3R - 014

ANNUAL MONITORING REPORT

01/28/2008

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

3R014

January 28, 2008

Mr. Glenn Von Gonten, Hydrologist
New Mexico Oil Conservation Division-NMOCD
Environmental Bureau
1220 St. Francis Drive
Santa Fe, New Mexico 87505

Re: BP America Production Company (formerly Amoco Production Co. & BP Amoco)
Groundwater Monitoring Report
GCU # 93, Unit E, Sec. 36, T29N, R12W, NMPM
San Juan County, New Mexico

Dear Mr. Von Gonten:

BP America Production Company (**BP**) has retained Blagg Engineering, Inc. (**BEI**) to conduct environmental monitoring of groundwater at the GCU # 93.

BP has followed its NMOCD approved groundwater management plan and continues groundwater monitoring at the site. No permanent closure is requested at this time.

If you have any questions concerning the enclosed documentation, please contact either myself or Jeffrey C. Blagg at (505) 632-1199. Thank you for your cooperation and assistance.

Respectfully submitted:
Blagg Engineering, Inc.

Nelson J. Velez
Staff Geologist

Attachment: Groundwater Report (2 copies)

cc: Mr. Brandon Powell, Environmental Specialist, NMOCD District III Office, Aztec, NM
Mr. Larry Schlotterback, Environmental Coordinator, BP, Farmington, NM (without lab report)

NJV/njv

GCU 93 01-28-08 CVL.DOC

3R014

BP AMERICA PRODUCTION CO.

GROUNDWATER REMEDIATION REPORT

1996-2007

GCU #93
(E) SECTION 36, T29N, R12W, NMPM
SAN JUAN COUNTY, NEW MEXICO

PREPARED FOR:
NEW MEXICO OIL CONSERVATION DIVISION
1220 ST. FRANCIS DRIVE
SANTA FE, NEW MEXICO 87504

JANUARY 2008

PREPARED BY:
BLAGG ENGINEERING, INC.

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

BP AMERICA PRODUCTION COMPANY
GCU #93
Sw/4 Nw/4, Sec. 36, T29N, R12W

Pit Closure Date: Feb. 1996 (blow & separator pits)

Monitor Well Installation Dates: 6/3/96 (WP #1, MW #2, MW #3), 5/7/97 (MW #3 modified), 6/6/97 (MW #4, MW #5), 6/21/99 (MW #4R), 4/28/00 (MW #6)

Air Sparge Installation Dates: Mar. 31-Apr. 3, 1998 & Sept. 12, 2000

Monitor Well Sampling Dates: 6/11/96, 6/24/97, 9/17/97, 12/19/97, 2/24/98, 6/8/98, 9/28/98, 12/17/98, 2/18/99, 6/22/99, 8/30/99, 12/13/99, 2/25/00, 5/24/00, 3/19/03, 8/19/03, 11/19/03, 3/29/04, 6/24/04, 12/22/04, 3/29/05, 6/27/05, 9/27/05, 6/29/06, 10/30/06, 1/24/07

Pit Closures & Background:

Pit closures of the on-site blow and separator pits were initiated in February, 1996. The excavation perimeters were measured at approximately 30 X 35 X 17 feet depth and 50 X 35 X 17 feet depth respectively. The separator pit excavation was limited in size due to adjacent surface equipment and for safety reasons (see Figure 1). Approximately 1,600 cubic yards of soil was removed from both pits and transported to BP's GCU #182E well site located in Unit K, Section 19, T28N, R11W, NMPM, San Juan County, NM. Groundwater was encountered during the soil excavations at approximately 14-15 feet below grade. The groundwater within the excavation perimeters was then pumped via water hauling trucks and disposed at an approved facility. Afterwards, the exposed groundwater was sampled and tested for benzene, toluene, ethylbenzene, and total xylenes (**BTEX**) per US EPA method 8020. Upon receipt of the laboratory results, the New Mexico Oil Conservation Division (NMOCD) was notified with letter dated March 5, 1996 of the groundwater impact (attached). Subsequent pumping of the exposed groundwater and a resampling of the blow pit groundwater was conducted. The BTEX results of the two (2) groundwater sampling events from the blow pit excavation are as follows;

Date	2/19/96	3/12/96	NMWQCC standards
Sample ID	PW1 @ GW (15')	PW2 @ GW (14')	
benzene (ppb)	***94.1***	***87.2***	***10***
toluene (ppb)	217	44.9	***750***
ethylbenzene (ppb)	11.4	0.4	***750***
xylenes (ppb)	122.9	41.6	***620***

Note: ppb = parts per billion, NMWQCC = New Mexico Water Quality Control Commission.

The BTEX results of the split sample collected from the groundwater within the separator pit excavation and analyzed by different laboratories is as follows;

Date	2/21/96	2/21/96	NMWQCC standards
Sample ID	PW1 @ GW (14')	PW1 @ GW (14')	
benzene (ppb)	***398***	***418***	***10***
toluene (ppb)	40.9	ND	***750***
ethylbenzene (ppb)	445	455	*750*
xylenes (ppb)	***4,234***	***4,670***	***620***

Note: ND = Analyte not detected at the stated detection limit.

