3R - 25

REPORTS

DATE:

April 2006

320025

XTO ENERGY

May 15, 2006

Mr. Glenn von Gonten
Hydrologist – Groundwater Remediation
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

RE: Annual Groundwater Remediation Reports

Dear Mr. von Gonten:

XTO Energy Inc. (XTO) is presenting a second submission of the Annual Groundwater Remediation Report in accordance with the NMOCD approved Groundwater Management Plan (GMP), which will complete this years reporting. Enclosed are summary reports with analytical data, summary tables, site maps, potentiometric surface diagrams and recommendations/proposed actions for:

- Baca Gas Com A #1A
- Frost, Jack B #2
- Haney Gas Com B #1E
- Hare Gas Com B #1E
- Masden Gas Com #1E
- McDaniel Gas Com B #1E
- Snyder Gas Com #1A
- Stedje Gas Com #1
- Sullivan Frame A #1E

Thank you for your review of the reports and allowing some flexibility with this years reporting schedule. If you have any questions please do not hesitate to contact me at (505) 566-7942.

Sincerely,

Lisa Winn

Lisa Winn
Environmental Specialist
San Juan Division

cc: Mr. Denny Foust, Environmental, NMOCD District III Office, Aztec, NM
File – San Juan Groundwater

3R0025

XTO ENERGY INC.

Formerly BP AmericaProd

ANNUAL GROUNDWATER REPORT

2005

FROST, JACK B #2
(D) SECTION 27 – T27N – R10W, NMPM
SAN JUAN COUNTY, NEW MEXICO

30-045-06295

PREPARED FOR:
MR. GLENN VON GONTEN
NEW MEXICO OIL CONSERVATION DIVISION

APRIL 2006

TABLE OF CONTENTS

XTO Energy Inc.
Frost, Jack B #2
NW/4 NW/4 S27, T27N, R10W

Pit Closure Date: 8/5/94 (Documentation Included)

Monitor Well Installations: 9/21/99

Monitor Well Sampling: 9/27/99, 2/18/00, 6/20/00

Historical Information:

- August 1994- Groundwater impacts were found while closing an earthen pit at a site operated by Amoco Production Company (Amoco). Approximately 400 cubic yards of soil was excavated.
- January 1998- XTO Energy Inc. (XTO) acquired the Jack Frost B #2 from Amoco.
- September 1999- Monitor wells MW1, MW2 and MW3 were installed to evaluate groundwater quality. Following the initial sample event, the subsequent sampling events in February and June 2000 indicated groundwater met New Mexico Water Quality Control Commission (NMWQCC) closure standards.
- May 2001- Original request submitted for site closure.
- December 2001- Correspondence was received from New Mexico Oil Conservation Division (NMOCD) denying the request for closure pending submittal of four consecutive quarters of sample analyses and further down gradient delineation of groundwater quality.
- April 2006- XTO submits annual groundwater report recommending continued monitoring and installation of down gradient groundwater monitoring wells.

Groundwater Monitor Well Sampling Procedures:

Groundwater samples were collected from site monitor wells (Figure 1) following US EPA: SW-846 protocol. Samples were collected using new disposable bailers and placed in laboratory supplied containers and stored in a cooler on ice. The samples were delivered to an accredited environmental laboratory according to chain-of-custody procedures. The samples were analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX) per US EPA Method 8021B and general water chemistry per US EPA Method 600/4-79-020. Analytical results are summarized on Tables 1 & 2. Waste generated (groundwater) during monitor well sampling and development was placed in the produced water separator tank located on the well site.

Water Quality and Gradient Information:

Groundwater elevation data (Figure 2 - 4) indicates that groundwater consistently trends towards the northwest following surface contour and southwest flow of the arroyo.

XTO understands the initial assessment of groundwater impact came from samples collected from groundwater pooling in the bottom of the excavated pit. The analytical results of the initial groundwater samples indicated elevated levels of BTEX concentrations. Following closure of the pit, groundwater monitoring wells were installed (1999) and groundwater samples were collected for laboratory analysis in September 1999 and again in February and June 2000. Groundwater collected for analysis from monitoring well MW #2 exhibited BTEX concentrations that exceed NMWQCC standards. Subsequent sampling events showed a decrease in BTEX constituents to trace levels. Up gradient monitoring well MW#1 and down gradient monitoring well MW#3 exhibit no detectable concentrations of BTEX constituents during the 2000 sampling events.

Summary:

Analytical data from groundwater monitoring well sampling in February and June of 2000 indicated that groundwater quality standards were observed. Correspondence from NMOCD in 2001 requested four consecutive quarters of testing in compliance with XTO's Groundwater Management Plan, and installation of additional groundwater monitoring wells to further delineate groundwater conditions at the site. As requested by NMOCD, XTO proposes to install additional groundwater monitoring well(s) and place this site on a quarterly sampling schedule.

TABLE 1

XTO ENERGY INC. GROUNDWATER MONITOR WELL LAB RESULTS

SUBMITTED BY BLAGG ENGINEERING, INC.

FROST, JACK B # 2 - SEPARATOR PIT
UNIT D, SEC. 27, T27N, R10W

REVISED : JULY 10, 2000

FILENAME: (JF-2Q-00.WK4) NJV

								BTEX EPA METHOD 8021 (PPB)			
SAMPLE DATE	MONITOR WELL No:	D.T.W. (ft)	T.D. (ft)	TDS mg/L	COND. umhos	pH	PRODUCT (in)	Benzene	Toluene	Ethyl Benzene	Total Xylene
27-Sep-99	MW #1	8.73	20.00	3,400	6,810	8.0		24.9	4.0	ND	6.3
18-Feb-00		9.26			3,800	8.0		ND	ND	ND	ND
20-Jun-00		9.28			3,500	8.1		ND	ND	ND	ND
27-Sep-99	MW #2	11.71	20.00	915	1,876	7.6		350	60.1	90.5	253.9
18-Feb-00		11.87			1,900	7.7		0.9	ND	2.6	3.9
20-Jun-00		11.38			2,100	7.6		0.5	ND	1.6	3.5
27-Sep-99	MW #3	13.76	20.00	2,080	4,180	8.1		21.2	3.1	3.1	15.1
18-Feb-00		12.87			2,700	8.2		ND	ND	ND	ND
20-Jun-00		12.42			2,800	8.2		ND	ND	ND	ND

TABLE 2

GENERAL WATER QUALITY

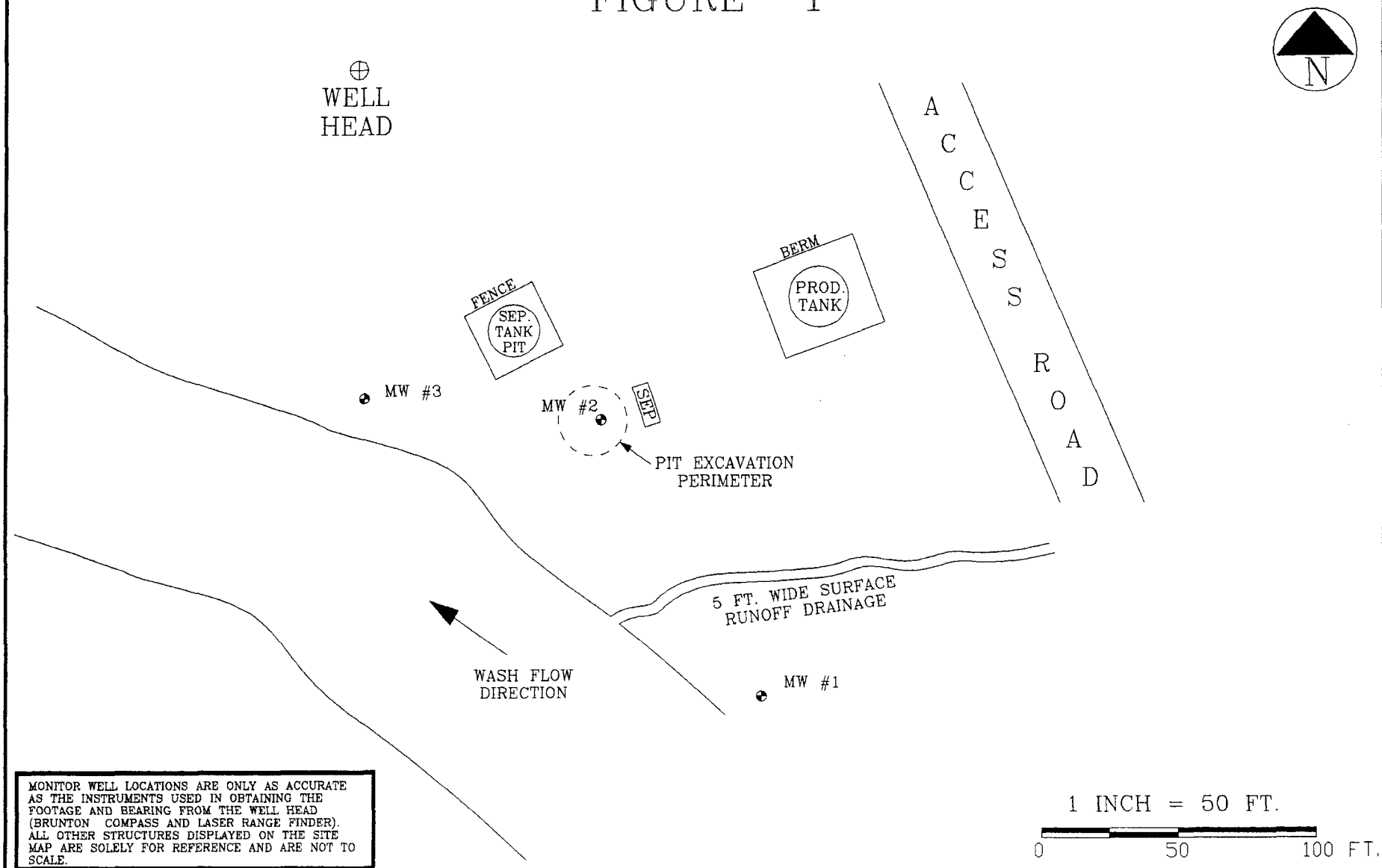
XTO ENERGY INC.

