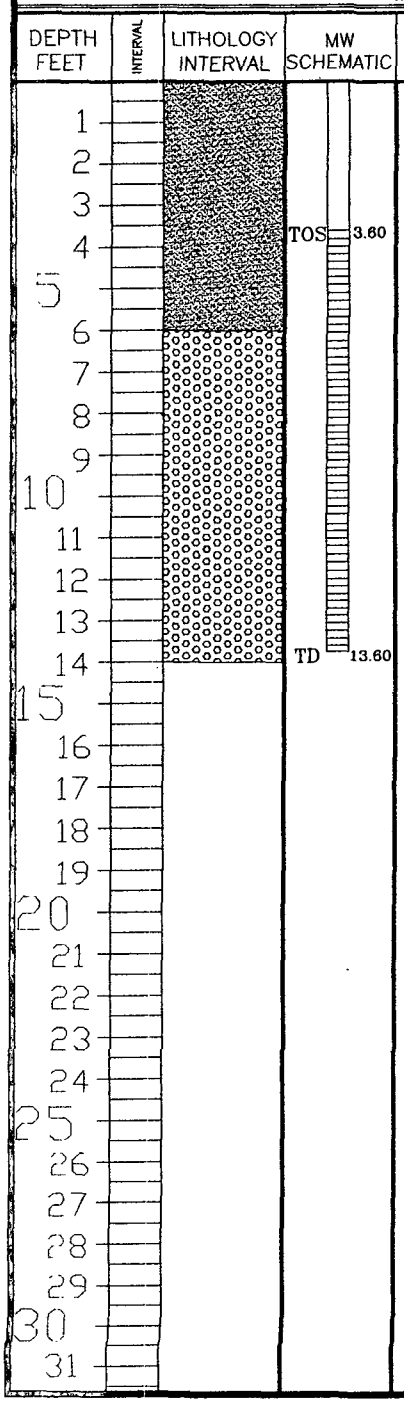
BLAGG ENGINEERING, Inc.

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

BORE / TEST HOLE REPORT

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

CLIENT: CROSS TIMBERS OPERATING COMPANY
LOCATION NAME: STEDJE GC #1
CONTRACTOR: BLAGG ENGINEERING, INC.
EQUIPMENT USED: MOBILE DRILL RIG (ENVIROTECH CME61)
BORING LOCATION: 41.5 FT., N64.5W FEET FROM WELL HEAD.



FIELD CLASSIFICATION AND REMARKS

TOP OF CASING APPROX. 1.40 FT. ABOVE GROUND SURFACE.

DARK YELLOWISH ORANGE SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (0.00 - 6.00 FT. INTERVAL).

▼ GW DEPTH ON 11/29/99 = 9.11 FT. (APPROX.) FROM GROUND SURFACE.

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

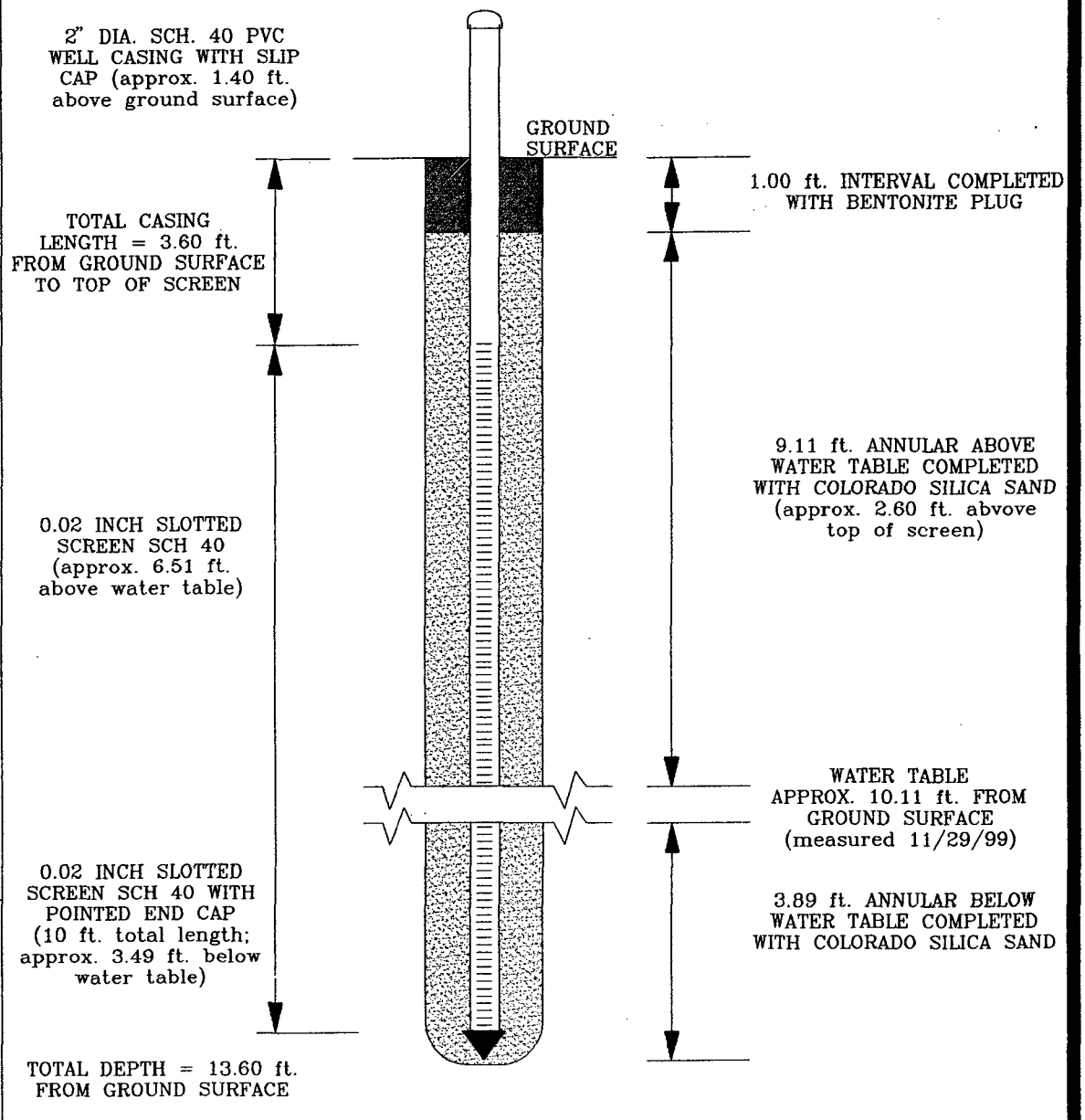
NOTE: ▨ - SAND.

▨ - SAND AND GRAVEL.

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

DRAWING: BH-3.SKD	DATE: 1/29/00	DWN BY: NJV

MONITOR WELL #1



CROSS TIMBERS OPERATING CO.

STEDJE GC #1

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 OPERATING CO.

STEDJE GC #1

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

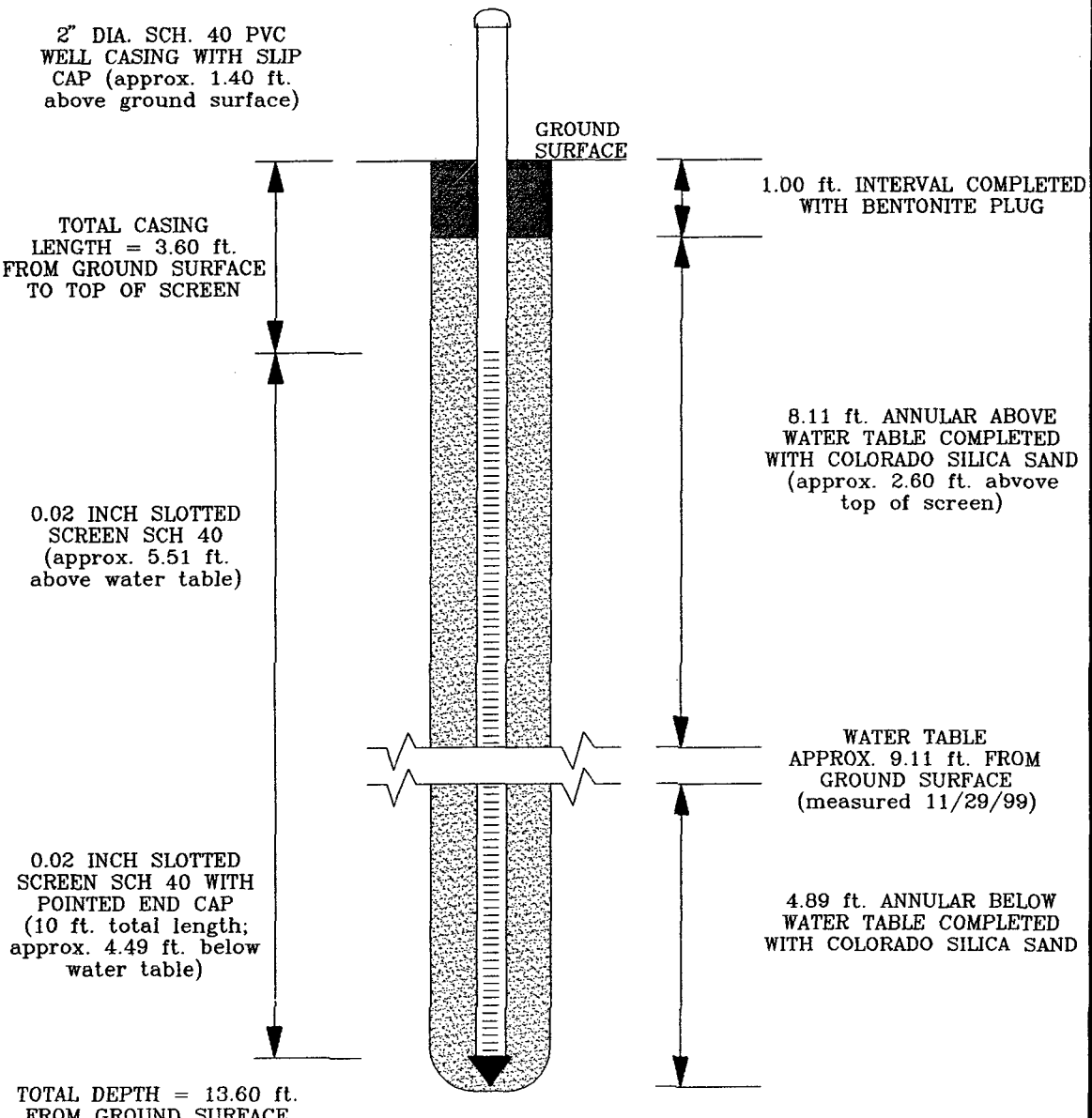
MONITOR WELL SCHEMATIC

DRAFTED BY: NJV

DATE: JAN. '00

FILENAME: MW-2

MONITOR WELL #3



CROSS TIMBERS OPERATING CO.