Subsurface soils encountered during the on-site excavations at two source areas and boring advancements of each monitor well later installed revealed a predominantly sand to silty sand throughout the area. Apparent soil discoloration was observed only within the bottom portion of the separator excavation. MW #3, down gradient of the blow pit excavation, revealed a dark yellowish brown sand to silty sand with a strong apparent hydrocarbon odor between 12.5 to 18 feet below grade (see Bore/Test Hole Reports).

Based on the exposed soil impact left in place within the separator excavation and the apparent volatile organics detected within the blow pit excavation and elsewhere, it was decided to aggressively remediate the soil and groundwater by developing and implementing an air sparge/vacuum extraction system.

Reclamation System and Monitor Well Installations:

The air sparge/vacuum extraction reclamation system and three (3) monitor wells (Figure 2) were installed in April/May, 1996. The system installation was initiated by infilling the excavations above the groundwater level and then using hand augers for the air sparge points and the horizontal vent pipes within the sidewalls of the separator excavation (see Figure 2A & following diagram). Horizontal pipes were positioned in both pits upon further infilling to approximately 7-8 feet below grade. The system became operational in May, 1996 and continued until April, 2000.

A perforated galvanized steel drive point in two (2)-three (3) foot increments (see Well Point #1 schematic), namely WP #1, also was installed within the separator excavation using a hand auger and pieced together as backfilling continued to grade. Monitor wells MW #2 and MW #3 were installed by Blagg Engineering, Inc. utilizing a truck mounted drill rig with solid 3 ¾ inch augers. Two (2) inch PVC piping was hand driven into the annular after drilling to total depth and auger removal was finalized (see Bore/Test Hole Reports). The monitor wells were then completed by infilling the annular with Colorado silica sand.

MW #3 was modified in May, 1997 by raising the casing and screened interval approximately one (1) foot in order to quantify groundwater flow direction data more accurately. Two (2) more monitor wells (MW #4 & MW #5) were also installed in June, 1997 for delineation and gradient information purposes also. MW #4, down gradient of the blow pit excavation, revealed a medium gray sand to silty sand between 6-16 feet below grade and contained a strong hydrocarbon odor. In June, 1999 MW #4 was replaced by MW #4R after the above grade casing was discovered damaged beyond repair.

In April, 2000, upon review of the quarterly sampling data, it was determined to add five (5) more air sparge points along with an additional monitor well (MW #6) in and around the blow pit area as to monitor and facilitate in the remedial efforts (Figure 3). Between June, 2000 and February, 2003 the system became non operational resulting from the gas well being temporarily shut in (power source for blower engines). The system regained operational status by May, 2003 utilizing electricity available near the site.

Groundwater Monitor Well Sampling Procedures:

Groundwater samples were collected from site monitor wells following US EPA: SW-846 protocol. The samples were collected using new disposable bailers and were placed in laboratory supplied containers, stored in an ice chest with ice and express delivered to the laboratory for testing. Samples were analyzed for BTEX per US EPA Method 8020 or 8021B and for general water chemistry. BTEX samples were preserved cool and with mercuric chloride or hydrochloric acid.

Waste generated during well sampling and development was disposed of utilizing the separator tank pit located on the well site.

Groundwater Quality & Flow Direction Information:

Sampling of the groundwater monitor wells has been ongoing since June, 1996. A summary of laboratory analytical results is included within the tables on the following pages and field/laboratory data reports are included in Appendix A. It should be noted that quarterly sampling went into hiatus between June, 2000 and February, 2003 due to the shutdown of the reclamation system previously noted. Quarterly sampling was reinitiated in March, 2003.

By January, 2007 all site monitor wells had tested for BTEX below the NMWQCC standards at least four (4) consecutive sampling events.

Groundwater has consistently been measured with a gradient towards the north or north-northwest direction, with the exception of an apparent anomaly occurring during the February, 1999 sampling event (southwest direction).

Summary and Recommendations:

Hydrocarbon impacts from the two (2) apparent source areas (separator and blow pits) appeared to have been remediated and are presently meeting closure according to BP's NMOCD approved groundwater management plan. All on-site monitor wells (except MW #6) completed four (4) consecutive sampling events below NMWQCC standards by December, 2004. In the beginning of 2006, four (4) on-site monitor wells [WP #1, MW #2, MW #3, and MW #4R] were removed/grouted at the request of the current surface/property owner. MW #6 completed four (4) consecutive sampling events below NMWQCC standards in January, 2007. Operation of the air sparge/vacuum extraction system was terminated prior to December, 2004.

It is recommended to install a minimum of one (1) off-site monitor well north-northwest of MW #3 to confirm that down gradient impacts are within closure standards. The off-site private landowner will be appraised of the previous and current conditions and approval to conduct such work will adhere to the stipulations addressed within the Landowner Notification Act.