FROST, JACK B #2

SAMPLE DATE : September 27 , 1999

PARAMETERS	MW # 1	MW # 2	MW # 3	Units
LAB pH	7.85	7.98	7.80	s. u.
LAB CONDUCTIVITY @ 25 C	6,810	1,876	4,180	umhos / cm
TOTAL DISSOLVED SOLIDS @ 180 C	3,400	915	2,080	mg / L
TOTAL DISSOLVED SOLIDS (Calc)	3,370	710	1,980	mg / L
SODIUM ABSORPTION RATIO	48.9	10.5	39.2	ratio
TOTAL ALKALINITY AS CaCO3	638	316	524	mg / L
TOTAL HARDNESS AS CaCO3	94.0	78.0	52.0	mg / L
BICARBONATE as HCO3	638	316	524	mg / L
CARBONATE AS CO3	< 1	< 1	< 1	mg / L
HYDROXIDE AS OH	< 1	< 1	< 1	mg / L
NITRATE NITROGEN	0.1	1.0	0.5	mg / L
NITRITE NITROGEN	0.004	0.300	0.021	mg / L
CHLORIDE	5.0	2.0	4.5	mg / L
FLUORIDE	1.96	1.21	4.40	mg / L
PHOSPHATE	0.9	6.5	1.0	mg / L
SULFATE	1,850	260	983	mg / L
IRON	0.007	0.288	0.042	mg / L
CALCIUM	28.8	25.6	18.4	mg / L
MAGNESIUM	5.4	3.4	1.5	mg / L
POTASSIUM	3.0	3.0	3.0	mg / L
SODIUM	1090	214	650	mg / L
CATION / ANION DIFFERENCE	0.25	0.02	0.20	%

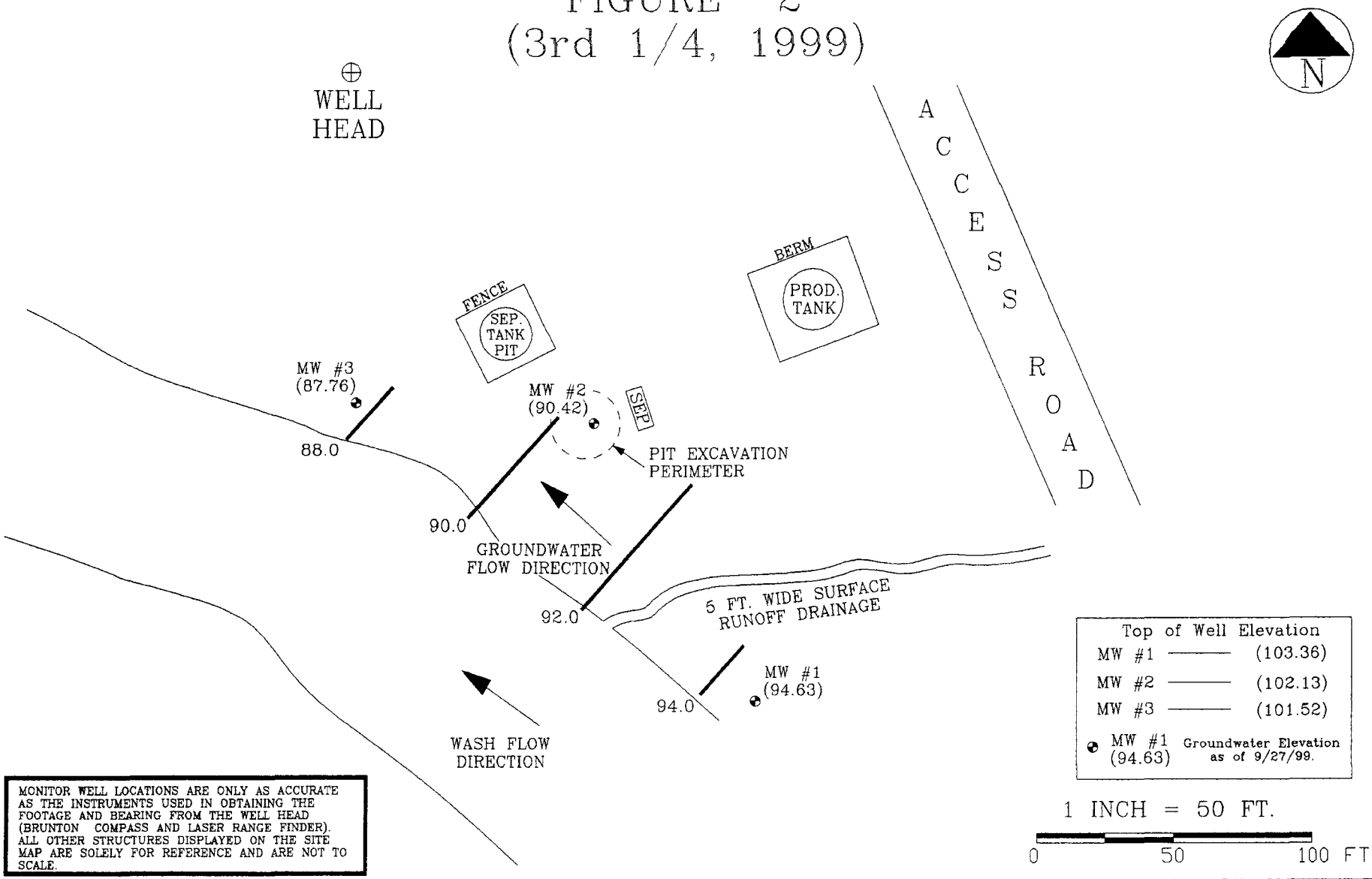
FIGURE 1



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

XTO ENERGY INC. FROST, JACK B #2 NW/4 NW/4 SEC. 27, T27N, R10W SAN JUAN COUNTY, NEW MEXICO	BLAGG ENGINEERING, INC. CONSULTING PETROLEUM / RECLAMATION SERVICES P.O. BOX 87 BLOOMFIELD, NEW MEXICO 87413 PHONE: (505) 632-1199	PROJECT: MW INSTALL. DRAWN BY: NJV FILENAME: JF-B2-SM.SKD	SITE MAP 09/99

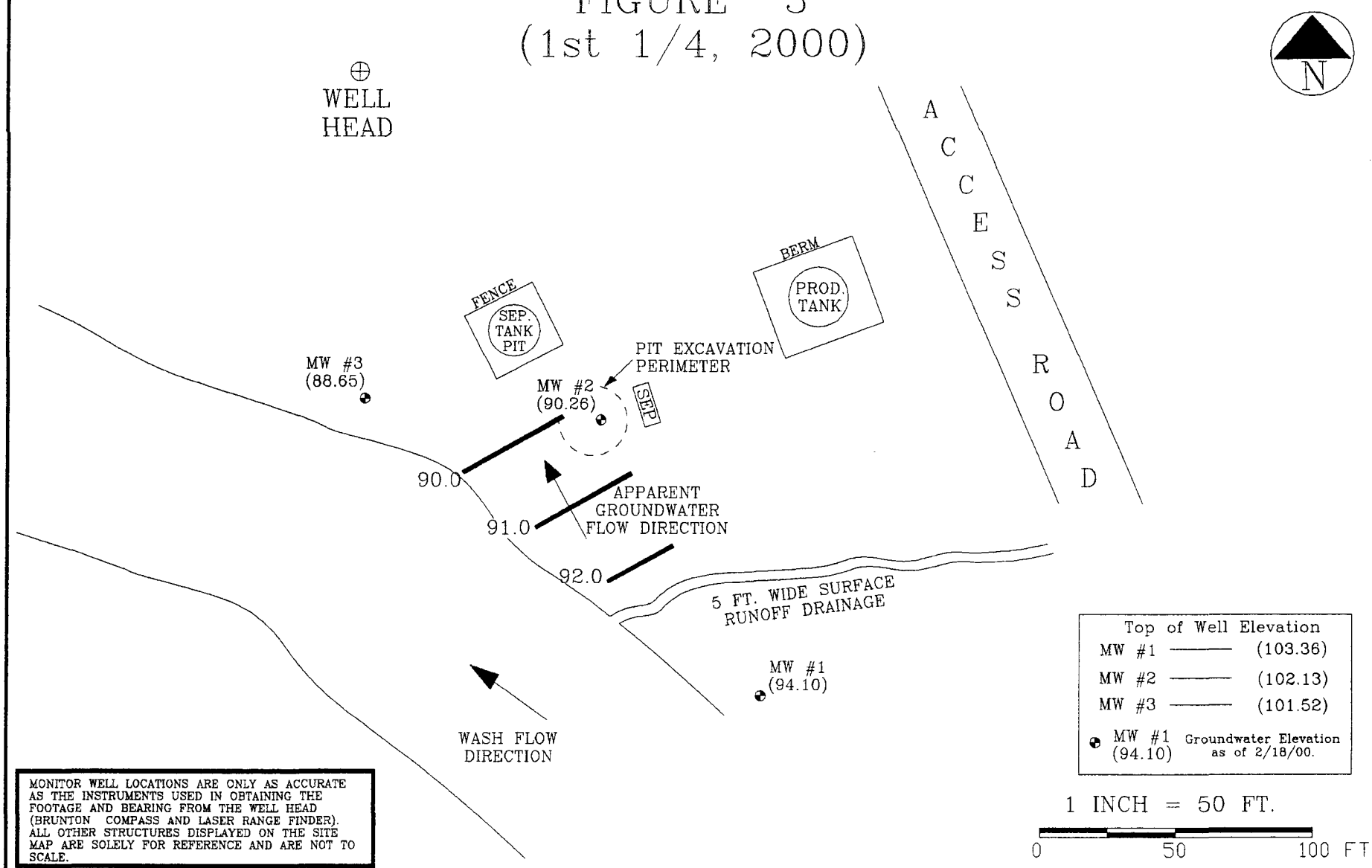
FIGURE 2
(3rd 1/4, 1999)



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

XTO ENERGY INC. FROST, JACK B #2 NW/4 NW/4 SEC. 27, T27N, R10W SAN JUAN COUNTY, NEW MEXICO	BLAGG ENGINEERING, INC. CONSULTING PETROLEUM / RECLAMATION SERVICES P.O. BOX 87 BLOOMFIELD, NEW MEXICO 87413 PHONE: (505) 632-1199	PROJECT: MW INSTALL. DRAWN BY: NJV FILENAME: 09-27-GW.SKD	GROUNDWATER CONTOUR MAP 09/99