STEDJE GC #1

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 OPER. CO. **CHAIN-OF-CUSTODY # :** 7313

LOCATION : STEDJE GC # 1 **LABORATORY (S) USED :** ENVIROTECH, INC.

Date : November 29, 1999 **SAMPLER :** REP

Filename : 11-29-99.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	102.18	90.67	11.51	15.00	1150	7.9	700	1.75	-
2	101.57	90.77	10.80	15.00	1215	7.4	600	2.00	-
3	100.87	90.36	10.51	15.00	1135	7.5	800	2.25	-

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 ".

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:	11-30-99
Chain of Custody:	7313	Date Sampled:	11-29-99
Laboratory Number:	G503	Date Received:	11-29-99
Sample Matrix:	Water	Date Analyzed:	11-30-99
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	**99 %**
	Bromofluorobenzene	**99 %**

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

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

Comments: **Stedje GC #1.**

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:	11-30-99
Chain of Custody:	7313	Date Sampled:	11-29-99
Laboratory Number:	G504	Date Received:	11-29-99
Sample Matrix:	Water	Date Analyzed:	11-30-99
Preservative:	HgCl2 & Cool	Analysis Requested:	BTEX
Condition:	Cool & Intact		

Parameter	Concentration (ug/L)	Dilution Factor	Det. Limit (ug/L)
Benzene	**50.0**	**1**	**0.2**
Toluene	**37.3**	**1**	**0.2**
Ethylbenzene	**124**	**1**	**0.2**
p,m-Xylene	**564**	**1**	**0.2**
o-Xylene	**57.8**	**1**	**0.1**
Total Xylene	**622**		
Total BTEX	**833**		

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: **Stedje GC #1.**

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:	11-30-99
Chain of Custody:	7313	Date Sampled:	11-29-99
Laboratory Number:	G505	Date Received:	11-29-99
Sample Matrix:	Water	Date Analyzed:	11-30-99
Preservative:	HgCl2 & Cool	Analysis Requested:	BTEX
Condition:	Cool & Intact		

Parameter	Concentration (ug/L)	Dilution Factor	Det. Limit (ug/L)
Benzene	**9.9**	**1**	**0.2**
Toluene	**3.5**	**1**	**0.2**
Ethylbenzene	**75.0**	**1**	**0.2**
p,m-Xylene	**143**	**1**	**0.2**
o-Xylene	**11.6**	**1**	**0.1**
Total Xylene	**155**		
Total BTEX	**243**		

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: **Stedje GC #1.**

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:	12-01-99
Laboratory Number:	G503	Date Sampled:	11-29-99
Chain of Custody:	7313	Date Received:	11-29-99
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	11-30-99
Condition:	Cool & Intact		

Parameter	Analytical Result	Units		Units
pH	**7.17**	s.u.		
Conductivity @ 25° C	**935**	umhos/cm		
Total Dissolved Solids @ 180C	**466**	mg/L		
Total Dissolved Solids (Calc)	**460**	mg/L		
SAR	**0.0**	ratio		
Total Alkalinity as CaCO3	**212**	mg/L		
Total Hardness as CaCO3	**372**	mg/L		
Bicarbonate as HCO3	**212**	mg/L	3.47	meq/L
Carbonate as CO3	**<.01**	mg/L	0.00	meq/L
Hydroxide as OH	**<0.1**	mg/L	0.00	meq/L
Nitrate Nitrogen	**0.1**	mg/L	0.00	meq/L
Nitrite Nitrogen	**0.002**	mg/L	0.00	meq/L
Chloride	**24.0**	mg/L	0.68	meq/L
Fluoride	**1.12**	mg/L	0.06	meq/L
Phosphate	**0.4**	mg/L	0.01	meq/L
Sulfate	**160**	mg/L	3.33	meq/L
Iron	**0.01**	mg/L		
Calcium	**122**	mg/L	6.09	meq/L
Magnesium	**16.6**	mg/L	1.37	meq/L
Potassium	**4.5**	mg/L	0.12	meq/L
Sodium	**<0.1**	mg/L	0.00	meq/L
Cations			7.57	meq/L
Anions			7.56	meq/L
Cation/Anion Difference			**0.17%**	

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: **Stedje GC #1.**

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:	12-01-99
Laboratory Number:	G504	Date Sampled:	11-29-99
Chain of Custody:	7313	Date Received:	11-29-99
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	11-30-99
Condition:	Cool & Intact		

Parameter	Analytical Result	Units		Units
pH	**7.14**	s.u.		
Conductivity @ 25° C	**910**	umhos/cm		
Total Dissolved Solids @ 180C	**450**	mg/L		
Total Dissolved Solids (Calc)	**430**	mg/L		
SAR	**0.6**	ratio		
Total Alkalinity as CaCO3	**198**	mg/L		
Total Hardness as CaCO3	**298**	mg/L		
Bicarbonate as HCO3	**198**	mg/L	3.25	meq/L
Carbonate as CO3	**<.01**	mg/L	0.00	meq/L
Hydroxide as OH	**<0.1**	mg/L	0.00	meq/L
Nitrate Nitrogen	**0.1**	mg/L	0.00	meq/L
Nitrite Nitrogen	**0.002**	mg/L	0.00	meq/L
Chloride	**23.3**	mg/L	0.66	meq/L
Fluoride	**0.60**	mg/L	0.03	meq/L
Phosphate	**2.2**	mg/L	0.07	meq/L
Sulfate	**145**	mg/L	3.02	meq/L
Iron	**0.08**	mg/L		
Calcium	**105**	mg/L	5.24	meq/L
Magnesium	**8.8**	mg/L	0.72	meq/L
Potassium	**2.1**	mg/L	0.05	meq/L
Sodium	**23.2**	mg/L	1.01	meq/L
Cations			7.03	meq/L
Anions			7.02	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: **Stedje GC #1.**

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:	12-01-99
Laboratory Number:	G505	Date Sampled:	11-29-99
Chain of Custody:	7313	Date Received:	11-29-99
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	11-30-99
Condition:	Cool & Intact		

Parameter	Analytical Result	Units		Units
pH	**7.15**	s.u.		
Conductivity @ 25° C	**960**	umhos/cm		
Total Dissolved Solids @ 180C	**475**	mg/L		
Total Dissolved Solids (Calc)	**460**	mg/L		
SAR	**0.6**	*ratio*		
Total Alkalinity as CaCO3	**210**	mg/L		
Total Hardness as CaCO3	**322**	mg/L		
Bicarbonate as HCO3	**210**	mg/L	3.44	meq/L
Carbonate as CO3	**<.01**	mg/L	0.00	meq/L
Hydroxide as OH	**<0.1**	mg/L	0.00	meq/L
Nitrate Nitrogen	**0.4**	mg/L	0.01	meq/L
Nitrite Nitrogen	**0.006**	mg/L	0.00	meq/L
Chloride	**32.0**	mg/L	0.90	meq/L
Fluoride	**0.94**	mg/L	0.05	meq/L
Phosphate	**0.7**	mg/L	0.02	meq/L
Sulfate	**150**	mg/L	3.12	meq/L
Iron	**0.01**	mg/L		
Calcium	**107**	mg/L	5.34	meq/L
Magnesium	**13.2**	mg/L	1.09	meq/L
Potassium	**4.4**	mg/L	0.11	meq/L
Sodium	**23.5**	mg/L	1.02	meq/L
Cations			7.56	meq/L
Anions			7.55	meq/L
Cation/Anion Difference			**0.19%**	

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: **Stedje GC #1.**

Analyst

Review

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CHAIN OF CUSTODY RECORD

7313

Client / Project Name	Project Location	ANALYSIS / PARAMETERS
BLAGG/CROSSTIMBERS	STEDJE GC #1	
Sampler: REP	Client No. 40340	

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	BTEX (8021)	ANION CATION					Remarks
MW #1	11.29.99	1150	G503	WATER	3	✓	✓					
MW #2	11.29.99	1215	G504	WATER	3	✓	✓					
MW #3	11.29.99	1135	G505	WATER	3	✓	✓					
												BTEX SAMPLES
												PRESERVE: HgCl2/ COOL
												A/C SAMPLES
												PRESERVE - COOL

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Ed Pawlowski	11.29.99	1325	Dennis P. Aguirre	11.29.99	1525
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:	11-30-BTEX QA/QC	Date Reported:	11-30-99
Laboratory Number:	G503	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	11-30-99
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	7.0291E-002	7.0516E-002	**0.32%**	**ND**	**0.2**
Toluene	6.3951E-002	6.3963E-002	**0.02%**	**ND**	**0.2**
Ethylbenzene	5.2614E-002	5.2677E-002	**0.12%**	**ND**	**0.2**
p,m-Xylene	3.9700E-002	3.9708E-002	**0.02%**	**ND**	**0.2**
o-Xylene	6.5791E-003	6.5989E-003	**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**	**50.1**	**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 G503 - G508 and G510 - G511.**

Analyst

Review

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BLAGG ENGINEERING, INC.