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

March 5, 1996

Mr. Roger Anderson
Chief of Environmental Bureau
State of New Mexico Oil Conservation Division
2040 So. Pacheco
Santa Fe, New Mexico 87505

RE: Groundwater Impact
Amoco Production Company: GCU 93 Well site
Legal Description: Unit E, Sec. 36, T29N, R12W
San Juan County, New Mexico

Dear Mr. Anderson:

Initial groundwater sample analytical results at the above referenced well site during pit closure activity indicated contamination to be above the State of New Mexico Water Quality Control Commission's regulatory standards for Benzene and total Xylenes. Sampling on the Blow pit was conducted February 19, 1996. Sampling on the Separator pit was conducted February 21, 1996. Listed below are summary analytical results for Benzene, Toluene, Ethylbenzene, and total Xylenes (BTEX) for each pit:

Parameter	Blow Pit (parts per billion)	Separator Pit (parts per billion)
Benzene	**94.1**	**398**
Toluene	217	40.9
Ethylbenzene	11.4	445
Total Xylenes	122.9	**4234**

If you have any questions concerning this information, please do not hesitate to contact us at (505) 632-1199. Thank you for your cooperation.

Respectfully submitted,
Blagg Engineering, Inc.

Jeffrey C. Blagg, P.E.
President

cc: Denny Foust, Deputy Oil & Gas Inspector, NMOCD, Aztec, NM
Buddy Shaw, Environmental Coordinator, Amoco Production Company, Farmington, NM

NV/nv GCU93.LTR

BP AMERICA PROD. CO. GROUNDWATER LAB RESULTS

SUBMITTED BY BLAGG ENGINEERING, INC.