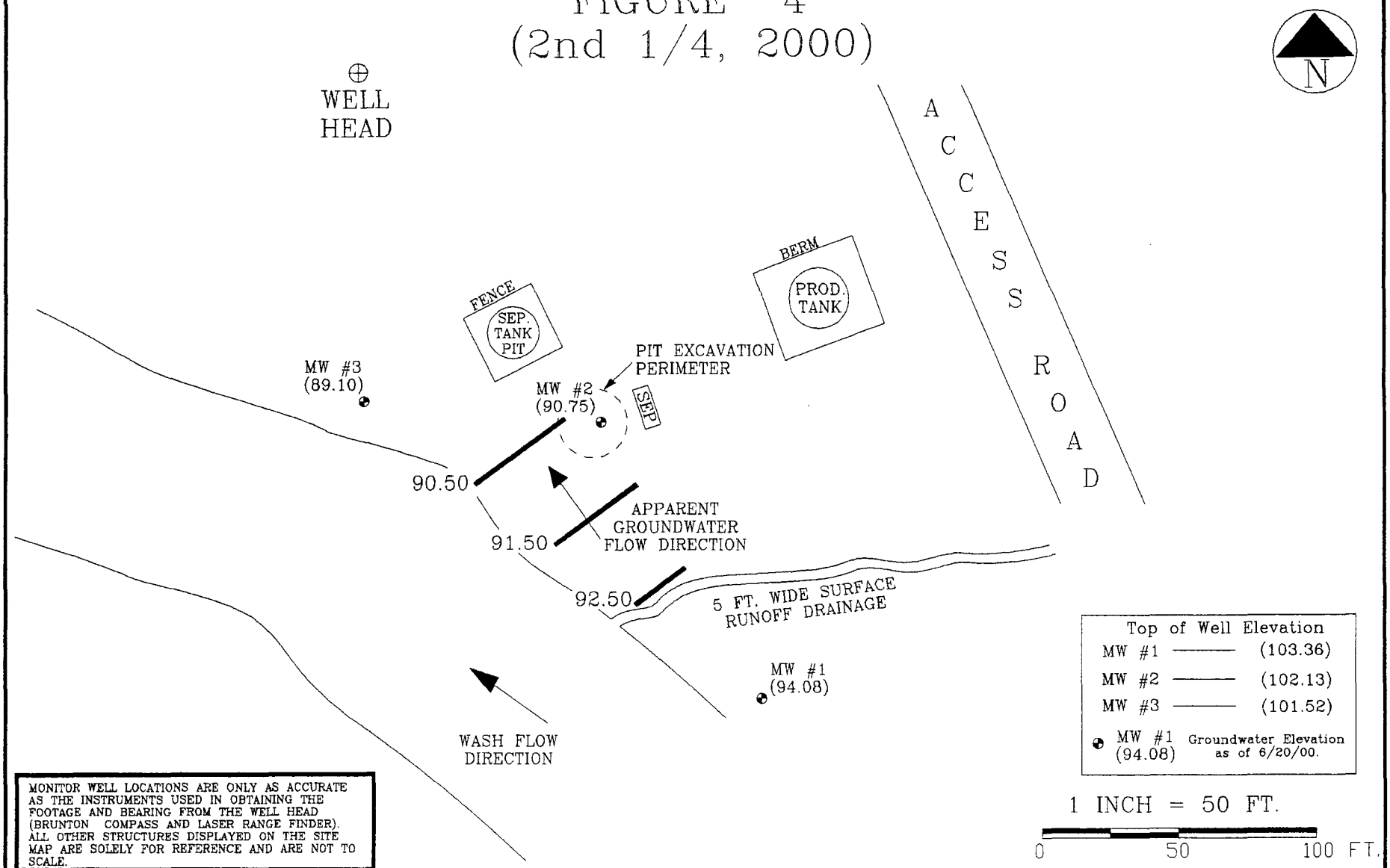
FIGURE 3
(1st 1/4, 2000)



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 ARE NOT TO SCALE.

XTO ENERGY INC. FROST, JACK B #2 NW/4 NW/4 SEC. 27, T27N, R10W SAN JUAN COUNTY, NEW MEXICO	BLAGG ENGINEERING, INC. CONSULTING PETROLEUM / RECLAMATION SERVICES P.O. BOX 87 BLOOMFIELD, NEW MEXICO 87413 PHONE: (505) 632-1199	PROJECT: MW SAMPLING DRAWN BY: NJV FILENAME: 02-18-GW.SKD	GROUNDWATER CONTOUR 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 ARE NOT TO SCALE.

XTO ENERGY INC. FROST, JACK B #2 NW/4 NW/4 SEC. 27, T27N, R10W SAN JUAN COUNTY, NEW MEXICO	BLAGG ENGINEERING, INC. CONSULTING PETROLEUM / RECLAMATION SERVICES P.O. BOX 87 BLOOMFIELD, NEW MEXICO 87413 PHONE: (505) 632-1199	PROJECT: MW SAMPLING DRAWN BY: NJV FILENAME: 06-20-GW.SKD	GROUNDWATER CONTOUR MAP 06/00

FIGURE 5

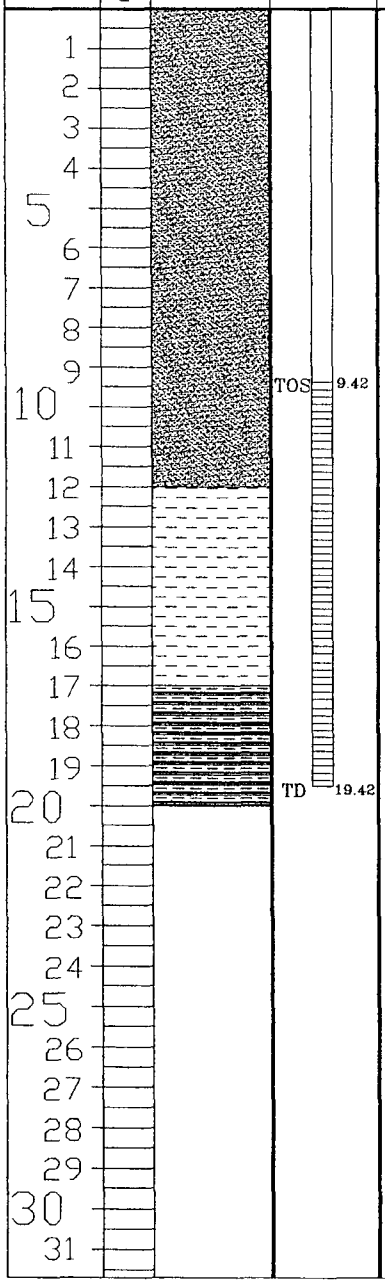
BLAGG ENGINEERING, Inc.

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

BORE / TEST HOLE REPORT

BORING #..... BH - 1
MW #..... 1
PAGE #..... 1
DATE STARTED 9/21/99
DATE FINISHED 9/21/99
OPERATOR..... REP
PREPARED BY NJV

CLIENT: XTO ENERGY INC.
LOCATION NAME: FROST, JACK B #2
CONTRACTOR: BLAGG ENGINEERING, INC.
EQUIPMENT USED: MOBILE DRILL RIG (EARTHPROBE)
BORING LOCATION: 273 FT., S33E FEET FROM WELL HEAD.



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 0.58 FT. ABOVE GROUND SURFACE.

MODERATE YELLOWISH SAND TO SILTY SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (0.0 - 12.0 FT. INTERVAL).

▼ GW DEPTH ON 9/27/99 = 8.15 FT. (APPROX.) FROM GROUND SURFACE.

DARK YELLOWISH SILTY CLAY, COHESIVE, SLIGHTLY MOIST, FIRM TO STIFF, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (12.0 - 17.0 FT. INTERVAL).

OLIVE GRAY CLAY, PLASTIC TO HIGHLY PLASTIC, SLIGHTLY MOIST TO SLIGHTLY SATURATED, STIFF TO VERY STIFF, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (17.0 - 20.0 FT. INTERVAL).

NOTE:
- SAND TO SILTY SAND.
- SILTY CLAY.
- CLAY.

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

DRAWING: BH-1.SKD	DATE: 9/25/99	DWN BY: NJV

FIGURE 6

BLAGG ENGINEERING, Inc.

P.O. BOX 87

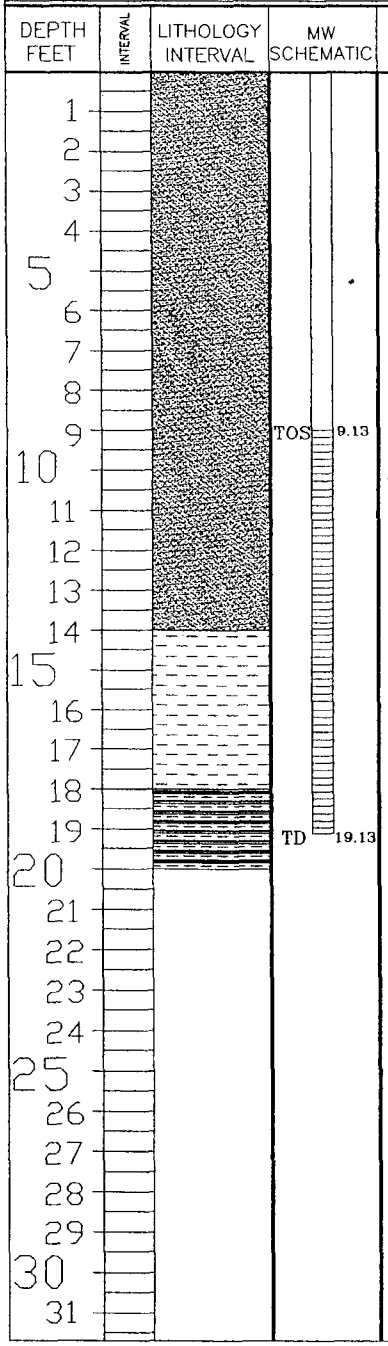
BLOOMFIELD, NM 87413

(505) 632-1199

BORE / TEST HOLE REPORT

BORING # ..... BH - 2
MW # 2
PAGE # 2
DATE STARTED 9/21/99
DATE FINISHED 9/21/99
OPERATOR ..... REP
PREPARED BY NJV

CLIENT: XTO ENERGY INC.
LOCATION NAME: FROST, JACK B #2
CONTRACTOR: BLAGG ENGINEERING, INC.
EQUIPMENT USED: MOBILE DRILL RIG (EARTHPROBE)
BORING LOCATION: 156 FT., S35E FEET FROM WELL HEAD.



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 0.87 FT. ABOVE GROUND SURFACE.

MODERATE YELLOWISH SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (0.0 – 14.0 FT. INTERVAL).

▼ GW DEPTH ON 9/27/99 = 10.84 FT. (APPROX.) FROM GROUND SURFACE.

MEDIUM TO DARK GRAY SILTY SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM TO LOOSE, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (14.0 – 18.0 FT. INTERVAL).

LIGHT TO MEDIUM GRAY SILTY CLAY TO CLAY, PLASTIC TO HIGHLY PLASTIC, SLIGHTLY MOIST TO SLIGHTLY SATURATED, STIFF TO VERY STIFF, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (18.0 – 20.0 FT. INTERVAL).

NOTE:
- SAND.
- SILTY SAND.
- SILTY CLAY TO CLAY.