MONITOR WELL SAMPLING DATA

CLIENT : CROSS TIMBERS OPER. CO. **CHAIN-OF-CUSTODY # :** 10357

LOCATION : STEDJE GC # 1 **LABORATORY (S) USED :** ON - SITE TECH.

Date : February 21, 2000 **SAMPLER :** N J V

Filename : 02-21-00.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	102.18	90.59	11.59	15.00	-	-	-	-	-
2	101.57	90.66	10.91	15.00	-	-	-	-	-
3	100.87	90.26	10.61	15.00	1440	7.7	700	2.25	-

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 ".

Poor recovery in MW # 3 . Collected BTEX sample from MW # 3 only .

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *01-Mar-00*

Client:	Blagg Engineering	**Client Sample Info:**	CTOC - Stedje GC #1
Work Order:	0002049	**Client Sample ID:**	MW #3
Lab ID:	0002049-01A **Matrix:** AQUEOUS	**Collection Date:**	2/21/2000 2:40:00 PM
Project:	CTOC - Stedje GC #1	**COC Record:**	10357

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		**SW8021B**				Analyst: **DM**
Benzene	ND	0.5		µg/L	1	2/25/2000
Toluene	ND	0.5		µg/L	1	2/25/2000
Ethylbenzene	ND	0.5		µg/L	1	2/25/2000
m,p-Xylene	ND	1		µg/L	1	2/25/2000
o-Xylene	ND	0.5		µg/L	1	2/25/2000

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

10357

CHAIN OF CUSTODY RECORD

ON SITE TECHNOLOGIES, LTD.

612 E. Murray Dr. • P.O. Box 2606 • Farmington, NM 87499
LAB: (505) 325-5667 • FAX: (505) 327-1496

Date: 2/22/00

Page: 1 of 1

Purchase Order No.:

Project No.:

SEND INVOICE TO

Name: NELSON VELEZ

Company: BLAGG ENGINEERING, INC. Dept.:

Address: P.O. BOX 87

City, State, Zip: BLOOMFIELD, NM 87413

REPORT RESULTS TO

Name: SAME Title:

Company:

Mailing Address:

City, State, Zip:

Telephone No.: Telefax No.:

PROJECT LOCATION:

CTOC - STEDJE GC #1

SAMPLER'S SIGNATURE: Nelson Vel

SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	SAMPLE MATRIX	SAMPLE PRES.	Number of Containers	ANALYSIS REQUESTED: BTEX (8021)	LAB ID
MW #3	2/21/00	1440	WATER	COOL & HCl	2	✓	0002049-01A

Relinquished by: Nelson Vel Date/Time 2/22/00 1330 Received by: Date/Time 2/22/00 1330

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 | By Date 2/28/00

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

Special Instructions / Remarks:

PLEASE FAX RESULTS UPON ANALYTICAL COMPLETION.

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

On Site Technologies, LTD.

Date: *01-Mar-00*

CLIENT: Blagg Engineering
Work Order: 0002049
Project: CTOC - Stedje GC #1

QC SUMMARY REPORT
Method Blank

Sample ID: **MB1** Batch ID: **GC-1_000225** Test Code: **SW8021B** Units: **µg/L** Analysis Date **2/25/2000** Prep Date:

Client ID: **0002049** Run ID: **GC-1_000225A** SeqNo: **24479**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	.139	0.5									J
Ethylbenzene	.0595	0.5									J
m,p-Xylene	.1049	1									J
Methyl tert-Butyl Ether	ND	1									
o-Xylene	.0485	0.5									J
Toluene	.1347	0.5									J

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *01-Mar-00*

CLIENT: Blagg Engineering
Work Order: 0002049
Project: CTOC - Stedje GC #1

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: **0002042-02AMS** Batch ID: **GC-1_000225** Test Code: **SW8021B** Units: **µg/L** Analysis Date **2/25/2000** Prep Date:
Client ID: **0002049** Run ID: **GC-1_000225A** SeqNo: **24480**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21250	120	10000	12000	92.6%	73	126				
Ethylbenzene	11460	120	10000	1328	101.3%	88	113				
m,p-Xylene	19960	250	20000	539.9	97.1%	83	112				
Methyl tert-Butyl Ether	52230	250	10000	45200	70.2%	81	125				ES—
o-Xylene	10540	120	10000	336.6	102.1%	93	110				
Toluene	11160	120	10000	1020	101.5%	76	126				

Sample ID: **0002042-02AMSD** Batch ID: **GC-1_000225** Test Code: **SW8021B** Units: **µg/L** Analysis Date **2/25/2000** Prep Date:
Client ID: **0002049** Run ID: **GC-1_000225A** SeqNo: **24481**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20810	120	10000	12000	88.2%	73	126	21250	2.1%	6	
Ethylbenzene	11230	120	10000	1328	99.0%	88	113	11460	2.0%	5	
m,p-Xylene	19580	250	20000	539.9	95.2%	83	112	19960	1.9%	7	
Methyl tert-Butyl Ether	52130	250	10000	45200	69.3%	81	125	52230	0.2%	9	ES—
o-Xylene	10390	120	10000	336.6	100.5%	93	110	10540	1.4%	6	
Toluene	10940	120	10000	1020	99.2%	76	126	11160	2.0%	6	

— CONFIRMED LCS 3/1/2000

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *01-Mar-00*

CLIENT: Blagg Engineering
Work Order: 0002049
Project: CTOC - Stedje GC #1

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: **LCS WATER** Batch ID: **GC-1_000225** Test Code: **SW8021B** Units: **µg/L** Analysis Date **2/25/2000** Prep Date:

Client ID: **0002049** Run ID: **GC-1_000225A** SeqNo: **24478**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	40.92	0.5	40	0.139	102.0%	89	112				
Ethylbenzene	41.42	0.5	40	0.0595	103.4%	93	112				
m,p-Xylene	78.63	1	80	0.1049	98.2%	88	108				
Methyl tert-Butyl Ether	41.32	1	40	0	103.3%	87	115				
o-Xylene	41.44	0.5	40	0.0485	103.5%	93	112				
Toluene	41.14	0.5	40	0.1347	102.5%	92	111				

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *01-Mar-00*

CLIENT: Blagg Engineering
Work Order: 0002049
Project: CTOC - Stedje GC #1

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: **CCV1 BTEX_0001** Batch ID: **GC-1_000225** Test Code: **SW8021B** Units: **µg/L** Analysis Date **2/25/2000** Prep Date:
Client ID: **0002049** Run ID: **GC-1_000225A** SeqNo: **24475**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.45	0.5	20	0	102.2%	85	115				
Ethylbenzene	20.85	0.5	20	0	104.3%	85	115				
m,p-Xylene	39.34	1	40	0	98.3%	85	115				
Methyl tert-Butyl Ether	20.41	1	20	0	102.0%	85	115				
o-Xylene	20.78	0.5	20	0	103.9%	85	115				
Toluene	20.31	0.5	20	0	101.6%	85	115				
1,4-Difluorobenzene	90.02	0	100	0	90.0%	80	105				
4-Bromochlorobenzene	89.28	0	100	0	89.3%	78	108				
Fluorobenzene	89.34	0	100	0	89.3%	78	108				

Sample ID: **CCV2 BTEX_0001** Batch ID: **GC-1_000225** Test Code: **SW8021B** Units: **µg/L** Analysis Date **2/25/2000** Prep Date:
Client ID: **0002049** Run ID: **GC-1_000225A** SeqNo: **24476**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	19.74	0.5	20	0	98.7%	85	115				
Ethylbenzene	20.35	0.5	20	0	101.8%	85	115				
m,p-Xylene	38.38	1	40	0	95.9%	85	115				
Methyl tert-Butyl Ether	20.52	1	20	0	102.6%	85	115				
o-Xylene	20.42	0.5	20	0	102.1%	85	115				
Toluene	19.92	0.5	20	0	99.6%	85	115				
1,4-Difluorobenzene	89.37	0	100	0	89.4%	80	105				
4-Bromochlorobenzene	89.5	0	100	0	89.5%	78	108				
Fluorobenzene	89.36	0	100	0	89.4%	78	108				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Blagg Engineering
Work Order: 0002049
Project: CTOC - Stedje GC #1

QC SUMMARY REPORT
Continuing Calibration Verification Standard

Sample ID: **CCV3 BTEX_0001** Batch ID: **GC-1_000225** Test Code: **SW8021B** Units: **µg/L** Analysis Date **2/25/2000** Prep Date:

Client ID: **0002049** Run ID: **GC-1_000225A** SeqNo: **24477**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	40.08	0.5	40	0	100.2%	85	115				
Ethylbenzene	40.36	0.5	40	0	100.9%	85	115				
m,p-Xylene	76.66	1	80	0	95.8%	85	115				
Methyl tert-Butyl Ether	41.52	1	40	0	103.8%	85	115				
o-Xylene	40.6	0.5	40	0	101.5%	85	115				
Toluene	40.21	0.5	40	0	100.5%	85	115				
1,4-Difluorobenzene	88.88	0	100	0	88.9%	80	105				
4-Bromochlorobenzene	89.24	0	100	0	89.2%	78	108				
Fluorobenzene	88.61	0	100	0	88.6%	78	108				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 01-Mar-00

CLIENT: Blagg Engineering
Work Order: 0002049
Project: CTOC - Stedje GC #1
Test No: SW8021B

QC SUMMARY REPORT
SURROGATE RECOVERIES

Aromatic Volatiles by GC/PID

Sample ID	14FBZ	4BCBZ	FLBZ					
0002042-02A	89	89.1	88.1					
0002042-02AMS	88.4	90.4	87.3					
0002042-02AMSD	87.9	90.4	87.2					
0002042-03A	90.5	89.2	89.5					
0002042-04A	90.2	89.5	89.4					
0002042-05A	90.6	89.4	89.6					
0002042-06A	90	88.2	89.1					
0002042-07A	89.1	88.8	89.2					
0002042-09A	90	89.4	89.6					
0002043-01A	89.6	88.3	89					
0002043-03A	90.4	89.5	89.6					
0002044-01A	90.4	89.8	89.6					
0002044-03A	90	89.1	90.1					
0002046-01A	90.2	89.4	89.6					
0002046-02A	90.8	90.4	91.4					
0002047-01A	90.6	89.1	89.6					
0002047-02A	90	89.1	90					
0002049-01A	89.8	89.3	90.1					
CCV1 BTEX_00010	90	89.3	89.3					
CCV2 BTEX_00010	89.4	89.5	89.4					
CCV3 BTEX_00010	88.9	89.2	88.6					
LCS WATER	89.5	89.4	88.1					
MB1	90.5	88.2	89.4					

Acronym		Surrogate	QC Limits
14FBZ	=	1,4-Difluorobenzene	80-105
4BCBZ	=	4-Bromochlorobenzene	78-108
FLBZ	=	Fluorobenzene	78-108

*** Surrogate recovery outside acceptance limits**

BLAGG ENGINEERING, INC.

MONITOR WELL SAMPLING DATA

CLIENT : CROSS TIMBERS OPER. CO. **CHAIN-OF-CUSTODY # :** 10370

LOCATION : STEDJE GC # 1 **LABORATORY (S) USED :** ON - SITE TECH.

Date : March 15, 2000 **SAMPLER :** N J V

Filename : 03-15-00.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	102.18	90.96	11.22	15.00	-	-	-	-	-
2	101.57	91.00	10.57	15.00	0915	7.3	800	2.25	-
3	100.87	90.52	10.35	15.00	-	-	-	-	-

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 ".

Good recovery in MW # 2 . Slightly murky at first, then clear during purging .

Collected BTEX from MW # 2 only .

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *17-Mar-00*

Client:	Blagg Engineering	**Client Sample Info:**	Stedje GC #1
Work Order:	0003026	**Client Sample ID:**	MW #2
Lab ID:	0003026-01A **Matrix:** AQUEOUS	**Collection Date:**	3/15/2000 9:15:00 AM
Project:	Cross Timbers; Stedje GC #1	**COC Record:**	10370

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		**SW8021B**				Analyst: **DM**
Benzene	ND	0.5		µg/L	1	3/15/2000
Toluene	ND	0.5		µg/L	1	3/15/2000
Ethylbenzene	ND	0.5		µg/L	1	3/15/2000
m,p-Xylene	ND	1		µg/L	1	3/15/2000
o-Xylene	ND	0.5		µg/L	1	3/15/2000

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

10370

CHAIN OF CUSTODY RECORD

Date: 3/15/00

Page: 1 of 1

ON SITE TECHNOLOGIES, LTD.

612 E. Murray Dr. • P.O. Box 2606 • Farmington, NM 87499
LAB: (505) 325-5667 • FAX: (505) 327-1496

Purchase Order No.: | Project No.:

SEND INVOICE TO
Name: JEFF BLAGG
Company: BLAGG ENGINEERING, INC.
Dept.:
Address: P.O. BOX 87
City, State, Zip: BLOOMFIELD, NM 87413

REPORT RESULTS TO
Name: NELSON VELEZ
Title:
Company: SAME
Mailing Address:
City, State, Zip:
Telephone No.: 632-1199
Telefax No.: 632-3903

PROJECT LOCATION:
CROSS TIMBERS - STEOTE GC #1

SAMPLER'S SIGNATURE:

SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	SAMPLE MATRIX	SAMPLE PRES.	Number of Containers	ANALYSIS REQUESTED: BTEX (8021)	LAB ID
MW #2	3/15/00	0915	WATER	COOL + HCl	2	1	000 3026 - 01A

Relinquished by: Nelson Velez — Date/Time: 3/15/00 0955
Relinquished by: — Date/Time:
Relinquished by: — Date/Time:

Received by: Sam D. Martin — Date/Time: 3/15/00 09[illegible]
Received by: — Date/Time:
Received by: — Date/Time:

Method of Shipment:

Rush | 24-48 Hours | 10 Working Days | By Date: 3/22/00

Special Instructions / Remarks:
PLEASE CALL OR FAX UPON COMPLETION.

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

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

To Re-order Call 325-9600 or Fax 325-9764 alphaGraphics FORM # 01

On Site Technologies, LTD.

Date: *17-Mar-00*

CLIENT: Blagg Engineering
Work Order: 0003026
Project: Cross Timbers; Stedje GC #1

QC SUMMARY REPORT

Method Blank

Sample ID: **MB1** Batch ID: **GC-1_000315** Test Code: **SW8021B** Units: **µg/L** Analysis Date **3/15/2000** Prep Date:

Client ID: **0003026** Run ID: **GC-1_000315A** SeqNo: **25733**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	.0611	0.5									J
Ethylbenzene	.0557	0.5									J
m,p-Xylene	.1324	1									J
Methyl tert-Butyl Ether	ND	1									
o-Xylene	.0613	0.5									J
Toluene	.1425	0.5									J

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *17-Mar-00*

CLIENT: Blagg Engineering
Work Order: 0003026
Project: Cross Timbers; Stedje GC #1

QC SUMMARY REPORT
Sample Matrix Spike

Sample ID: **0003009-02AMS** Batch ID: **GC-1_000315** Test Code: **SW8021B** Units: **µg/L** Analysis Date **3/15/2000** Prep Date:
Client ID: **0003026** Run ID: **GC-1_000315A** SeqNo: **25734**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	764.2	5	400	412.6	87.9%	73	126				
Ethylbenzene	411.4	5	400	23.29	97.0%	88	113				
m,p-Xylene	896.4	10	800	159.8	92.1%	83	112				
Methyl tert-Butyl Ether	391.6	10	400	11.9	94.9%	81	125				
o-Xylene	442.2	5	400	54.56	96.9%	93	110				
Toluene	1031	5	400	697.8	83.3%	76	126				

Sample ID: **0003009-02AMSD** Batch ID: **GC-1_000315** Test Code: **SW8021B** Units: **µg/L** Analysis Date **3/15/2000** Prep Date:
Client ID: **0003026** Run ID: **GC-1_000315A** SeqNo: **25735**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	761.6	5	400	412.6	87.3%	73	126	764.2	0.3%	6	
Ethylbenzene	410.4	5	400	23.29	96.8%	88	113	411.4	0.3%	5	
m,p-Xylene	894.4	10	800	159.8	91.8%	83	112	896.4	0.2%	7	
Methyl tert-Butyl Ether	389.2	10	400	11.9	94.3%	81	125	391.6	0.6%	9	
o-Xylene	448	5	400	54.56	98.4%	93	110	442.2	1.3%	6	
Toluene	1027	5	400	697.8	82.4%	76	126	1031	0.4%	6	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *17-Mar-00*

CLIENT: Blagg Engineering
Work Order: 0003026
Project: Cross Timbers; Stedje GC #1

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: **LCS WATER** Batch ID: **GC-1_000315** Test Code: **SW8021B** Units: **µg/L** Analysis Date **3/15/2000** Prep Date:

Client ID: **0003026** Run ID: **GC-1_000315A** SeqNo: **25732**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	38.46	0.5	40	0.0611	96.0%	89	112				
Ethylbenzene	39.74	0.5	40	0.0557	99.2%	93	112				
m,p-Xylene	75.1	1	80	0.1324	93.7%	88	108				
Methyl tert-Butyl Ether	37.77	1	40	0	94.4%	87	115				
o-Xylene	39.52	0.5	40	0.0613	98.6%	93	112				
Toluene	39.26	0.5	40	0.1425	97.8%	92	111				

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *17-Mar-00*

CLIENT: Blagg Engineering
Work Order: 0003026
Project: Cross Timbers; Stedje GC #1

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: **CCV1 BTEX_0001** Batch ID: **GC-1_000315** Test Code: **SW8021B** Units: **µg/L** Analysis Date **3/15/2000** Prep Date:

Client ID: **0003026** Run ID: **GC-1_000315A** SeqNo: **25729**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	19.42	0.5	20	0	97.1%	85	115				
Ethylbenzene	20.16	0.5	20	0	100.8%	85	115				
m,p-Xylene	37.92	1	40	0	94.8%	85	115				
Methyl tert-Butyl Ether	19.31	1	20	0	96.6%	85	115				
o-Xylene	20.01	0.5	20	0	100.1%	85	115				
Toluene	19.72	0.5	20	0	98.6%	85	115				
1,4-Difluorobenzene	89.27	0	100	0	89.3%	80	105				
4-Bromochlorobenzene	91.42	0	100	0	91.4%	78	108				
Fluorobenzene	86.52	0	100	0	86.5%	78	108				