GCU # 93 - SEPARATOR & BLOW PITS
UNIT E, SEC. 36, T29N, R12W

REVISED DATE: February 9 , 2007

FILENAME: (G93-1Q07.WK4) NJV

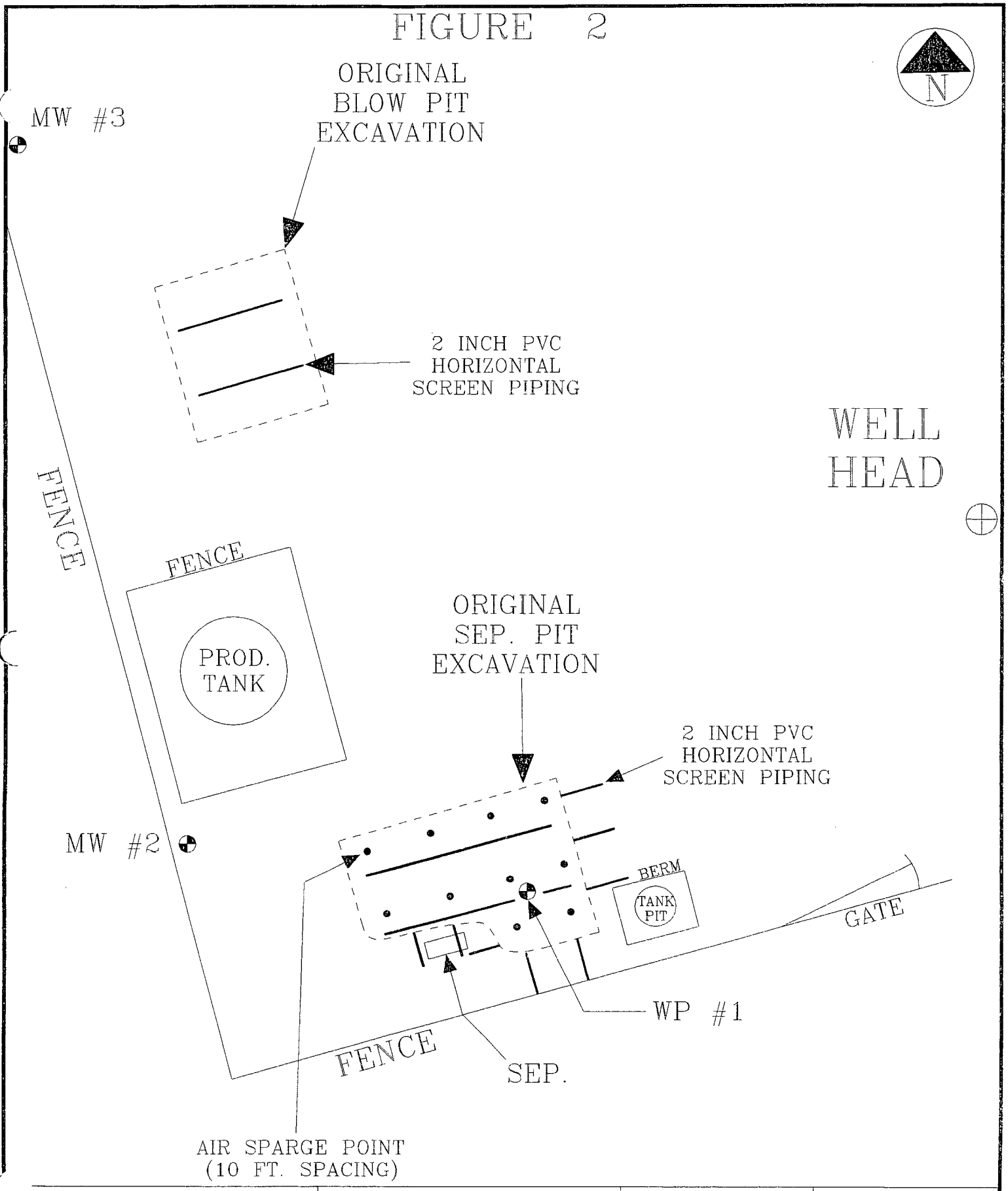
SAMPLE DATE	WELL NAME or No.	D.T.W. (ft)	T.D. (ft)	TDS (mg/L)	COND. umhos	pH	PRODUCT (ft)	BTEX EPA METHOD 8021B (ppb) Benzene	Toluene	Ethyl Benzene	Total Xylene
11-Jun-96	WP #1	13.96	18.00	1,750	1,700	6.50		**288**	102	557	**5,644**
24-Jun-97		13.39			1,700	6.70		**587**	111	389	**840**
17-Sep-97		13.20			1,700	6.90		**ND**	164	20.6	**380.9**
19-Dec-97		14.03			1,600	7.20		**ND**	0.4	3.8	**55.1**
24-Feb-98		14.58			1,500	7.10		**6.5**	ND	147	**20.4**
18-Feb-99		16.15			2,100	6.50		**1.5**	1.5	5.5	**55.2**
11-Jun-96	MW #2	12.43	17.50	650	800	7.40		ND	0.64	ND	3.52
11-Jun-96	MW #3	14.50	20.00	2,490	2,100	7.10		**208**	28.3	55.3	132.06
24-Jun-97		15.30			2,700	7.00		**1,207**	346	446	**921**
08-Jun-98		15.31			2,100	7.00		**415**	232	35.7	**133.9**
22-Jun-99		14.04			2,200	7.20		**266**	129	54.5	**142.9**
24-May-00		15.47			2,100	7.20		**320**	72	38	**55**
19-Mar-03		15.70			2,100	7.25		**16**	2.2	19	**9.6**
19-Aug-03		15.60			2,400	6.93		**0.62**	ND	0.81	**ND**
19-Nov-03		15.30			2,600	7.02		**ND**	ND	1.2	**ND**
29-Mar-04		15.65			2,500	7.06		**4.4**	0.86	8.1	**3.0**
24-Jun-04		15.42			2,600	6.96		**1.5**	ND	5.0	**1.4**
22-Dec-04		15.33			2,500	7.00		**1.0**	ND	2.8	**ND**
24-Jun-97	MW #4	13.67	18.00		2,600	7.10		**15,300**	**5,380**	**809**	**6,590**
08-Jun-98		13.89			2,800	7.00		**201**	**37.3**	**91.4**	**367.8**
22-Jun-99	MW #4R	15.30	20.00		1,600	6.90		**1.9**	**3.2**	**0.9**	**9.2**
30-Aug-99		13.99			1,500	7.20		**1.0**	**0.8**	**ND**	**0.9**
13-Dec-99		14.43			1,800	7.30		**2.7**	**6.6**	**ND**	**13.7**
25-Feb-00		14.56			1,800	7.60		**ND**	**ND**	**ND**	**ND**
24-Jun-97	MW #5	13.83	18.00		2,000	7.20		6.9	2.9	0.8	8.2
17-Sep-97		13.87			1,700	6.90		0.3	ND	0.2	0.8
19-Dec-97		14.46			1,900	7.30		ND	ND	0.3	0.4
24-Feb-98		14.56			1,700	7.20		**10.5**	4	ND	6.3
08-Jun-98		13.90			1,700	7.00		**2.4**	0.5	0.8	4.6
28-Sep-98		13.61			2,000	7.30		**0.2**	ND	ND	0.4
17-Dec-98		13.93			1,600	7.10		**ND**	0.4	0.3	3.5
18-Feb-99		14.38			1,700	7.30		**5.6**	6.5	3.8	11.3
24-May-00	MW #6	13.59	20.00		2,300	7.20		**19**	26	1.4	19.5
19-Mar-03		14.38			2,000	7.20		**7.2**	ND	ND	1.8
19-Aug-03		13.62			2,500	6.89		**ND**	ND	ND	ND
19-Nov-03		13.58			2,500	7.08		**160**	530	27	330
29-Mar-04		13.87			2,200	7.09		**37**	29	6.3	56
24-Jun-04		13.70			2,500	6.98		**7.5**	1.4	1.9	7.3
22-Dec-04		13.61			2,400	7.05		**6.2**	ND	2.2	1.1
29-Mar-05		13.72			2,400	7.02		**6.9**	1.8	3.1	14
27-Jun-05		13.68			2,300	7.07		**12**	2.0	4.3	30
27-Sep-05		13.01			2,500	6.95		**9.1**	ND	2.5	11
29-Jun-06		13.38			2,200	7.09		**1.5**	ND	1.1	6.0
30-Oct-06		12.91			2,400	7.05		**4.8**	ND	2.1	9.9
26-Jan-07		13.13			2,500	7.07		**5.2**	ND	3.0	17
					NMWQCC GROUNDWATER STANDARDS			**10**	**750**	**750**	**620**

NOTES : 1) RESULTS IN BOLD RED TYPE INDICATE EXCEEDING NMWQCC STANDARDS .
2) RESULTS IN BOLD BLUE TYPE INDICATE BELOW NMWQCC STANDARDS AFTER PROCEEDING RESULTS EXCEEDED .