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

DRAWING: BH-2.SKD	DATE: 9/25/99	DWN BY: NJV

FIGURE 7

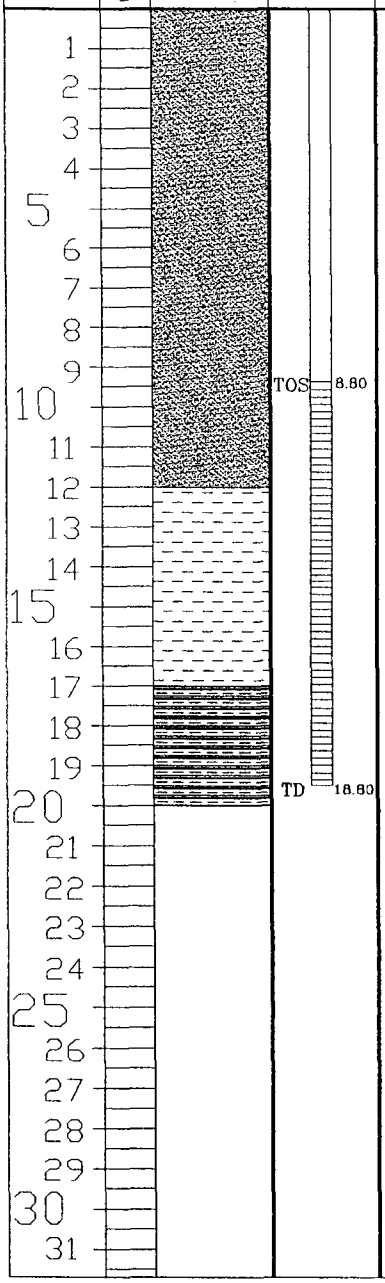
BLAGG ENGINEERING, Inc.

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

BORE / TEST HOLE REPORT

BORING #..... BH - 3
MW #..... 3
PAGE #..... 3
DATE STARTED 9/21/99
DATE FINISHED 9/21/99
OPERATOR..... REP
PREPARED BY NJV

CLIENT: XTO ENERGY INC.
LOCATION NAME: FROST, JACK B #2
CONTRACTOR: BLAGG ENGINEERING, INC.
EQUIPMENT USED: MOBILE DRILL RIG (EARTHPROBE)
BORING LOCATION: 120 FT., S1E FEET FROM WELL HEAD.



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 1.20 FT. ABOVE GROUND SURFACE.

MODERATE YELLOWISH SAND TO SILTY SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (0.0 - 12.0 FT. INTERVAL).

▼ GW DEPTH ON 9/27/99 = 12.56 FT. (APPROX.) FROM GROUND SURFACE.

DARK YELLOWISH SILTY CLAY, COHESIVE, SLIGHTLY MOIST, FIRM TO STIFF, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (12.0 - 17.0 FT. INTERVAL).

OLIVE GRAY CLAY, PLASTIC TO HIGHLY PLASTIC, SLIGHTLY MOIST TO SLIGHTLY SATURATED, STIFF TO VERY STIFF, NO APPARENT DISCOLORATION OBSERVED OR HYDROCARBON ODOR DETECTED PHYSICALLY (17.0 - 20.0 FT. INTERVAL).

NOTE:
- SAND TO SILTY SAND.
- SILTY CLAY.
- CLAY.

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

DRAWING: BH-3.SKD	DATE: 9/25/99	DWN BY: NJV

BLAGG ENGINEERING, INC.

MONITOR WELL SAMPLING DATA

CLIENT : CROSS TIMBERS OPER. CO. **CHAIN-OF-CUSTODY # :** 7301

LOCATION : FROST, JACK B # 2 **LABORATORY (S) USED :** ENVIROTECH, INC.

Date : September 27, 1999 **SAMPLER :** R E P

Filename : 09-27-99.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	103.36	94.63	8.73	20.00	1315	8.0	3800	5.50	-
2	102.13	90.42	11.71	20.00	1230	7.6	2000	4.00	-
3	101.52	87.76	13.76	20.00	1335	8.1	2500	3.00	-

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 ".

Poor recovery in MW #'s 1 & 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:	09-30-99
Chain of Custody:	7301	Date Sampled:	09-27-99
Laboratory Number:	G127	Date Received:	09-28-99
Sample Matrix:	Water	Date Analyzed:	09-30-99
Preservative:	HgCl2 & Cool	Analysis Requested:	BTEX
Condition:	Cool & Intact		

Parameter	Concentration (ug/L)	Dilution Factor	Det. Limit (ug/L)
Benzene	**24.9**	**1**	**0.2**
Toluene	**4.0**	**1**	**0.2**
Ethylbenzene	**ND**	**1**	**0.2**
p,m-Xylene	**4.7**	**1**	**0.2**
o-Xylene	**1.6**	**1**	**0.1**
Total Xylene	**6.3**		
Total BTEX	**35.2**		

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: **Jack Frost B #2.**

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:	09-30-99
Chain of Custody:	7301	Date Sampled:	09-27-99
Laboratory Number:	G128	Date Received:	09-28-99
Sample Matrix:	Water	Date Analyzed:	09-30-99
Preservative:	HgCl2 & Cool	Analysis Requested:	BTEX
Condition:	Cool & Intact		

Parameter	Concentration (ug/L)	Dilution Factor	Det. Limit (ug/L)
Benzene	**350**	**1**	**0.2**
Toluene	**60.1**	**1**	**0.2**
Ethylbenzene	**90.5**	**1**	**0.2**
p,m-Xylene	**233**	**1**	**0.2**
o-Xylene	**20.9**	**1**	**0.1**
Total Xylene	**254**		
Total BTEX	**754**		

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: **Jack Frost B #2.**

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:	09-30-99
Chain of Custody:	7301	Date Sampled:	09-27-99
Laboratory Number:	G129	Date Received:	09-28-99
Sample Matrix:	Water	Date Analyzed:	09-30-99
Preservative:	HgCl2 & Cool	Analysis Requested:	BTEX
Condition:	Cool & Intact		

Parameter	Concentration (ug/L)	Dilution Factor	Det. Limit (ug/L)
Benzene	**21.2**	**1**	**0.2**
Toluene	**3.1**	**1**	**0.2**
Ethylbenzene	**3.1**	**1**	**0.2**
p,m-Xylene	**14.2**	**1**	**0.2**
o-Xylene	**0.9**	**1**	**0.1**
Total Xylene	**15.1**		
Total BTEX	**42.5**		

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: **Jack Frost B #2.**

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:	09-30-99
Laboratory Number:	G127	Date Sampled:	09-27-99
Chain of Custody:	7301	Date Received:	09-28-99
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	09-29-99
Condition:	Cool & Intact		

Parameter	Analytical Result	Units		Units
pH	7.85	s.u.		
Conductivity @ 25° C	6,810	umhos/cm		
Total Dissolved Solids @ 180C	3,400	mg/L		
Total Dissolved Solids (Calc)	3,370	mg/L		
SAR	48.9	ratio		
Total Alkalinity as CaCO3	638	mg/L		
Total Hardness as CaCO3	94.0	mg/L		
Bicarbonate as HCO3	638	mg/L	10.46	meq/L
Carbonate as CO3	<1	mg/L	0.00	meq/L
Hydroxide as OH	<1	mg/L	0.00	meq/L
Nitrate Nitrogen	0.1	mg/L	0.00	meq/L
Nitrite Nitrogen	0.004	mg/L	0.00	meq/L
Chloride	5.0	mg/L	0.14	meq/L
Fluoride	1.96	mg/L	0.10	meq/L
Phosphate	0.9	mg/L	0.03	meq/L
Sulfate	1,850	mg/L	38.52	meq/L
Iron	0.007	mg/L		
Calcium	28.8	mg/L	1.44	meq/L
Magnesium	5.4	mg/L	0.44	meq/L
Potassium	3.0	mg/L	0.08	meq/L
Sodium	1,090	mg/L	47.42	meq/L
Cations			49.37	meq/L
Anions			49.25	meq/L
Cation/Anion Difference			0.25%	

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: **Jack Frost B #2.**

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:	09-30-99
Laboratory Number:	G128	Date Sampled:	09-27-99
Chain of Custody:	7301	Date Received:	09-28-99
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	09-29-99
Condition:	Cool & Intact		

Parameter	Analytical Result	Units		Units
pH	7.98	s.u.		
Conductivity @ 25° C	1,876	umhos/cm		
Total Dissolved Solids @ 180C	915	mg/L		
Total Dissolved Solids (Calc)	710	mg/L		
SAR	10.5	ratio		
Total Alkalinity as CaCO3	316	mg/L		
Total Hardness as CaCO3	78.0	mg/L		
Bicarbonate as HCO3	316	mg/L	5.18	meq/L
Carbonate as CO3	<1	mg/L	0.00	meq/L
Hydroxide as OH	<1	mg/L	0.00	meq/L
Nitrate Nitrogen	1.0	mg/L	0.02	meq/L
Nitrite Nitrogen	0.300	mg/L	0.01	meq/L
Chloride	2.0	mg/L	0.06	meq/L
Fluoride	1.21	mg/L	0.06	meq/L
Phosphate	6.5	mg/L	0.21	meq/L
Sulfate	260	mg/L	5.41	meq/L
Iron	0.288	mg/L		
Calcium	25.6	mg/L	1.28	meq/L
Magnesium	3.4	mg/L	0.28	meq/L
Potassium	3.0	mg/L	0.08	meq/L
Sodium	214	mg/L	9.31	meq/L
Cations			10.94	meq/L
Anions			10.94	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: **Jack Frost B #2.**

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:	09-30-99
Laboratory Number:	G129	Date Sampled:	09-27-99
Chain of Custody:	7301	Date Received:	09-28-99
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	09-29-99
Condition:	Cool & Intact		

Parameter	Analytical Result	Units		Units
pH	**7.80**	s.u.		
Conductivity @ 25° C	**4,180**	umhos/cm		
Total Dissolved Solids @ 180C	**2,080**	mg/L		
Total Dissolved Solids (Calc)	**1,980**	mg/L		
SAR	**39.2**	ratio		
Total Alkalinity as CaCO3	**524**	mg/L		
Total Hardness as CaCO3	**52.0**	mg/L		
Bicarbonate as HCO3	**524**	mg/L	8.59	meq/L
Carbonate as CO3	**<1**	mg/L	0.00	meq/L
Hydroxide as OH	**<1**	mg/L	0.00	meq/L
Nitrate Nitrogen	**0.5**	mg/L	0.01	meq/L
Nitrite Nitrogen	**0.021**	mg/L	0.00	meq/L
Chloride	**4.5**	mg/L	0.13	meq/L
Fluoride	**4.40**	mg/L	0.23	meq/L
Phosphate	**1.0**	mg/L	0.03	meq/L
Sulfate	**983**	mg/L	20.47	meq/L
Iron	**0.042**	mg/L		
Calcium	**18.4**	mg/L	0.92	meq/L
Magnesium	**1.5**	mg/L	0.12	meq/L
Potassium	**3.0**	mg/L	0.08	meq/L
Sodium	**650**	mg/L	28.28	meq/L
Cations			29.39	meq/L
Anions			29.45	meq/L
Cation/Anion Difference			**0.20%**	

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: **Jack Frost B #2.**

Analyst

Review

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CHAIN OF CUSTODY RECORD

7301

Client / Project Name	Project Location
BLAGG / CROSS TIMBERS	JACK FROST B#2
Sampler: REP	Client No. 403410