Sample ID: **CCV2 BTEX_0001** Batch ID: **GC-1_000315** Test Code: **SW8021B** Units: **µg/L** Analysis Date **3/15/2000** Prep Date:

Client ID: **0003026** Run ID: **GC-1_000315A** SeqNo: **25730**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	18.91	0.5	20	0	94.5%	85	115				
Ethylbenzene	19.64	0.5	20	0	98.2%	85	115				
m,p-Xylene	36.87	1	40	0	92.2%	85	115				
Methyl tert-Butyl Ether	19.99	1	20	0	99.9%	85	115				
o-Xylene	19.64	0.5	20	0	98.2%	85	115				
Toluene	19.31	0.5	20	0	96.6%	85	115				
1,4-Difluorobenzene	89.22	0	100	0	89.2%	80	105				
4-Bromochlorobenzene	91.78	0	100	0	91.8%	78	108				
Fluorobenzene	86.88	0	100	0	86.9%	78	108				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Blagg Engineering
Work Order: 0003026
Project: Cross Timbers; Stedje GC #1

QC SUMMARY REPORT
Continuing Calibration Verification Standard

Sample ID: **CCV3 BTEX_0001** Batch ID: **GC-1_000315** Test Code: **SW8021B** Units: **µg/L** Analysis Date **3/15/2000** Prep Date:
Client ID: **0003026** Run ID: **GC-1_000315A** SeqNo: **25731**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	37.02	0.5	40	0	92.5%	85	115				
Ethylbenzene	38.27	0.5	40	0	95.7%	85	115				
m,p-Xylene	72.29	1	80	0	90.4%	85	115				
Methyl tert-Butyl Ether	38.56	1	40	0	96.4%	85	115				
o-Xylene	38.34	0.5	40	0	95.8%	85	115				
Toluene	37.93	0.5	40	0	94.8%	85	115				
1,4-Difluorobenzene	88.56	0	100	0	88.6%	80	105				
4-Bromochlorobenzene	90.53	0	100	0	90.5%	78	108				
Fluorobenzene	86.39	0	100	0	86.4%	78	108				

Sample ID: **CCV4 BTEX_0001** Batch ID: **GC-1_000315** Test Code: **SW8021B** Units: **µg/L** Analysis Date **3/15/2000** Prep Date:
Client ID: **0003026** Run ID: **GC-1_000315A** SeqNo: **25737**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	19.22	0.5	20	0	96.1%	85	115				
Ethylbenzene	20.19	0.5	20	0	100.9%	85	115				
m,p-Xylene	38.17	1	40	0	95.4%	85	115				
Methyl tert-Butyl Ether	21.83	1	20	0	109.1%	85	115				
o-Xylene	20.06	0.5	20	0	100.3%	85	115				
Toluene	19.79	0.5	20	0	98.9%	85	115				
1,4-Difluorobenzene	88.47	0	100	0	88.5%	80	105				
4-Bromochlorobenzene	92.94	0	100	0	92.9%	78	108				
Fluorobenzene	85.3	0	100	0	85.3%	78	108				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Blagg Engineering
Work Order: 0003026
Project: Cross Timbers; Stedje GC #1

QC SUMMARY REPORT
Continuing Calibration Verification Standard

Sample ID: **CCV5 BTEX_0001** Batch ID: **GC-1_000315** Test Code: **SW8021B** Units: **µg/L** Analysis Date **3/15/2000** Prep Date:

Client ID: **0003026** Run ID: **GC-1_000315A** SeqNo: **25738**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	18.57	0.5	20	0	92.9%	85	115				
Ethylbenzene	19.4	0.5	20	0	97.0%	85	115				
m,p-Xylene	36.65	1	40	0	91.6%	85	115				
Methyl tert-Butyl Ether	19.18	1	20	0	95.9%	85	115				
o-Xylene	19.34	0.5	20	0	96.7%	85	115				
Toluene	19.12	0.5	20	0	95.6%	85	115				
1,4-Difluorobenzene	87.98	0	100	0	88.0%	80	105				
4-Bromochlorobenzene	93	0	100	0	93.0%	78	108				
Fluorobenzene	85.08	0	100	0	85.1%	78	108				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 17-Mar-00

CLIENT: Blagg Engineering
Work Order: 0003026
Project: Cross Timbers; Stedje GC #1
Test No: SW8021B

QC SUMMARY REPORT
SURROGATE RECOVERIES

Aromatic Volatiles by GC/PID

Sample ID	14FBZ	4BCBZ	FLBZ					
0003009-02A	86.5	89.8	84.6					
0003009-02AMS	85	89.9	83.7					
0003009-02AMSD	87.5	92	85.2					
0003012-02A	89.2	90.4	86.7					
0003013-07A	89.9	90.9	86.8					
0003023-01A	85	85.7	92					
0003023-02A	88.3	90	85.2					
0003023-03A	90.2	90.3	87.4					
0003024-01A	90	91	87.3					
0003024-02A	90	91.6	87.3					
0003024-03A	89.8	91.6	87.4					
0003024-04A	89.3	90.8	87.6					
0003024-05A	90.1	91.4	87.4					
0003024-06A	88.4	91.6	87.5					
0003024-07A	90.1	91.1	87.6					
0003025-01A	88.6	89.6	86.6					
0003026-01A	90	90.5	87.6					
CCV1 BTEX_00010	89.3	91.4	86.5					
CCV2 BTEX_00010	89.2	91.8	86.9					
CCV3 BTEX_00010	88.6	90.5	86.4					
CCV4 BTEX_00010	88.5	92.9	85.3					
CCV5 BTEX_00010	88	93	85.1					
LCS WATER	88.4	91.5	86.2					
MB1	90.3	90.4	87.5					

Acronym		Surrogate	QC Limits
14FBZ	=	1,4-Difluorobenzene	80-105
4BCBZ	=	4-Bromochlorobenzene	78-108
FLBZ	=	Fluorobenzene	78-108

*** Surrogate recovery outside acceptance limits**

BLAGG ENGINEERING, INC.

MONITOR WELL SAMPLING DATA

CLIENT : CROSS TIMBERS OPER. CO. **CHAIN-OF-CUSTODY # :** 10597

LOCATION : STEDJE GC # 1 **LABORATORY (S) USED :** ON - SITE TECH.

Date : June 19, 2000 **SAMPLER :** N J V

Filename : 06-19-00.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	102.18	91.89	10.29	15.00	-	-	-	-	-
2	101.57	91.82	9.75	15.00	1215	7.6	500	2.50	-
3	100.87	91.37	9.50	15.00	1150	7.5	1,100	2.75	-

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 ".

Good recovery in MW # 2, fair recovery in MW # 3 .

Collected BTEX from MW # 2 & # 3 .

OFF: (505) 325-5667
FAX: (505) 327-1496

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556
FAX: (505) 327-1496

ANALYTICAL REPORT

Date: *30-Jun-00*

Client:	Blagg Engineering	**Client Sample Info:**	Stedje GC #1
Work Order:	0006046	**Client Sample ID:**	MW #2
Lab ID:	0006046-01A **Matrix:** AQUEOUS	**Collection Date:**	6/19/2000 12:15:00 PM
Project:	Cross Timbers - Stedje GC #1	**COC Record:**	10597

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		**SW8021B**				Analyst: **DM**
Benzene	ND	0.5		µg/L	1	6/27/2000
Toluene	ND	0.5		µg/L	1	6/27/2000
Ethylbenzene	0.8	0.5		µg/L	1	6/27/2000
m,p-Xylene	ND	1		µg/L	1	6/27/2000
o-Xylene	ND	0.5		µg/L	1	6/27/2000

Qualifiers:

PQL - Practical Quantitation Limit
ND - Not Detected at Practical Quantitation Limit
J - Analyte detected below Practical Quantitation Limit
B - Analyte detected in the associated Method Blank
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
Surr: - Surrogate

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OFF: (505) 325-5667
FAX: (505) 327-1496

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556
FAX: (505) 327-1496

ANALYTICAL REPORT

Date: *30-Jun-00*

Client:	Blagg Engineering	**Client Sample Info:**	Stedje GC #1
Work Order:	0006046	**Client Sample ID:**	MW #3
Lab ID:	0006046-02A **Matrix:** AQUEOUS	**Collection Date:**	6/19/2000 11:50:00 AM
Project:	Cross Timbers - Stedje GC #1	**COC Record:**	10597

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		**SW8021B**				Analyst: **DM**
Benzene	ND	0.5		µg/L	1	6/27/2000
Toluene	ND	0.5		µg/L	1	6/27/2000
Ethylbenzene	ND	0.5		µg/L	1	6/27/2000
m,p-Xylene	ND	1		µg/L	1	6/27/2000
o-Xylene	ND	0.5		µg/L	1	6/27/2000

Qualifiers:

PQL - Practical Quantitation Limit
ND - Not Detected at Practical Quantitation Limit
J - Analyte detected below Practical Quantitation Limit
B - Analyte detected in the associated Method Blank
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
Surr: - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499

10597

CHAIN OF CUSTODY RECORD

ON SITE TECHNOLOGIES, LTD.