GENERAL WATER QUALITY
AMOCO PRODUCTION COMPANY
GCU # 93
SAMPLE DATES : JUNE 11, 1996 / JUNE 24, 1997

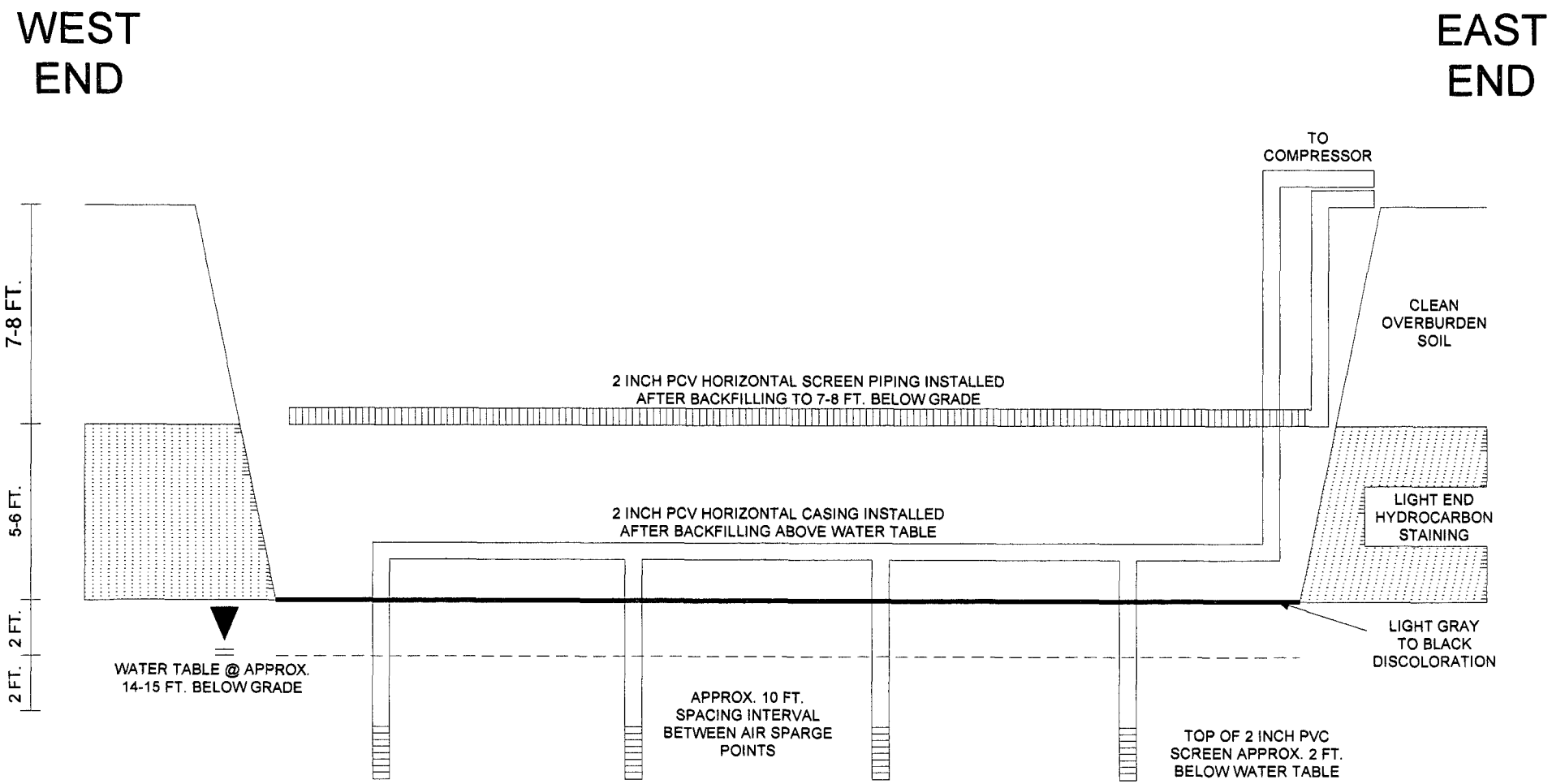
PARAMETERS	WP # 1 06/11/96	MW # 2 06/11/96	MW # 3 06/11/96	MW # 4 06/27/97	MW # 5 06/27/97	Units
LAB pH	6.40	7.40	7.50	7.07	7.10	s. u.
LAB CONDUCTIVITY @ 25 C	2,240	1,010	3,680	4,765	3,410	umhos / cm
TOTAL DISSOLVED SOLIDS @ 180 C	1,750	650	2,490	2,380	1,700	mg / L
TOTAL DISSOLVED SOLIDS (Calc)	1,580	629	2,490	2,362	1,697	mg / L
SODIUM ABSORPTION RATIO	NA	NA	NA	4.0	0.6	ratio
TOTAL ALKALINITY AS CaCO3	263	310	545	548	348	mg / L
TOTAL HARDNESS AS CaCO3	1,080	244	726	1,152	1,204	mg / L
BICARBONATE as HCO3	263	310	545	548	348	mg / L
CARBONATE AS CO3	NA	NA	NA	< 1	< 1	mg / L
HYDROXIDE AS OH	NA	NA	NA	< 1	< 1	mg / L
NITRATE NITROGEN	NA	NA	NA	1.0	< 1	mg / L
NITRITE NITROGEN	NA	NA	NA	< 0.001	< 0.001	mg / L
CHLORIDE	90.0	15.0	25.0	96.0	42.0	mg / L
FLUORIDE	NA	NA	NA	2.20	1.82	mg / L
PHOSPHATE	NA	NA	NA	1.6	1.3	mg / L
SULFATE	868	198	1,370	1,190	930	mg / L
IRON	NA	NA	NA	NA	NA	mg / L
CALCIUM	243	89.7	259	368	413	mg / L
MAGNESIUM	116	4.84	19.3	56.6	42.0	mg / L
POTASSIUM	7.00	6.00	10.0	3.6	5.2	mg / L
SODIUM	100	130	490	310	50.2	mg / L
CATION / ANION DIFFERENCE	0.65	0.29	4.77	0.14	0.06	%