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	BTEX (8021)	ANION/ CATION					Remarks
												ALL SAMPLES
MW#1	9.27.99	1315	G127	WATER	3	✓	✓					BTEX PRESERVED
MW#2	9.27.99	1230	G128	WATER	3	✓	✓					$HgCl_2$ + COOL
MW#3	9.27.99	1335	G129	WATER	3	✓	✓					ANION/CATION
												PRESERVED - COOL

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
	9.28.99	0715		9.28.99	0715
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

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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:	09-30-BTEX QA/QC	Date Reported:	09-30-99
Laboratory Number:	G124	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	09-30-99
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	3.6219E-001	3.6335E-001	0.32%	ND	0.2
Toluene	2.7867E-002	2.7872E-002	0.02%	ND	0.2
Ethylbenzene	4.1931E-002	4.1981E-002	0.12%	ND	0.2
p,m-Xylene	3.6569E-002	3.6576E-002	0.02%	ND	0.2
o-Xylene	3.1955E-002	3.2051E-002	0.30%	ND	0.1

Duplicate Conc. (ug/L)	Sample	Duplicate	%Diff.	Accept Limit
Benzene	13.9	13.8	0.7%	0 - 30%
Toluene	11.0	11.3	2.7%	0 - 30%
Ethylbenzene	17.2	17.2	0.0%	0 - 30%
p,m-Xylene	6.7	6.8	1.5%	0 - 30%
o-Xylene	3.3	3.3	0.0%	0 - 30%

Spike Conc. (ug/L)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Limits
Benzene	13.9	50.0	63.6	100%	39 - 150
Toluene	11.0	50.0	60.9	100%	46 - 148
Ethylbenzene	17.2	50.0	67.0	100%	32 - 160
p,m-Xylene	6.7	100.0	107	100%	46 - 148
o-Xylene	3.3	50.0	53.3	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 G124 - G129.**

Analyst

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Blagg / Crosstimbers	Project #:	403410
Sample ID:	MW # 1	Date Reported:	10-07-99
Chain of Custody:	6999	Date Sampled:	10-06-99
Laboratory Number:	G159	Date Received:	10-06-99
Sample Matrix:	Water	Date Analyzed:	10-07-99
Preservative:	HgCl2 & Cool	Analysis Requested:	BTEX
Condition:	Cool & Intact		

Parameter	Concentration (ug/L)	Dilution Factor	Det. Limit (ug/L)
Benzene	**1.4**	**1**	**0.2**
Toluene	**ND**	**1**	**0.2**
Ethylbenzene	**0.2**	**1**	**0.2**
p,m-Xylene	**2.4**	**1**	**0.2**
o-Xylene	**0.7**	**1**	**0.1**
Total Xylene	**3.1**		
Total BTEX	**4.7**		

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: **Jack Frost B #2.**

Analyst

Review

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OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *18-Oct-99*

Client:	Blagg Engineering	**Client Sample Info:**	Jack Frost B#2
Work Order:	9910012	**Client Sample ID:**	MW #1
Lab ID:	9910012-01A **Matrix:** AQUEOUS	**Collection Date:**	10/6/99 1:20:00 PM
Project:	Jack Frost B#2	**COC Record:**	10343

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		**SW8021B**				Analyst: **HR**
Benzene	ND	0.5		µg/L	1	10/15/99
Toluene	ND	0.5		µg/L	1	10/15/99
Ethylbenzene	ND	0.5		µg/L	1	10/15/99
m,p-Xylene	ND	1		µg/L	1	10/15/99
o-Xylene	ND	0.5		µg/L	1	10/15/99

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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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Blagg / Crosstimbers	Project #:	403410
Sample ID:	MW #4	Date Reported:	10-07-99
Chain of Custody:	6998	Date Sampled:	10-06-99
Laboratory Number:	G158	Date Received:	10-06-99
Sample Matrix:	Water	Date Analyzed:	10-07-99
Preservative:	HgCl2 & Cool	Analysis Requested:	BTEX
Condition:	Cool & Intact		

Parameter	Concentration (ug/L)	Dilution Factor	Det. Limit (ug/L)
Benzene	**2.1**	**1**	**0.2**
Toluene	**1.6**	**1**	**0.2**
Ethylbenzene	**0.3**	**1**	**0.2**
p,m-Xylene	**3.3**	**1**	**0.2**
o-Xylene	**0.2**	**1**	**0.1**
Total Xylene	**3.5**		
Total BTEX	**7.5**		

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	**95 %**
	Bromofluorobenzene	**95 %**

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: **Jack Frost Z #1.**

Analyst

Review

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OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *18-Oct-99*

Client:	Blagg Engineering	**Client Sample Info:**	Jack Frost Z#1
Work Order:	9910013	**Client Sample ID:**	MW #4
Lab ID:	9910013-01A **Matrix:** AQUEOUS	**Collection Date:**	10/6/99 11:00:00 AM
Project:	Jack Frost Z#1	**COC Record:**	10342

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B				Analyst: HR
Benzene	ND	0.5		µg/L	1	10/15/99
Toluene	ND	0.5		µg/L	1	10/15/99
Ethylbenzene	ND	0.5		µg/L	1	10/15/99
m,p-Xylene	ND	1		µg/L	1	10/15/99
o-Xylene	ND	0.5		µg/L	1	10/15/99

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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CHAIN OF CUSTODY RECORD

6999

Client / Project Name	Project Location	ANALYSIS / PARAMETERS
BLAGG / CROSSTIMBERS	JACK FROST B #2	
Sampler: REP	Client No. 403410	

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	BTEX (8021)						Remarks
MW#1	10.6.99	1320	G159	WATER	2	✓						SAMPLE PRESERVE - $HgCl_2$ / cool

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
	10.6.99	1420		10.6.99	1420
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

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(505) 632-0615

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

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CHAIN OF CUSTODY RECORD

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LAB: (505) 325-5667 • FAX: (505) 327-1496

Date: 10·6·99

Page: 1 of 1

Purchase Order No.:	Project No.	REPORT RESULTS TO: Name	Title
SEND INVOICE TO: Name JEFF BLAGG		Company	
Company BLAGG ENG.	Dept.	Mailing Address	
Address		City, State, Zip	
City, State, Zip		Telephone No.	Telefax No.

PROJECT LOCATION: JACK FROST B #2

SAMPLER'S SIGNATURE: Ed Pratt

SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	SAMPLE MATRIX	SAMPLE PRES.	Number of Containers	ANALYSIS REQUESTED: BTEX (8021)	LAB ID
MW #1	10·6·99	1320	W	HCl (2) Cool	2	✓	9910012-01A

Relinquished by:	Date/Time 10·6·99 1435	Received by:	Date/Time 10/6/99 1435
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

CHAIN OF CUSTODY RECORD

Client / Project Name: BLAGG / CROSSTIMBERS

Project Location: JACK FROST Z #1

Sampler: REP

Client No.: 403410

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	BTEX (8021)						Remarks
MW#4	10.6.99	1100	G158	WATER	2	✓						SAMPLE PRESERVE $HgCl_2$ / COOL

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	10.6.99	1420	[signature]	10.6.99	1420
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

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

ON SITE TECHNOLOGIES, LTD.

CHAIN OF CUSTODY RECORD

342

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LAB: (505) 325-5667 • FAX: (505) 327-1496

Date: 10·6·99

Page: 1 of 1

Purchase Order No.:	Project No.	REPORT RESULTS TO: Name	Title
SEND INVOICE TO: Name JEFF BLAGG		Company	
Company BLAGG ENG.	Dept.	Mailing Address	
Address		City, State, Zip	
City, State, Zip		Telephone No.	Telefax No.

PROJECT LOCATION: JACK FROST Z #1

SAMPLER'S SIGNATURE: Ed Foster

ANALYSIS REQUESTED

SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	SAMPLE MATRIX	SAMPLE PRES.	Number of Containers	BTEX (8021)									LAB ID
MW#4	10·6·99	1100	W	HgCl2 / Cool	2	✓									9910013-01A

Relinquished by: Ed Foster	Date/Time 10·6·99 1455	Received by: [signature]	Date/Time 10/6/99 1455
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

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:	10-07-BTEX QA/QC	Date Reported:	10-07-99
Laboratory Number:	G158	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	10-07-99
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
Methyl-t-butyl Ether	6.6779E-002	6.6926E-002	0.22%	ND	0.2
Benzene	3.6219E-001	3.6335E-001	0.32%	ND	0.2
Toluene	2.7867E-002	2.7872E-002	0.02%	ND	0.2
Ethylbenzene	4.1931E-002	4.1981E-002	0.12%	ND	0.2
p,m-Xylene	3.6569E-002	3.6576E-002	0.02%	ND	0.2
o-Xylene	3.1955E-002	3.2051E-002	0.30%	ND	0.1

Duplicate Conc. (ug/L)	Sample	Duplicate	%Diff.	Accept Limit
Benzene	2.1	2.0	4.8%	0 - 30%
Toluene	1.6	1.6	0.0%	0 - 30%
Ethylbenzene	0.3	0.3	0.0%	0 - 30%
p,m-Xylene	3.3	3.3	0.0%	0 - 30%
o-Xylene	0.2	0.2	0.0%	0 - 30%

Spike Conc. (ug/L)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Limits
Benzene	2.1	50.0	52.1	100%	39 - 150
Toluene	1.6	50.0	51.6	100%	46 - 148
Ethylbenzene	0.3	50.0	50.3	100%	32 - 160
p,m-Xylene	3.3	100.0	103.3	100%	46 - 148
o-Xylene	0.2	50.0	50.3	100%	46 - 148

ND - Parameter not detected at the stated detection limit.

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 G158 - G159.**

Analyst

Review

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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:	10-07-BTEX QA/QC	Date Reported:	10-07-99
Laboratory Number:	G158	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	10-07-99
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
Methyl-t-butyl Ether	6.6779E-002	6.6926E-002	0.22%	ND	0.2
Benzene	3.6219E-001	3.6335E-001	0.32%	ND	0.2
Toluene	2.7867E-002	2.7872E-002	0.02%	ND	0.2
Ethylbenzene	4.1931E-002	4.1981E-002	0.12%	ND	0.2
p,m-Xylene	3.6569E-002	3.6576E-002	0.02%	ND	0.2
o-Xylene	3.1955E-002	3.2051E-002	0.30%	ND	0.1

Duplicate Conc. (ug/L)	Sample	Duplicate	%Diff.	Accept Limit
Benzene	2.1	2.0	4.8%	0 - 30%
Toluene	1.6	1.6	0.0%	0 - 30%
Ethylbenzene	0.3	0.3	0.0%	0 - 30%
p,m-Xylene	3.3	3.3	0.0%	0 - 30%
o-Xylene	0.2	0.2	0.0%	0 - 30%

Spike Conc. (ug/L)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Limits
Benzene	2.1	50.0	52.1	100%	39 - 150
Toluene	1.6	50.0	51.6	100%	46 - 148
Ethylbenzene	0.3	50.0	50.3	100%	32 - 160
p,m-Xylene	3.3	100.0	103.3	100%	46 - 148
o-Xylene	0.2	50.0	50.3	100%	46 - 148

ND - Parameter not detected at the stated detection limit.