612 E. Murray Dr. • P.O. Box 2606 • Farmington, NM 87499
LAB: (505) 325-5667 • FAX: (505) 327-1496

Date: 6/9/00

Page: 1 of 1

Purchase Order No.:	Project No.		
SEND INVOICE TO: Name	JEFF BLAGG	REPORT RESULTS TO: Name	NELSON VELEZ
Company	BLAGG ENGINEERING, INC. Dept.	Company	SIMCE
Address	P.O. BOX 87	Mailing Address	
City, State, Zip	BLOOMFIELD, NM 87413	City, State, Zip	
		Telephone No.	632-1199
		Telefax No.	632-3903

PROJECT LOCATION: CROSS TIMBERS - STEDJE GC #1

SAMPLER'S SIGNATURE: Nelson Vel

SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	SAMPLE MATRIX	PRES.	Number of Containers	ANALYSIS REQUESTED: BTEX (8021)	LAB ID
MW #2	6/9/00	1215	WATER	HCl & COOL	2	✓	006046-01A
MW #3	6/9/00	1150	WATER	HCl & COOL	2	✓	02A

Relinquished by: Nelson Vel	Date/Time 6/9/00 1426	Received by: Hersh Rao	Date/Time 6/9/00 1426
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 | By Date

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

Special Instructions / Remarks:

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

To Re-order Call 325-9600 or Fax 325-9764 alphagraphics FORM # 01

On Site Technologies, LTD.

Date: *30-Jun-00*

CLIENT: Blagg Engineering
Work Order: 0006046
Project: Cross Timbers - Stedje GC #1

QC SUMMARY REPORT
Method Blank

Sample ID: **MB1** Batch ID: **GC-1_000627** Test Code: **SW8021B** Units: **µg/L** Analysis Date: **6/27/2000** Prep Date:

Client ID: **0006046** Run ID: **GC-1_000627A** SeqNo: **29412**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	.0393	0.5									J
Ethylbenzene	.0995	0.5									J
m,p-Xylene	.1968	1									J
Methyl tert-Butyl Ether	ND	1									
o-Xylene	.2037	0.5									J
Toluene	.2611	0.5									J

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *30-Jun-00*

CLIENT: Blagg Engineering
Work Order: 0006046
Project: Cross Timbers - Stedje GC #1

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: **0006050-17AMS** Batch ID: **GC-1_000627** Test Code: **SW8021B** Units: **µg/L** Analysis Date: **6/27/2000** Prep Date:

Client ID: **0006046** Run ID: **GC-1_000627A** SeqNo: **29413**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	223.5	2.5	200	21.68	100.9%	73	126				
Ethylbenzene	409.5	2.5	200	215.8	96.9%	88	113				
m,p-Xylene	378.7	5	400	0	94.7%	83	112				
Methyl tert-Butyl Ether	228.3	5	200	22.43	103.0%	81	125				
o-Xylene	204.2	2.5	200	2.268	101.0%	93	110				
Toluene	210.7	2.5	200	4.871	102.9%	76	126				

Sample ID: **0006050-17AMSD** Batch ID: **GC-1_000627** Test Code: **SW8021B** Units: **µg/L** Analysis Date: **6/27/2000** Prep Date:

Client ID: **0006046** Run ID: **GC-1_000627A** SeqNo: **29414**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	223.9	2.5	200	21.68	101.1%	73	126	223.5	0.2%	6	
Ethylbenzene	412.8	2.5	200	215.8	98.5%	88	113	409.5	0.8%	5	
m,p-Xylene	381.6	5	400	0	95.4%	83	112	378.7	0.8%	7	
Methyl tert-Butyl Ether	231.7	5	200	22.43	104.6%	81	125	228.3	1.5%	9	
o-Xylene	205.9	2.5	200	2.268	101.8%	93	110	204.2	0.9%	6	
Toluene	210.2	2.5	200	4.871	102.7%	76	126	210.7	0.2%	6	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *30-Jun-00*

CLIENT: Blagg Engineering
Work Order: 0006046
Project: Cross Timbers - Stedje GC #1

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: **LCS WATER** Batch ID: **GC-1_000627** Test Code: **SW8021B** Units: **µg/L** Analysis Date: **6/27/2000** Prep Date:

Client ID: **0006046** Run ID: **GC-1_000627A** SeqNo: **29411**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	43.46	0.5	40	0.0393	108.6%	89	112				
Ethylbenzene	43.38	0.5	40	0.0995	108.2%	93	112				
m,p-Xylene	82.31	1	80	0.1968	102.6%	88	108				
Methyl tert-Butyl Ether	42.71	1	40	0	106.8%	87	115				
o-Xylene	43.53	0.5	40	0.2037	108.3%	93	112				
Toluene	43.75	0.5	40	0.2611	108.7%	92	111				

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: *30-Jun-00*

CLIENT: Blagg Engineering
Work Order: 0006046
Project: Cross Timbers - Stedje GC #1

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: **CCV1 BTEX_0004** Batch ID: **GC-1_000627** Test Code: **SW8021B** Units: **µg/L** Analysis Date: **6/27/2000** Prep Date:

Client ID: **0006046** Run ID: **GC-1_000627A** SeqNo: **29408**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.53	0.5	20	0	107.7%	85	115				
Ethylbenzene	21.6	0.5	20	0	108.0%	85	115				
m,p-Xylene	41.25	1	40	0	103.1%	85	115				
Methyl tert-Butyl Ether	20.97	1	20	0	104.9%	85	115				
o-Xylene	21.82	0.5	20	0	109.1%	85	115				
Toluene	21.82	0.5	20	0	109.1%	85	115				
1,4-Difluorobenzene	90	0	100	0	90.0%	80	105				
4-Bromochlorobenzene	84.74	0	100	0	84.7%	78	108				
Fluorobenzene	88.88	0	100	0	88.9%	78	108				

Sample ID: **CCV2 BTEX_0004** Batch ID: **GC-1_000627** Test Code: **SW8021B** Units: **µg/L** Analysis Date: **6/27/2000** Prep Date:

Client ID: **0006046** Run ID: **GC-1_000627A** SeqNo: **29409**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.93	0.5	20	0	104.7%	85	115				
Ethylbenzene	20.83	0.5	20	0	104.1%	85	115				
m,p-Xylene	39.71	1	40	0	99.3%	85	115				
Methyl tert-Butyl Ether	21.37	1	20	0	106.8%	85	115				
o-Xylene	21.04	0.5	20	0	105.2%	85	115				
Toluene	21.03	0.5	20	0	105.2%	85	115				
1,4-Difluorobenzene	90.94	0	100	0	90.9%	80	105				
4-Bromochlorobenzene	84.85	0	100	0	84.8%	78	108				
Fluorobenzene	89.38	0	100	0	89.4%	78	108				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Blagg Engineering
Work Order: 0006046
Project: Cross Timbers - Stedje GC #1

QC SUMMARY REPORT
Continuing Calibration Verification Standard

Sample ID: **CCV3 BTEX_0004** Batch ID: **GC-1_000627** Test Code: **SW8021B** Units: **µg/L** Analysis Date: **6/27/2000** Prep Date:

Client ID: **0006046** Run ID: **GC-1_000627A** SeqNo: **29410**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	41.25	0.5	40	0	103.1%	85	115				
Ethylbenzene	40.94	0.5	40	0	102.3%	85	115				
m,p-Xylene	77.72	1	80	0	97.1%	85	115				
Methyl tert-Butyl Ether	43.03	1	40	0	107.6%	85	115				
o-Xylene	41.38	0.5	40	0	103.4%	85	115				
Toluene	41.45	0.5	40	0	103.6%	85	115				
1,4-Difluorobenzene	89.97	0	100	0	90.0%	80	105				
4-Bromochlorobenzene	85.27	0	100	0	85.3%	78	108				
Fluorobenzene	88.73	0	100	0	88.7%	78	108				

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 30-Jun-00

CLIENT: Blagg Engineering
Work Order: 0006046
Project: Cross Timbers - Stedje GC #1
Test No: SW8021B

QC SUMMARY REPORT
SURROGATE RECOVERIES

Aromatic Volatiles by GC/PID

Sample ID	14FBZ	4BCBZ	FLBZ
0006046-01A	90.5	83.4	89.3
0006046-02A	90.8	84.1	89.7
0006047-03A	87	80.1	92.4
0006048-01A	91	85.2	90
0006048-02A	90.2	83.6	89.1
0006048-03A	91	85.1	90
0006049-01A	90	83.2	88.6
0006049-02A	84.4	82.3	83.1
0006049-03A	90.8	84.9	89.9
0006050-01A	90.3	83.7	89.6
0006050-02A	91	84.9	89.8
0006050-03A	91.1	84.4	89.8
0006050-04A	91	84.6	90
0006050-05A	90.8	83.4	89.6
0006050-07A	89.9	85.3	89.1
0006050-17A	90.1	84.5	91.6
0006050-17AMS	89.7	84.6	90.2
0006050-17AMSD	89.5	85.1	90.3
0006057-01A	83.5	76.6 *	86.9
CCV1 BTEX_00040	90	84.7	88.9
CCV2 BTEX_00040	90.9	84.8	89.4
CCV3 BTEX_00040	90	85.3	88.7
LCS WATER	89.6	85	88.7
MB1	90.4	84.2	89.8

Acronym		Surrogate	QC Limits
14FBZ	=	1,4-Difluorobenzene	80-105
4BCBZ	=	4-Bromochlorobenzene	78-108
FLBZ	=	Fluorobenzene	78-108

*** Surrogate recovery outside acceptance limits**

ENVIROTECH Inc.