FIGURE 2



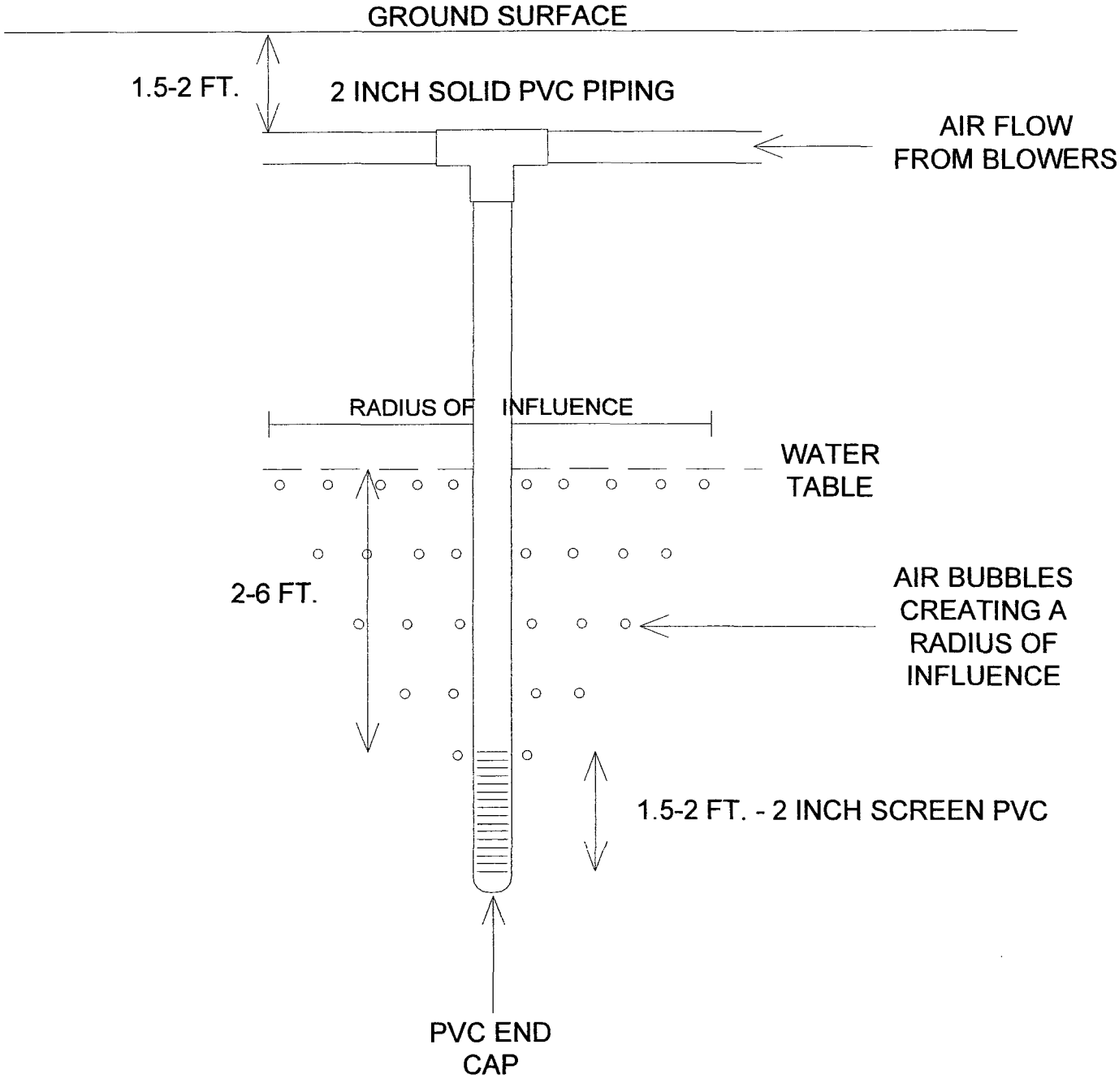
AMOCO PRODUCTION COMPANY GCU # 93 SW/4 NW/4 SEC. 36, T29N, R12W SAN JUAN COUNTY, NEW MEXICO	BLAGG ENGINEERING, INC. CONSULTING PETROLEUM / RECLAMATION SERVICES P.O. BOX 87 BLOOMFIELD, NEW MEXICO 87413 PHONE: (505) 632-1199	PROJECT: RECLAM. SYS. DRAWN BY: NJV FILENAME: 07-97-RS DRAFTED: 7/22/99 NJV	RECLAMATION SYSTEM LAYOUT 7/97