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 G158 - G159.**

Analyst

Review

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

On Site Technologies, LTD.

Date: *18-Oct-99*

CLIENT: Blagg Engineering
Work Order: 9910013
Project: Jack Frost Z#1

QC SUMMARY REPORT

Method Blank

Sample ID: **MB1** Batch ID: **GC-1_991015** Test Code: **SW8021B** Units: **µg/L** Analysis Date: **10/15/99** Prep Date:

Client ID: **9910013** Run ID: **GC-1_991015A** SeqNo: **20607**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.5									
Ethylbenzene	ND	0.5									
m,p-Xylene	.2588	1									J
Methyl tert-Butyl Ether	ND	1									
o-Xylene	.0849	0.5									J
Toluene	.2295	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: *18-Oct-99*

CLIENT: Blagg Engineering
Work Order: 9910013
Project: Jack Frost Z#1

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: **9910015-01AMS** Batch ID: **GC-1_991015** Test Code: **SW8021B** Units: **µg/L** Analysis Date: **10/15/99** Prep Date:

Client ID: **9910013** Run ID: **GC-1_991015A** SeqNo: **20608**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	6738	25	2000	4676	103.2%	80	116				
Ethylbenzene	4718	25	2000	2647	103.6%	80	118				
m,p-Xylene	6248	50	4000	2382	96.6%	77	116				
Methyl tert-Butyl Ether	2768	50	2000	823.3	97.2%	62	122				
o-Xylene	2170	25	2000	88.14	104.1%	83	117				
Toluene	2344	25	2000	233.8	105.5%	80	116				

Sample ID: **9910015-01AMSD** Batch ID: **GC-1_991015** Test Code: **SW8021B** Units: **µg/L** Analysis Date: **10/15/99** Prep Date:

Client ID: **9910013** Run ID: **GC-1_991015A** SeqNo: **20609**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	6738	25	2000	4676	103.1%	80	116	6738	0.0%	7	
Ethylbenzene	4739	25	2000	2647	104.6%	80	118	4718	0.4%	7	
m,p-Xylene	6287	50	4000	2382	97.6%	77	116	6248	0.6%	7	
Methyl tert-Butyl Ether	2655	50	2000	823.3	91.6%	62	122	2768	4.2%	7	
o-Xylene	2190	25	2000	88.14	105.1%	83	117	2170	0.9%	6	
Toluene	2355	25	2000	233.8	106.1%	80	116	2344	0.5%	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: *18-Oct-99*

CLIENT: Blagg Engineering
Work Order: 9910013
Project: Jack Frost Z#1

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: **LCS WATER** Batch ID: **GC-1_991015** Test Code: **SW8021B** Units: **µg/L** Analysis Date: **10/15/99** Prep Date:

Client ID: **9910013** Run ID: **GC-1_991015A** SeqNo: **20606**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	41.4	0.5	40	0	103.5%	87	119				
Ethylbenzene	41.95	0.5	40	0	104.9%	89	117				
m,p-Xylene	78.11	1	80	0.2588	97.3%	88	114				
Methyl tert-Butyl Ether	38.6	1	40	0	96.5%	69	129				
o-Xylene	41.1	0.5	40	0.0849	102.6%	90	116				
Toluene	41.28	0.5	40	0.2295	102.6%	90	115				

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: *18-Oct-99*

CLIENT: Blagg Engineering
Work Order: 9910013
Project: Jack Frost Z#1

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: **CCV1 BTEX_9910** Batch ID: **GC-1_991015** Test Code: **SW8021B** Units: **µg/L** Analysis Date: **10/15/99** Prep Date:

Client ID: **9910013** Run ID: **GC-1_991015A** SeqNo: **20603**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.62	0.5	20	0	108.1%	85	115				
Ethylbenzene	21.89	0.5	20	0	109.4%	85	115				
m,p-Xylene	41.04	1	40	0	102.6%	85	115				
Methyl tert-Butyl Ether	19.65	1	20	0	98.3%	85	115				
o-Xylene	21.52	0.5	20	0	107.6%	85	115				
Toluene	21.49	0.5	20	0	107.5%	85	115				
1,4-Difluorobenzene	90.6	0	100	0	90.6%	80	120				
4-Bromochlorobenzene	93.38	0	100	0	93.4%	80	120				
Fluorobenzene	89.25	0	100	0	89.3%	80	120				

Sample ID: **CCV2 BTEX_9910** Batch ID: **GC-1_991015** Test Code: **SW8021B** Units: **µg/L** Analysis Date: **10/15/99** Prep Date:

Client ID: **9910013** Run ID: **GC-1_991015A** SeqNo: **20604**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.53	0.5	20	0	107.6%	85	115				
Ethylbenzene	21.71	0.5	20	0	108.6%	85	115				
m,p-Xylene	40.48	1	40	0	101.2%	85	115				
Methyl tert-Butyl Ether	20.44	1	20	0	102.2%	85	115				
o-Xylene	21.36	0.5	20	0	106.8%	85	115				
Toluene	21.36	0.5	20	0	106.8%	85	115				
1,4-Difluorobenzene	90.39	0	100	0	90.4%	80	120				
4-Bromochlorobenzene	94.89	0	100	0	94.9%	80	120				
Fluorobenzene	89.54	0	100	0	89.5%	80	120				

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: 9910013
Project: Jack Frost Z#1

QC SUMMARY REPORT
Continuing Calibration Verification Standard

Sample ID: **CCV3 BTEX_9910** Batch ID: **GC-1_991015** Test Code: **SW8021B** Units: **µg/L** Analysis Date: **10/15/99** Prep Date:

Client ID: **9910013** Run ID: **GC-1_991015A** SeqNo: **20605**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	41.66	0.5	40	0	104.2%	85	115				
Ethylbenzene	41.74	0.5	40	0	104.4%	85	115				
m,p-Xylene	77.74	1	80	0	97.2%	85	115				
Methyl tert-Butyl Ether	40.98	1	40	0	102.4%	85	115				
o-Xylene	41	0.5	40	0	102.5%	85	115				
Toluene	41.38	0.5	40	0	103.4%	85	115				
1,4-Difluorobenzene	89.97	0	100	0	90.0%	80	120				
4-Bromochlorobenzene	93.68	0	100	0	93.7%	80	120				
Fluorobenzene	88.9	0	100	0	88.9%	80	120				

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: 18-Oct-99

CLIENT: Blagg Engineering
Work Order: 9910013
Project: Jack Frost Z#1
Test No: SW8021B

QC SUMMARY REPORT
SURROGATE RECOVERIES

Aromatic Volatiles by GC/PID

Sample ID	14FBZ	4BCBZ	FLBZ
9910009-01A	90.4	93.5	89.8
9910009-03A	90.4	92.8	89
9910009-04A	91	97.2	90.3
9910012-01A	90.4	94.2	89.7
9910013-01A	89.2	91.8	88.6
9910015-01A	95.3	95.5	90.5
9910015-01AMS	95.1	93.7	90.3
9910015-01AMSD	95	95.4	91.1
9910015-02A	100	96.8	93.7
9910015-03A	91.1	93.8	90.1
9910015-04A	91	93.8	90.5
9910015-05A	90.2	95.7	91.5
9910015-06A	90.7	93.8	90.6
9910015-07A	96.1	93.5	92.7
9910015-20A	91.1	94.4	90.2
9910015-21A	91	93.8	89.9
9910015-22A	90.6	93.4	89.9
9910015-23A	91	93	90
9910015-24A	90.5	92.9	90.1
9910015-25A	90.9	92.7	90.2
9910015-26A	90.2	94.5	89.5
CCV1 BTEX_99100	90.6	93.4	89.2
CCV2 BTEX_99100	90.4	94.9	89.5
CCV3 BTEX_99100	90	93.7	88.9
LCS WATER	90.1	92.8	88.6
MB1	91.1	98.6	89.6

Acronym		Surrogate	QC Limits
14FBZ	=	1,4-Difluorobenzene	80-120
4BCBZ	=	4-Bromochlorobenzene	80-120
FLBZ	=	Fluorobenzene	80-120

*** Surrogate recovery outside acceptance limits**

BLAGG ENGINEERING, INC.

MONITOR WELL SAMPLING DATA

CLIENT : CROSS TIMBERS OPER. CO. **CHAIN-OF-CUSTODY # :** 10353

LOCATION : FROST, JACK B # 2 **LABORATORY (S) USED :** ON - SITE TECH.

Date : February 18, 2000 **SAMPLER :** N J V

Filename : 02-18-00.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	103.36	94.10	9.26	20.00	1405	8.0	3,800	5.25	-
2	102.13	90.26	11.87	20.00	1335	7.7	1,900	4.00	-
3	101.52	88.65	12.87	20.00	1430	8.2	2,700	3.50	-

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

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

Ideally a minimum of three (3) wellbore volumes:

1.25 " well diameter = 0.19 gallons per foot of water (or 24 oz.).

2 bails per foot - small teflon bailer.

3 bails per foot - 3 / 4 " teflon bailer.

2.00 " well diameter = 0.49 gallons per foot of water.

4.00 " well diameter = 1.95 gallons per foot of water.

Comments or note well diameter if not standard 2 ".

Very poor recovery in MW # 3 . Poor recovery in MW # 1. Collected BTEX from all MW 's listed above . DTW = 19.40 ft. in MW # 3 @ time of collections (purging initiated @ 1310 hrs. Labeled first sample vial for MW # 3 for lab tech. to analysis .

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *01-Mar-00*

Client:	Blagg Engineering	**Client Sample Info:**	Frost, Jack B #2
Work Order:	0002044	**Client Sample ID:**	MW #1
Lab ID:	0002044-01A **Matrix:** AQUEOUS	**Collection Date:**	2/18/2000 2:05:00 PM
Project:	Frost, Jack B #2	**COC Record:**	10353

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

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *01-Mar-00*

Client:	Blagg Engineering	**Client Sample Info:**	Frost, Jack B #2
Work Order:	0002044	**Client Sample ID:**	MW #2
Lab ID:	0002044-02A **Matrix:** AQUEOUS	**Collection Date:**	2/18/2000 1:35:00 PM
Project:	Frost, Jack B #2	**COC Record:**	10353

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		**SW8021B**				Analyst: **DM**
Benzene	0.9	0.5		µg/L	1	2/28/2000
Toluene	ND	0.5		µg/L	1	2/28/2000
Ethylbenzene	2.6	0.5		µg/L	1	2/28/2000
m,p-Xylene	3.9	1		µg/L	1	2/28/2000
o-Xylene	ND	0.5		µg/L	1	2/28/2000

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

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *01-Mar-00*

Client:	Blagg Engineering	**Client Sample Info:**	Frost, Jack B #2
Work Order:	0002044	**Client Sample ID:**	MW #3
Lab ID:	0002044-03A **Matrix:** AQUEOUS	**Collection Date:**	2/18/2000 2:30:00 PM
Project:	Frost, Jack B #2	**COC Record:**	10353

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

1053

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: 2/1/00

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.	632-1199	Telefax No.	632-3903

PROJECT LOCATION: Frost, Tack B #2

SAMPLER'S SIGNATURE: Nelson Velez

SAMPLE IDENTIFICATION	SAMPLE DATE	TIME	MATRIX	PRES.	Number of Containers	BTEX (8021)	LAB ID
MW #1	1/18/00	1405	WATER	Cool & HCl	2	✓	0002044-01A
MW #2	1/18/00	1335	WATER	Cool & HCl	2	✓	-02A
MW #3	1/18/00	1430	WATER	Cool & HCl	2	✓	-03A

ANALYSIS REQUESTED

Please use MW-3 A with (1) on label - 1st vial used @ Time of sampling.