5796 US HWY. 64, FARMINGTON, NM 87401
(505) 632-0815

94072

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: EXTENDA HOE

DATE STARTED: 4-30-92
DATE FINISHED: 4-30-92
ENVIRO. SPCLT: MKL
OPERATOR: BW
ASSISTANT: MS

LOCATION: LSE: STEDJE G.C. WELL: No. 1 QD: SE/4 NW/4 (F)
SEC: 27 TWP: 30N RNG: 12W PM: NM CNTY: SJ ST: NM PIT: DK Sep. PIT
LAND USE: RANCH (W/ REMUDUCE ~1000YDS SOUTH OF WELLSITE)
SURFACE CONDITIONS: FIBERGLASS TANK (10' DIA x 5') W/SEAM, LIQUID BOTTOM 2' BELOW GROUND.

FIELD NOTES & REMARKS: LOCATED 30' EAST & 45' SOUTH OF WELLHEAD. SOIL CONDITION: SILTY SAND, BROWN TO YELLOWISH BROWN, MOIST, FIRM (4'±), WELL GRADED SAND & GRAVEL TO GROUNDWATER. CONTAMINATION INDICATED BY GRAY-GRAY/BLACK DISCOLORATION. CONTAMINATION ENVELOPE APPEARS TO BE LIMITED TO FENCED AREA. AS WITH BURN PIT RECOMMEND EXCAVATION OF HIGHLY CONTAMINATED SOILS. WILL REQUIRE REMOVAL OF TANK AND EXCAVATION OF APPROXIMATELY 300-400 cy.

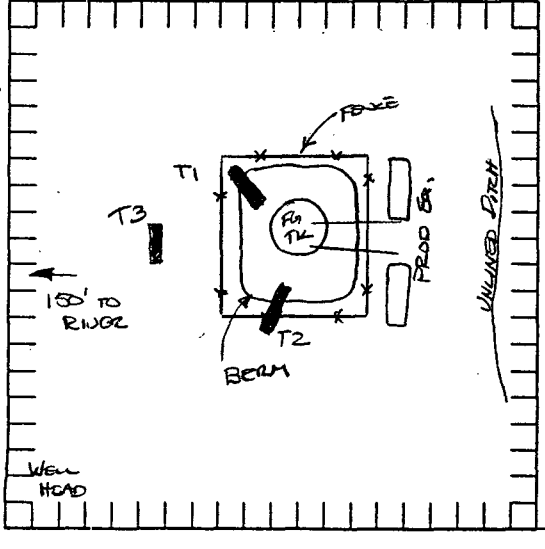
REMOVED FENCING FOR ACCESS.

SAMPLE INVENTORY:

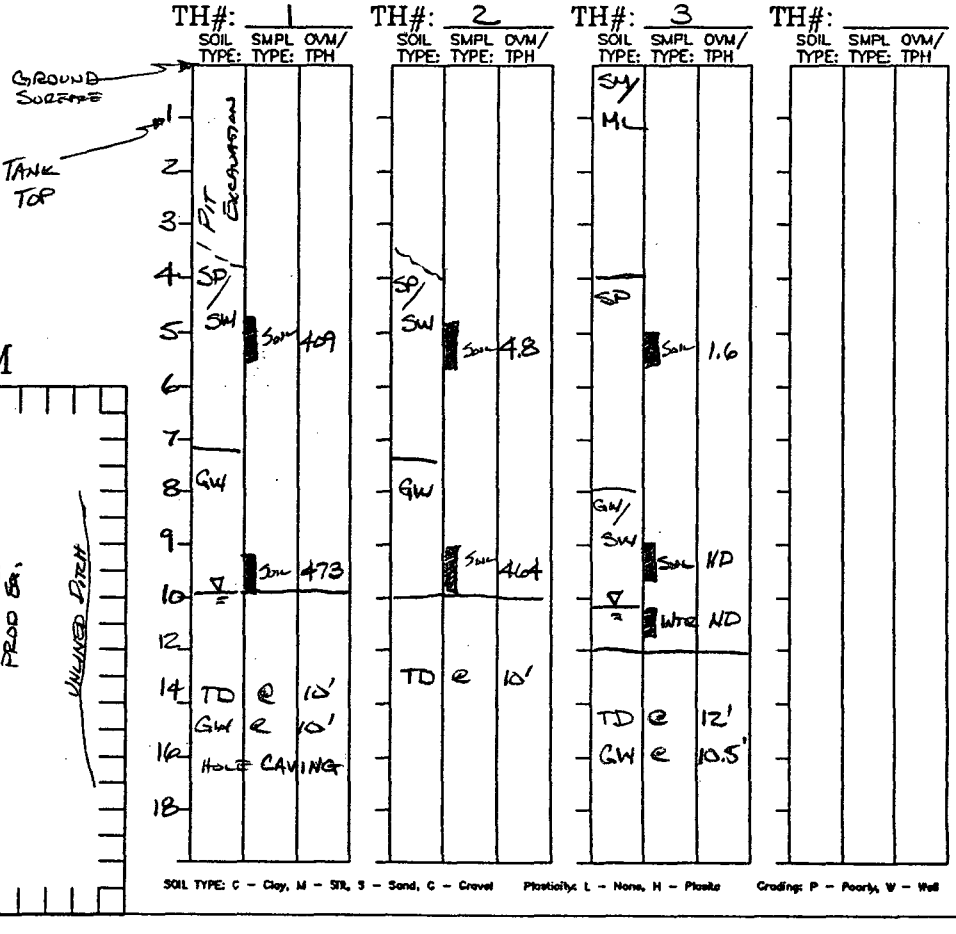
SMPL ID:	SMPL TYPE:	LABORATORY ANALYSIS:
T1@9-10'	Soil	BTEX/TPH
"	"	HEAD
T3@GW	WTR	BTEX (x2)
"	WTR	TPH

SCALE
0 10 20 FEET
N

SITE DIAGRAM



TEST HOLE LOGS:



ENVIROTECH LABS

5796 US HIGHWAY 64-3014 • FARMINGTON, NEW MEXICO 87401
PHONE: (505) 632-0615 • FAX: (505) 632-1865

EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

Client:	AMOCO	Project #:	92140
Sample ID:	T-1 @ 9-10'	Date Reported:	06-15-92
Laboratory Number:	0330	Date Sampled:	04-30-92
Sample Matrix:	Soil	Date Received:	NA
Preservative:	Cool	Date Analyzed:	06-02-92
Condition:	Cool & Intact	Analysis Needed:	TPH

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	11,000	50.0

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: Stedje G.C. 1 DK Separator Pit 94072

Tony Tristano
Analyst

Review

ENVIROTECH LABS

5796 US HIGHWAY 64-3014 • FARMINGTON, NEW MEXICO 87401
PHONE: (505) 632-0615 • FAX: (505) 632-1865

EPA METHOD 8020
AROMATIC VOLATILE ORGANICS
HEADSPACE EXTRACTION

Client:	AMOCO	Project #:	92140
Sample ID:	T1 @ 9'	Date Reported:	08-21-92
Laboratory Number:	0331	Date Sampled:	04-30-92
Sample Matrix:	Soil	Date Received:	04-30-92
Preservative:	NA	Date Analyzed:	06-19-92
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/L)	Det. Limit (ug/L)
Benzene	486	1.6
Toluene	286	1.6
Ethylbenzene	900	5.6
p,m-Xylene	50,700	21.6
o-Xylene	1,160	8.0

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: Stedje GC 1---DK Separator Pit---94072

Analyst

Review

ENVIROTECH LABS

5796 US HIGHWAY 64-3014 • FARMINGTON, NEW MEXICO 87401
PHONE: (505) 632-0615 • FAX: (505) 632-1865

EPA METHOD 8020
AROMATIC VOLATILE ORGANICS

Client:	Amoco	Project #:	92140
Sample ID:	T 1 @ 9-10'	Date Reported:	09-24-92
Laboratory Number:	0330	Date Sampled:	04-30-92
Sample Matrix:	Soil	Date Received:	04-30-92
Preservative:	NA	Date Extracted:	06-02-92
Condition:	Cool & Intact	Date Analyzed:	09-21-92
		Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	3,300	81
Toluene	5,500	91
Ethylbenzene	ND	50
p,m-Xylene	77,100	101
o-Xylene	35,200	81

SURROGATE RECOVERIES:

Parameter	Percent Recovery
Trifluorotoluene	99 %
Bromfluorobenzene	102 %

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: Stedje GC 1 DK Separator Pit 94072

Analyst

Review

ENVIROTECH LABS

5796 US HIGHWAY 64-3014 • FARMINGTON, NEW MEXICO 87401
PHONE: (505) 632-0615 • FAX: (505) 632-1865

TOTAL RECOVERABLE PETROLEUM HYDROCARBONS

Client:	Amoco	Report Date:	5-4-92
Sample ID:	T3 @GW	Date Sampled:	4-30-92
Laboratory Number:	0328	Date Received:	4-30-92
Analysis Requested:	418.1	Date Extracted:	5-1-92
Sample Matrix:	Water	Date Analyzed:	5-1-92
Condition:	Received on Ice	Preservative:	Cool

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

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

ND - Parameter not detected at the stated detection limit.