FIGURE 2A
SEPARATOR PIT



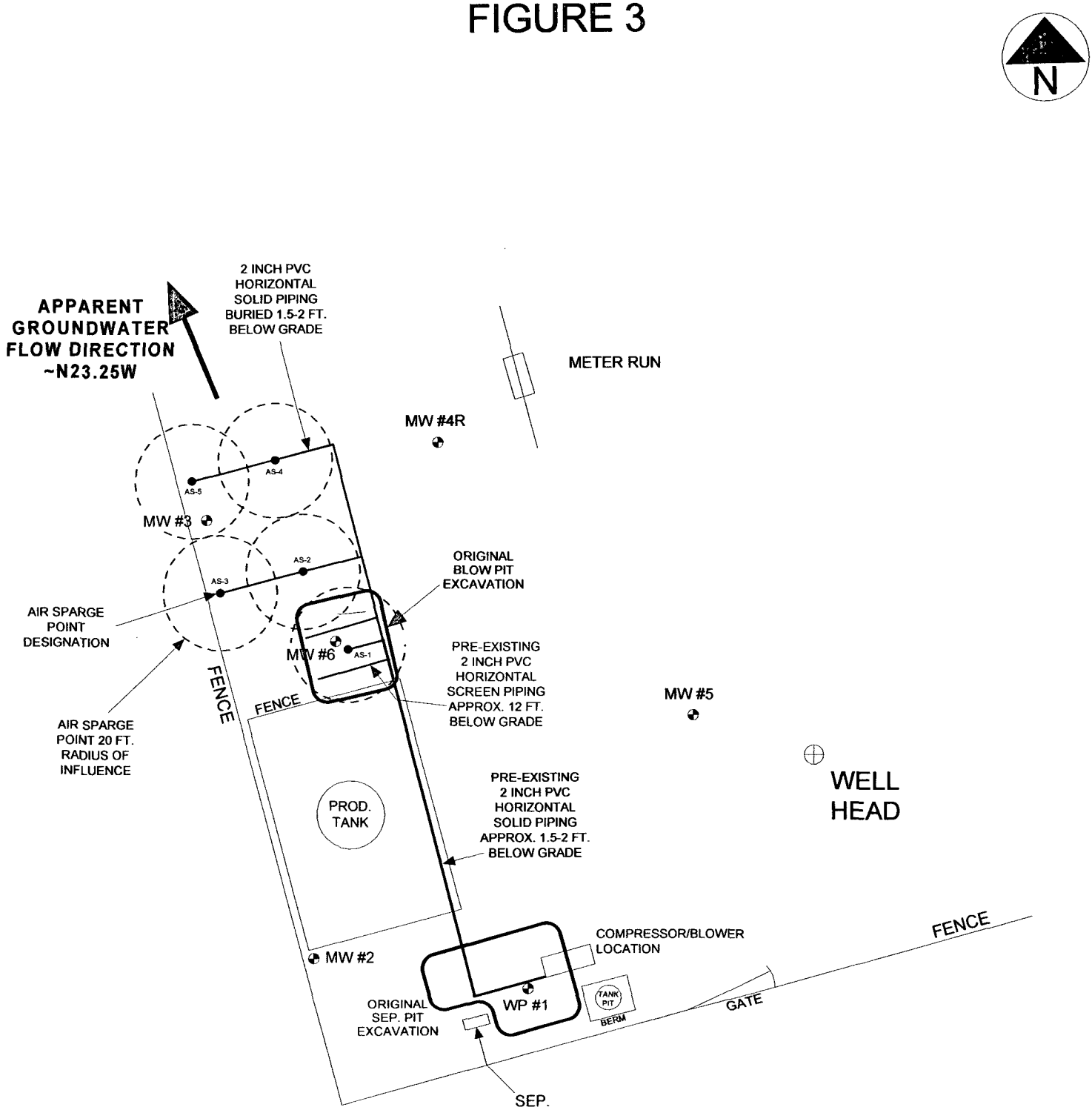
AMOCO PRODUCTION COMPANY GCU # 93 SW/4 NW/4 SEC. 36, T29N, R12W SAN JUAN COUNTY, NEW MEXICO	BLAGG ENGINEERING, INC. CONSULTING PETROLEUM / RECLAMATION SERVICES P.O. BOX 87 BLOOMFIELD, NEW MEXICO 87413 PHONE: (505) 632-1199	PROJECT: REMED. SYS. DRAWN BY: NJV FILENAME: 93-CSV.SKF	CROSS SECTIONAL VIEW OF SEP. PIT 07/97

SIDE VIEW OF A TYPICAL AIR SPARGE POINT



BP AMERICA PRODUCTION COMPANY GCU # 93 UNIT E, SEC. 36, T29N, R12W SAN JUAN COUNTY, NEW MEXICO	B LAGG ENGINEERING, INC. CONSULTING PETROLEUM / RECLAMATION SERVICES P.O. BOX 87 BLOOMFIELD, NEW MEXICO 87413 PHONE: (505) 632-1199	DRAWN BY: NJV FILENAME: ASDP-TEMP REVISED: 12/28/07	AIR SPARGE POINT