Relinquished by: Nelson Velez	Date/Time 1/18/00 1527	Received by:	Date/Time 1/18/00 1527
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

On Site Technologies, LTD.

Date: *01-Mar-00*

CLIENT: Blagg Engineering
Work Order: 0002044
Project: Frost, Jack B #2

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: **0002044** 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

Sample ID: **MB1** Batch ID: **GC-1_000228** Test Code: **SW8021B** Units: **µg/L** Analysis Date **2/28/2000** Prep Date:

Client ID: **0002044** Run ID: **GC-1_000228A** SeqNo: **24562**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.5									
Ethylbenzene	ND	0.5									
m,p-Xylene	ND	1									
Methyl tert-Butyl Ether	ND	1									
o-Xylene	ND	0.5									
Toluene	.0832	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: 0002044
Project: Frost, Jack B #2

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: **0002044** 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: **0002044** 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
DE 3/1/00

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: 0002044
Project: Frost, Jack B #2

QC SUMMARY REPORT
Sample Matrix Spike

Sample ID: **0002039-02AMS** Batch ID: **GC-1_000228** Test Code: **SW8021B** Units: **µg/L** Analysis Date **2/28/2000** Prep Date:
Client ID: **0002044** Run ID: **GC-1_000228A** SeqNo: **24563**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	893.8	10	800	119.1	96.8%	73	126				
Ethylbenzene	1399	10	800	637.1	95.3%	88	113				
m,p-Xylene	6044	20	1600	4542	93.8%	83	112				
Methyl tert-Butyl Ether	812.5	20	800	35.51	97.1%	81	125				
o-Xylene	1389	10	800	617.7	96.5%	93	110				
Toluene	2642	10	800	1861	97.7%	76	126				

Sample ID: **0002039-02AMSD** Batch ID: **GC-1_000228** Test Code: **SW8021B** Units: **µg/L** Analysis Date **2/28/2000** Prep Date:
Client ID: **0002044** Run ID: **GC-1_000228A** SeqNo: **24564**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	891.7	10	800	119.1	96.6%	73	126	893.8	0.2%	6	
Ethylbenzene	1394	10	800	637.1	94.6%	88	113	1399	0.4%	5	
m,p-Xylene	6019	20	1600	4542	92.3%	83	112	6044	0.4%	7	
Methyl tert-Butyl Ether	819.4	20	800	35.51	98.0%	81	125	812.5	0.8%	9	
o-Xylene	1390	10	800	617.7	96.6%	93	110	1389	0.0%	6	
Toluene	2634	10	800	1861	96.7%	76	126	2642	0.3%	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: *01-Mar-00*

CLIENT: Blagg Engineering
Work Order: 0002044
Project: Frost, Jack B #2

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: **0002044** 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				

Sample ID: **LCS WATER** Batch ID: **GC-1_000228** Test Code: **SW8021B** Units: **µg/L** Analysis Date **2/28/2000** Prep Date:

Client ID: **0002044** Run ID: **GC-1_000228A** SeqNo: **24561**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	40.38	0.5	40	0	100.9%	89	112				
Ethylbenzene	41.28	0.5	40	0	103.2%	93	112				
m,p-Xylene	78.41	1	80	0	98.0%	88	108				
Methyl tert-Butyl Ether	40.59	1	40	0	101.5%	87	115				
o-Xylene	41.17	0.5	40	0	102.9%	93	112				
Toluene	40.9	0.5	40	0.0832	102.0%	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: 0002044
Project: Frost, Jack B #2

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: **0002044** 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: **0002044** 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: 0002044
Project: Frost, Jack B #2

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: **0002044** 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				

Sample ID: **CCV1 BTEX_0001** Batch ID: **GC-1_000228** Test Code: **SW8021B** Units: **µg/L** Analysis Date **2/28/2000** Prep Date:

Client ID: **0002044** Run ID: **GC-1_000228A** SeqNo: **24558**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.18	0.5	20	0	100.9%	85	115				
Ethylbenzene	20.93	0.5	20	0	104.7%	85	115				
m,p-Xylene	39.52	1	40	0	98.8%	85	115				
Methyl tert-Butyl Ether	19.8	1	20	0	99.0%	85	115				
o-Xylene	20.84	0.5	20	0	104.2%	85	115				
Toluene	20.44	0.5	20	0	102.2%	85	115				
1,4-Difluorobenzene	89.71	0	100	0	89.7%	80	105				
4-Bromochlorobenzene	89.1	0	100	0	89.1%	78	108				
Fluorobenzene	88.62	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

CLIENT: Blagg Engineering
Work Order: 0002044
Project: Frost, Jack B #2

QC SUMMARY REPORT
Continuing Calibration Verification Standard

Sample ID: **CCV2 BTEX_0001** Batch ID: **GC-1_000228** Test Code: **SW8021B** Units: **µg/L** Analysis Date **2/28/2000** Prep Date:
Client ID: **0002044** Run ID: **GC-1_000228A** SeqNo: **24559**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	19.4	0.5	20	0	97.0%	85	115				
Ethylbenzene	20.04	0.5	20	0	100.2%	85	115				
m,p-Xylene	37.84	1	40	0	94.6%	85	115				
Methyl tert-Butyl Ether	20.64	1	20	0	103.2%	85	115				
o-Xylene	20.14	0.5	20	0	100.7%	85	115				
Toluene	19.68	0.5	20	0	98.4%	85	115				
1,4-Difluorobenzene	89.28	0	100	0	89.3%	80	105				
4-Bromochlorobenzene	89.66	0	100	0	89.7%	78	108				
Fluorobenzene	88.78	0	100	0	88.8%	78	108				

Sample ID: **CCV3 BTEX_0001** Batch ID: **GC-1_000228** Test Code: **SW8021B** Units: **µg/L** Analysis Date **2/28/2000** Prep Date:
Client ID: **0002044** Run ID: **GC-1_000228A** SeqNo: **24560**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	38.89	0.5	40	0	97.2%	85	115				
Ethylbenzene	39.58	0.5	40	0	99.0%	85	115				
m,p-Xylene	75.31	1	80	0	94.1%	85	115				
Methyl tert-Butyl Ether	41.12	1	40	0	102.8%	85	115				
o-Xylene	40.19	0.5	40	0	100.5%	85	115				
Toluene	39.55	0.5	40	0	98.9%	85	115				
1,4-Difluorobenzene	89.13	0	100	0	89.1%	80	105				
4-Bromochlorobenzene	92.77	0	100	0	92.8%	78	108				
Fluorobenzene	87.92	0	100	0	87.9%	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

On Site Technologies, LTD.

Date: 01-Mar-00

CLIENT: Blagg Engineering
Work Order: 0002044
Project: Frost, Jack B #2
Test No: SW8021B

QC SUMMARY REPORT
SURROGATE RECOVERIES

Aromatic Volatiles by GC/PID

Sample ID	14FBZ	4BCBZ	FLBZ
0002039-02A	87.2	88	87.8
0002039-02AMS	87.3	89.3	86
0002039-02AMSD	87.1	89.6	86.4
0002039-03A	84.8	89.3	86.2
0002039-05A	86.3	87.9	86.5
0002039-06A	84.6	86	84.8
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	88.4	89.7	86.8
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
0002043-02A	85.4	89.5	85.3
0002043-03A	90.4	89.5	89.6
0002044-01A	90.4	89.8	89.6
0002044-02A	91.2	90	90.4
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
0002048-01A	90	89.6	89
0002048-02A	91.4	91.1	90

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

*** Surrogate recovery outside acceptance limits**

/

CLIENT: Blagg Engineering
Work Order: 0002044
Project: Frost, Jack B #2
Test No: SW8021B

QC SUMMARY REPORT
SURROGATE RECOVERIES

Aromatic Volatiles by GC/PID

Sample ID	14FBZ	4BCBZ	FLBZ
0002049-01A	89.8	89.3	90.1
0002050-01A	90.1	90.4	89
0002050-02A	90.4	89.4	89.2
0002050-03A	89.8	89.5	89.7
0002050-04A	90.7	89.9	89
0002051-01A	89.5	89.9	89.5
0002053-01A	89.1	88.1	89.6
0002053-02A	89.6	89.5	88.4
0002053-03A	89.6	88.6	89.7
0002053-04A	89.5	89.7	89.4
CCV1 BTEX_00010	89.7	89.1	88.6
CCV2 BTEX_00010	89.3	89.6	88.8
CCV3 BTEX_00010	89.1	92.8	87.9
LCS WATER	88.9	89.1	87.8
MB1	90.2	88.3	89.7

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 # :** 10599

LOCATION : FROST, JACK B # 2 **LABORATORY (S) USED :** ON - SITE TECH.

Date : June 20, 2000 **SAMPLER :** N J V

Filename : 06-20-00.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	103.36	94.08	9.28	20.00	1155	8.1	3,500	5.25	-
2	102.13	90.75	11.38	20.00	1140	7.6	2,100	4.25	-
3	101.52	89.10	12.42	20.00	1325	8.2	2,800	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 ".

Very poor recovery in MW # 3 . Poor recovery in MW # 1. Collected BTEX from all MW 's listed above .

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:**	Jack Frost B #2
Work Order:	0006048	**Client Sample ID:**	MW #1
Lab ID:	0006048-01A **Matrix:** AQUEOUS	**Collection Date:**	6/20/2000 11:55:00 AM
Project:	Cross Timbers - Jack Frost B #2	**COC Record:**	10599

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

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:**	Jack Frost B #2
Work Order:	0006048	**Client Sample ID:**	MW #2
Lab ID:	0006048-02A **Matrix:** AQUEOUS	**Collection Date:**	6/20/2000 11:40:00 AM
Project:	Cross Timbers - Jack Frost B #2	**COC Record:**	10599

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		**SW8021B**				Analyst: DM
Benzene	0.5	0.5		µg/L	1	6/27/2000
Toluene	ND	0.5		µg/L	1	6/27/2000
Ethylbenzene	1.6	0.5		µg/L	1	6/27/2000
m,p-Xylene	3.5	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

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:**	Jack Frost B #2
Work Order:	0006048	**Client Sample ID:**	MW #3
Lab ID:	0006048-03A Matrix: AQUEOUS	**Collection Date:**	6/20/2000 1:25:00 PM
Project:	Cross Timbers - Jack Frost B #2	**COC Record:**	10599

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

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

ON SITE TECHNOLOGIES, LTD.