Comments: Stedje G.C. 1 - DK Separator Pit 94072

Tony Tristano
Analyst

Review

ENVIROTECH LABS

5796 US HIGHWAY 64-3014 • FARMINGTON, NEW MEXICO 87401
PHONE: (505) 632-0615 • FAX: (505) 632-1865

EPA METHOD 8020
AROMATIC VOLATILE ORGANICS

Client:	Amoco	Project #:	92140
Sample ID:	T3 @ GW	Date Reported:	08-12-92
Laboratory Number:	0329	Date Sampled:	04-30-92
Sample Matrix:	Water	Date Received:	04-30-92
Preservative:	HgCl & Cool	Date Analyzed:	06-01-92
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/L)	Det. Limit (ug/L)
Benzene	0.3	0.2
Toluene	ND	0.9
Ethylbenzene	ND	0.6
p,m-Xylene	ND	0.9
o-Xylene	ND	0.4

SURROGATE RECOVERIES:

Parameter	Percent Recovery
Trifluorotoluene	91.8 %
Bromfluorobenzene	98.1 %

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: Stedje GC 1--DK Separator Pit--94072

Robert M. Young
Analyst

Review

1151

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location	ANALYSIS/PARAMETERS
AMOCO 92140	DK SEPARATOR PIT	(94072)
Sampler: (Signature)	Chain of Custody Tape No.	

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	EPA 418.1 TPH	EPA 8020 BTEX	EPA 2810 BTEX				Remarks
T3EGW	4/30/92	1259	0328	WTR	1	✓						
T3EGW		1250	0329	WTR	2		✓					
T1@9-10'		1100	0330	SOIL	1	✓	✓					
T1@9'		1100	0331	SOIL	1			✓				

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
	4/30/92	1610	Tony Tristano	4/30/92	1724
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

C4072

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: STEDJE GC #1
Well Name

Location: Unit or Qtr/Qtr Sec F Sec 27 T 30N R 12W County SAN JUAN

Pit Type: Separator X Dehydrator ___ Other ___

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

Pit Location: (Attach diagram)
Pit dimensions: length 25', width 25', depth 10'
Reference: wellhead X, other ___
Footage from reference: 75'
Direction from reference: 59 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

C4072 SEP. PIT

Date Remediation Started: _____ **Date Completed:** 8/3/93

Remediation Method: (Check all appropriate sections) Excavation X Approx. cubic yards 231

Landfarmed X Insitu Bioremediation ___

Other _____

Remediation Location: (ie. landfarmed onsite, name and location of offsite facility) Onsite X Offsite AMOCO COMPOST FACILITY - CROUCH MESA

General Description Of Remedial Action: Excavation. GROUNDWATER IMPACT. PIT WATER PUMPED & DISPOSED BY TRIPLE S.

Ground Water Encountered: No ___ Yes X Depth 7'

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 2/28/00 BV

SIGNATURE B J Shaw PRINTED NAME AND TITLE Buddy D. Shaw Environmental Coordinator

ENVIROTECH Inc.

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

C4072
C.O.C. # 2859

FIELD REPORT: CLOSURE VERIFICATION

JOB No: 92140
PAGE No: 1 of 1

LOCATION: LEASE: STEDJE GAS COM WELL: #1 QD: SE/4, NW/4 (F)
SEC: 27 TWP: 30 N RNG: 12 W BM: NM CNTY: S.J. ST: NM PIT: SEP.
CONTRACTOR: BILL MOSS
EQUIPMENT USED: TRACK EXCAVATOR

DATE STARTED: 7-27-93
DATE FINISHED: 8/3/93
ENVIRONMENTAL SPECIALIST: 7/27 RED / 8/3 NV

SOIL REMEDIATION: QUANTITY: APPROX. 25' x 25' x 10' DEEP.
DISPOSAL FACILITY: OFF-SITE LANDFARM → BPC COMPOST FACILITY - CROUCH MESA
LAND USE: FARMING
SURFACE CONDITIONS: EXCAVATED PRIOR TO ARRIVAL - SEE ENVIROTECH ASSESSMENT # 94072

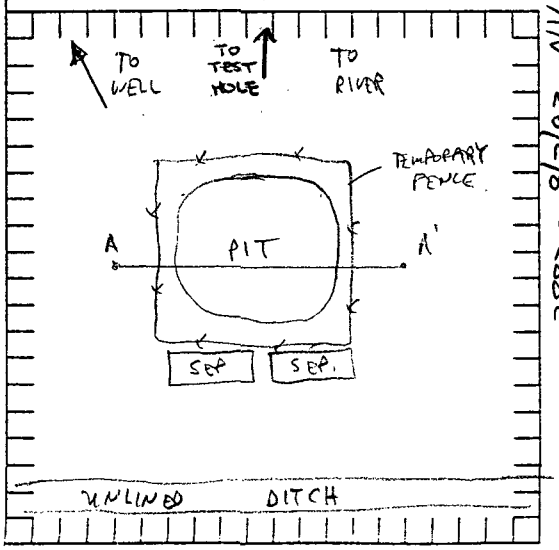
FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 25 YARDS S.45°E FROM WELLHEAD.
S59E on
DEPTH TO GROUNDWATER: 8.5 FEET
NEAREST WATER SOURCE: IRRIGATION DITCH - APPROX. 30 FEET SOUTH.
NEAREST SURFACE WATER: ANIMAS RIVER - APPROX. 150 FEET NORTH
PIT EXCAVATED TO GROUNDWATER ON JULY 26, 1993.
WATER IN PIT HAS FLOATING DEBRIS. SAMPLE APPEARS FAIRLY CLEAR WITH NO ODOR.
SLIGHT RAINBOW DETECTABLE ON WATER SURFACE.

FIELD 418.1 CALCULATIONS

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

SCALE
0 10 20 FEET
DEGW(7') 8/3/93
N

PIT PERIMETER

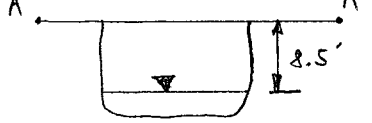


OVM RESULTS

SAMPLE ID	FIELD HEADSPACE PID (ppm)
	LAB
PIT @ 8.5	BTEX WATER
PIT Bottom @ 7'	BTEX WATER
DEGW (7')	BTEX WATER

NV
8/3/93
1
2883

PIT PROFILE



TRAVEL NOTES: CALLOUT: 7-26-93 1600 HRS ONSITE: 7-27-93 1130 HRS.

ENVIROTECH LABS

5796 US HIGHWAY 64-3014 • FARMINGTON, NEW MEXICO 87401
PHONE: (505) 632-0615 • FAX: (505) 632-1865

EPA METHOD 8020
AROMATIC VOLATILE ORGANICS

Client:	Amoco	Project #:	92140
Sample ID:	Pit @ 8.5'	Date Reported:	07-28-93
Laboratory Number:	5759	Date Sampled:	07-27-93
Sample Matrix:	Water	Date Received:	07-27-93
Preservative:	HgCl and Cool	Date Analyzed:	07-27-93
Condition:	Cool and Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/L)	Det. Limit (ug/L)
Benzene	18.5	0.2
Toluene	11.2	0.2
Ethylbenzene	24.8	0.2
p,m-Xylene	165	0.3
o-Xylene	11.3	0.2

SURROGATE RECOVERIES:

Parameter	Percent Recovery
Trifluorotoluene	96 %
Bromofluorobenzene	99 %

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: Stedje Gas Com #1 Separator Pit C4072

Analyst

Review

ENVIROTECH LABS

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EPA METHOD 8020
AROMATIC VOLATILE ORGANICS

Client:	Amoco	Project #:	92140
Sample ID:	1 @ GW (7')	Date Reported:	08-04-93
Laboratory Number:	5819	Date Sampled:	08-03-93
Sample Matrix:	Water	Date Received:	08-03-93
Preservative:	HgCl and Cool	Date Analyzed:	08-04-93
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	ND	0.3
o-Xylene	ND	0.3

SURROGATE RECOVERIES:

Parameter	Percent Recovery
Trifluorotoluene	97 %
Bromofluorobenzene	106 %

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: Stedje GC #1 Separator Pit C4072

Analyst

Review

ENVIROTECH LABS

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EPA METHOD 8020
AROMATIC VOLATILE ORGANICS

Client:	Amoco	Project #:	92140
Sample ID:	Pit Bttm @ GW (7')	Date Reported:	08-04-93
Laboratory Number:	5820	Date Sampled:	08-03-93
Sample Matrix:	Water	Date Received:	08-03-93
Preservative:	HgCl and Cool	Date Analyzed:	08-04-93
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	ND	0.3
o-Xylene	ND	0.3

SURROGATE RECOVERIES:

Parameter	Percent Recovery
Trifluorotoluene	94 %
Bromofluorobenzene	103 %

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: Stedje GC #1 Separator Pit C4072

Analyst

Review

2859

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location	ANALYSIS/PARAMETERS	C4072
AMOCO # 92140	SEP. PIT STEDJE GAS COM #1		
Sampler: (Signature) R. E. O'Neill	Chain of Custody Tape No.		

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	BTEX						Remarks
PIT @ 8.5'	7-27-93	1145	5759	WATER	2	✓						

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
R. E. O'Neill	7-27-93	1227	Denise L. Agencia	7-27-93	1227
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

san juan repro Form 578-81

2883

CHAIN OF CUSTODY RECORD

C4072

Client/Project Name	Project Location	ANALYSIS/PARAMETERS
Amoco 92140	SEP. PIT STEOJE GC #1	
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
(1) @ GW (7')	8/3/93	0815	5819	WATER	2	✓						
PIT BOTTOM @ GW (7')	8/3/93	1025	5820	WATER	2	✓						

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Nelson Velez	8/3/93	1130	Lee Chahadwy	8-3-93	1145
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

3 - SAND MW #1 104', 515.5W TOC 1.4 FT. AGS

MW #2 78', 568 W TOC FT. AGS

1 - SAND MW #3 41.5', N64.5W TOC 1.4 FT. AGS

FOR ALL MW'S
1 - 10' SCREEN
1 - 5' CASING
1 - FT. CAP
1 - SLIP CAP

PIT CENTER 75', 558.5E FR/ W.H.