CHAIN OF CUSTODY RECORD

599

Date: 6/20/00

Page: 1 of 1

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 Rugg
Company: Rugg Engineering Inc. | Dept.
Address: P.O. Box 57
City, State, Zip: Bloomfield NM 87413

REPORT RESULTS TO
Name: Nelson Velez | Title
Company: Stime
Mailing Address
City, State, Zip
Telephone No.: 632-1199 | Telefax No.: 632-7903

PROJECT LOCATION: Tank Front B #2

SAMPLER'S SIGNATURE: [signature]

ANALYSIS REQUESTED

SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	PRES.	Number of Containers	BTEX (8021)									LAB ID
MW #1	6/20/00	1155	water	HCl & cool	2	✓									000620K-01A
MW #2	6/20/00	1140	water	HCl & cool	2	✓									-02A
MW #3	6/20/00	1325	water	HCl & cool	2	✓									-03A

Relinquished by: [signature]	Date/Time 6/20/00 1428	Received by: Heidi Rosen	Date/Time 6/20/00 1430
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

Special Instructions / Remarks:

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: *30-Jun-00*

CLIENT: Blagg Engineering
Work Order: 0006048
Project: Cross Timbers - Jack Frost B #2

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: **0006048** 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: 0006048
Project: Cross Timbers - Jack Frost B #2

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: **0006048** 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: **0006048** 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: *0006048*
Project: Cross Timbers - Jack Frost B #2

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: **0006048** 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: 0006048
Project: Cross Timbers - Jack Frost B #2

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: **0006048** 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: **0006048** 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: 0006048
Project: Cross Timbers - Jack Frost B #2

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: **0006048** 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: 0006048
Project: Cross Timbers - Jack Frost B #2
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**

B0114

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.: SF-077951 A

6. If Indian, Allottee or Tribe Name:

7. If Unit or CA, Agreement Designation:

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

8. Well Name and No.: JACK FROST B # 2

2. Name of Operator: Amoco Production Company

9. API Well No.: 3004506295

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

10. Field and Pool, or Exploratory Area: DAKOTA

4. Location of Well (Footage, Sec., T., R., M., or Survey Description): NW/NW SEC. 27, T 27N, R 10 W 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.

SEPARATOR PIT - ABANDONED

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

Signed R.J. Shaw Title Enviro. Coordinator Date 10/14/94

(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

B0119

District I
P.O. Box 1980, Hobbs, NM
District II
P.O. Drawer DD, Artesia, NM 88211
strict 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: Well Name JACK FROST B #2

Location: Unit or Qtr/Qtr Sec D Sec 27 T 27 N R 10 W County SAN JUAN

Pit Type: Separator X Dehydrator ___ Other ___

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

Pit Location: (Attach diagram)
Pit dimensions: length 25', width 25', depth 15'
Reference: wellhead X, other ___
Footage from reference: 150
Direction from reference: 45 Degrees ___ East North X of
X West South ___

Depth To Ground Water: (Vertical distance from contaminants to seasonal high water elevation of ground water)	Less than 50 feet (20 points) 50 feet to 99 feet (10 points) Greater than 100 feet (0 Points)	20
Wellhead Protection Area: (Less than 200 feet from a private domestic water source, or; less than 1000 feet from all other water sources)	Yes (20 points) No (0 points)	0
Distance To Surface Water: (Horizontal distance to perennial lakes, ponds, rivers, streams, creeks, irrigation canals and ditches)	Less than 200 feet (20 points) 200 feet to 1000 feet (10 points) Greater than 1000 feet (0 points)	0
	RANKING SCORE (TOTAL POINTS):	20

B0114

Date Remediation Started: 8-5-94 **Date Completed:** 8-25-94

Remediation Method: (Check all appropriate sections) Excavation X Approx. cubic yards 400

Landfarmed ___ Insitu Bioremediation ___

Other COMPOST

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

General Description Of Remedial Action: Excavation. ON-SITE COMPOST PILE CLOSURE RECORD SUBMITTED WITH BLOW PIT CLOSURE. BLOW PIT & COMPOST PILE CLOSURE APPROVED BY NMOCD WITH LETTER DATED 12/12/96 (ATTACHED.) SEPARATOR PIT CLOSURE DENIED BY NMOCD WITH LETTER DATED 12/5/96 (ATTACHED) - DUE TO GROUNDWATER CONTAMINATION EXCEEDING NMWQCC STANDARDS.

Ground Water Encountered: No ___ Yes X Depth 15'

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

Sample location see Attached Documents

Sample depth 15'

Sample date 8-25-94 Sample time ___

Sample Results

Benzene(ppm) ND

Total BTEX(ppm) 0.018

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 10/14/94

SIGNATURE BJ Shaw

PRINTED NAME AND TITLE Buddy D. Shaw Environmental Coordinator

10-7-94 FLW

CLIENT: Amoco	BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: B 0114 C.O.C. NO: 3834-3872 ENVIROTECH

FIELD REPORT: PIT CLOSURE VERIFICATION

LOCATION: NAME: JACK FROST B WELL #: 2 PIT: SEP.
QUAD/UNIT: D SEC: 27 TWP: 27N RNG: 10W BM: NM CNTY: SJ ST: NM
QTR/FOOTAGE: NW/NW CONTRACTOR: EPC

DATE STARTED: 8-5-94
DATE FINISHED: 8-25-94
ENVIRONMENTAL SPECIALIST: F.M. - ENVIROTECH

EXCAVATION APPROX. 25 FT. x 25 FT. x 15 FT. DEEP. CUBIC YARDS: 400
DISPOSAL FACILITY: ON SITE REMEDIATION METHOD: COMPOST
LAND USE: RANGE LEASE: SF-077951 A FORMATION:

FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 155 FEET N45°W FROM WELLHEAD.
DEPTH TO GROUNDWATER: 15' NEAREST WATER SOURCE: > 1000' NEAREST SURFACE WATER: > 1000'
NMOCD RANKING SCORE: 20 NMOCD TPH CLOSURE STD: 100 PPM

SOIL AND EXCAVATION DESCRIPTION: PIT DISPOSITION: ABANDONED

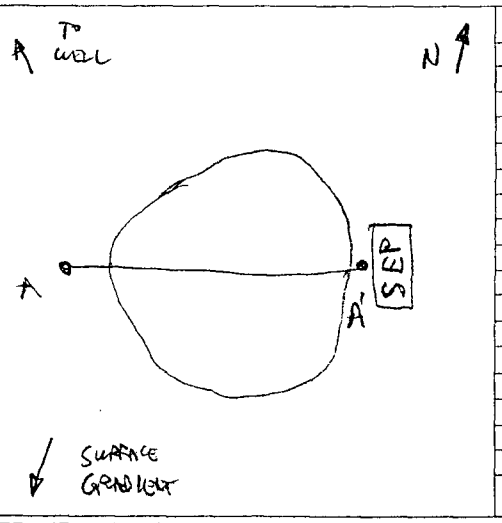
PIT BACKFILLED WITH CLEAN SOIL AS OF 10-7-94.
ENVIROTECH PERFORMED ORIGINAL CLOSURE - FIELD REPORT NEVER PRODUCED.
R.E. O'NEILL MET FRANK McDONALD ON SITE TO PRODUCE FIELD REPORT.

FIELD 418.1 CALCULATIONS

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

SCALE
0 5 10 FT

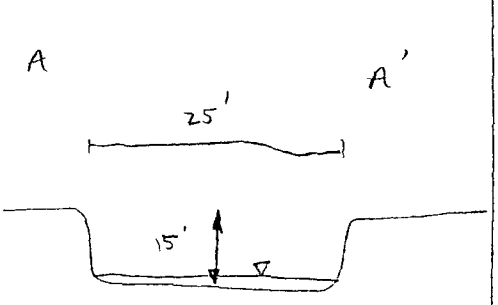
PIT PERIMETER



OVM RESULTS

SAMPLE ID	FIELD HEADSPACE PID (ppm)
1	
2	
3	
4	
5	
LAB	SAMPLES
PIT WATER	6 DEP

PIT PROFILE



TRAVEL NOTES: CALLOUT: ONSITE:

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:	ground water	Date Reported:	08-15-94
Laboratory Number:	7765	Date Sampled:	08-05-94
Sample Matrix:	Water	Date Received:	08-08-94
Preservative:	HgCl & Cool	Date Analyzed:	08-11-94
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/L)	Det. Limit (ug/L)
Benzene	48	0.3
Toluene	411	0.3
Ethylbenzene	ND	0.2
p,m-Xylene	55.9	0.3
o-Xylene	35.2	0.3

SURROGATE RECOVERIES:

Parameter	Percent Recovery
Trifluorotoluene	74 %
Bromofluorobenzene	97 %

Method: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992

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

ND - Parameter not detected at the stated detection limit.

Comments: JACK FROST B # 2 A0079 SEPARATOR PIT

Roy L. Griffin
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:	Groundwater	Date Reported:	09-01-94
Laboratory Number:	7847	Date Sampled:	08-25-94
Sample Matrix:	Water	Date Received:	08-25-94
Preservative:	HgCl & Cool	Date Analyzed:	08-29-94
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/L)	Det. Limit (ug/L)
Benzene	ND	0.3
Toluene	ND	0.3
'thylbenzene	ND	0.2
p,m-Xylene	ND	0.3
o-Xylene	18.0	0.3

SURROGATE RECOVERIES:

Parameter	Percent Recovery
Trifluorotoluene	96 %
Bromofluorobenzene	97 %

Method: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992

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

ND - Parameter not detected at the stated detection limit.

Comments: Jack Frost B #2 ground Water Pit A0079 SEPARATOR PIT

Analyst

Review

Pit # A00079

834

B0114

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location	ANALYSIS/PARAMETERS
Amoco 92140	Jack Frost B #2	
Sampler: (Signature)	Chain of Custody Tape No.	

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	BTEX (8020)						Remarks
Ground Water	8/5/94	6:43	7765	Water	2	✓						

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
	8/5/94	16:40		8/5/94	8[illegible]
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

3892

Pit # 40079

CHAIN OF CUSTODY RECORD

B0114

Client/Project Name	Project Location
Amoco 92140	Jack Frost B #2

Sampler: (Signature)	Chain of Custody Tape No.
J C McDonald	

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	BTEX (8020)						Remarks
Ground Water	8/25/94	1100	7847	Water	2	✓						Sep pit

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
J C McDonald	8/25/94	1333	Rex Griffin	25 Aug 94 1500	1500
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

ENVIROTECH INC.
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Farmington, New Mexico 87401
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