FIGURE 3



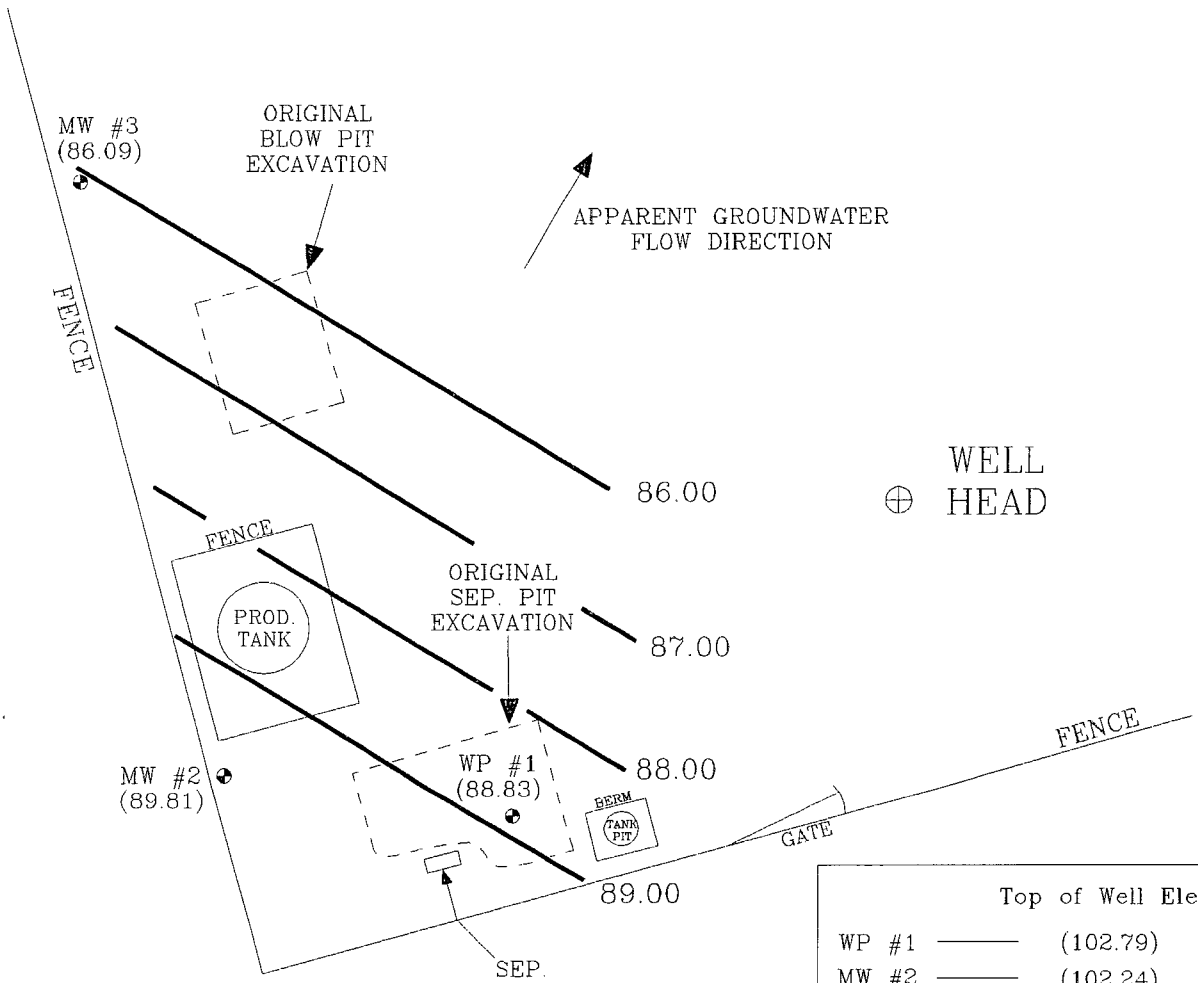
MONITOR WELL LOCATIONS ARE ONLY AS ACCURATE AS THE INSTRUMENTS USED IN OBTAINING THE FOOTAGE AND BEARING FROM THE WELL HEAD (*BRUNTON COMPASS AND LASER RANGE FINDER*). ALL OTHER STRUCTURES DISPLAYED ON THE SITE MAP ARE SOLELY FOR REFERENCE AND ARE NOT TO SCALE.

1 INCH = 50 FT.

0 50 100 FT.

AMOCO PRODUCTION COMPANY GCU # 93 SW/4 NW/4 SEC. 36, T29N, 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: RECLAM. SYSTEM DRAWN BY: NJV FILENAME: 04-09-RS.SKF REVISED: 04/30/03 NJV	RECLAMATION SYSTEM LAYOUT 04/00

FIGURE 4
(2nd 1/4, 1996)



Top of Well Elevation	
WP #1	(102.79)
MW #2	(102.24)
MW #3	(100.59)

WP #1 (88.83) Groundwater Elevation as of 6/11/96.

1 INCH = 50 FT.

0 50 100 FT.

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.

AMOCO PRODUCTION COMPANY

GCU # 93

SW/4 NW/4 SEC. 36, T29N, R12W

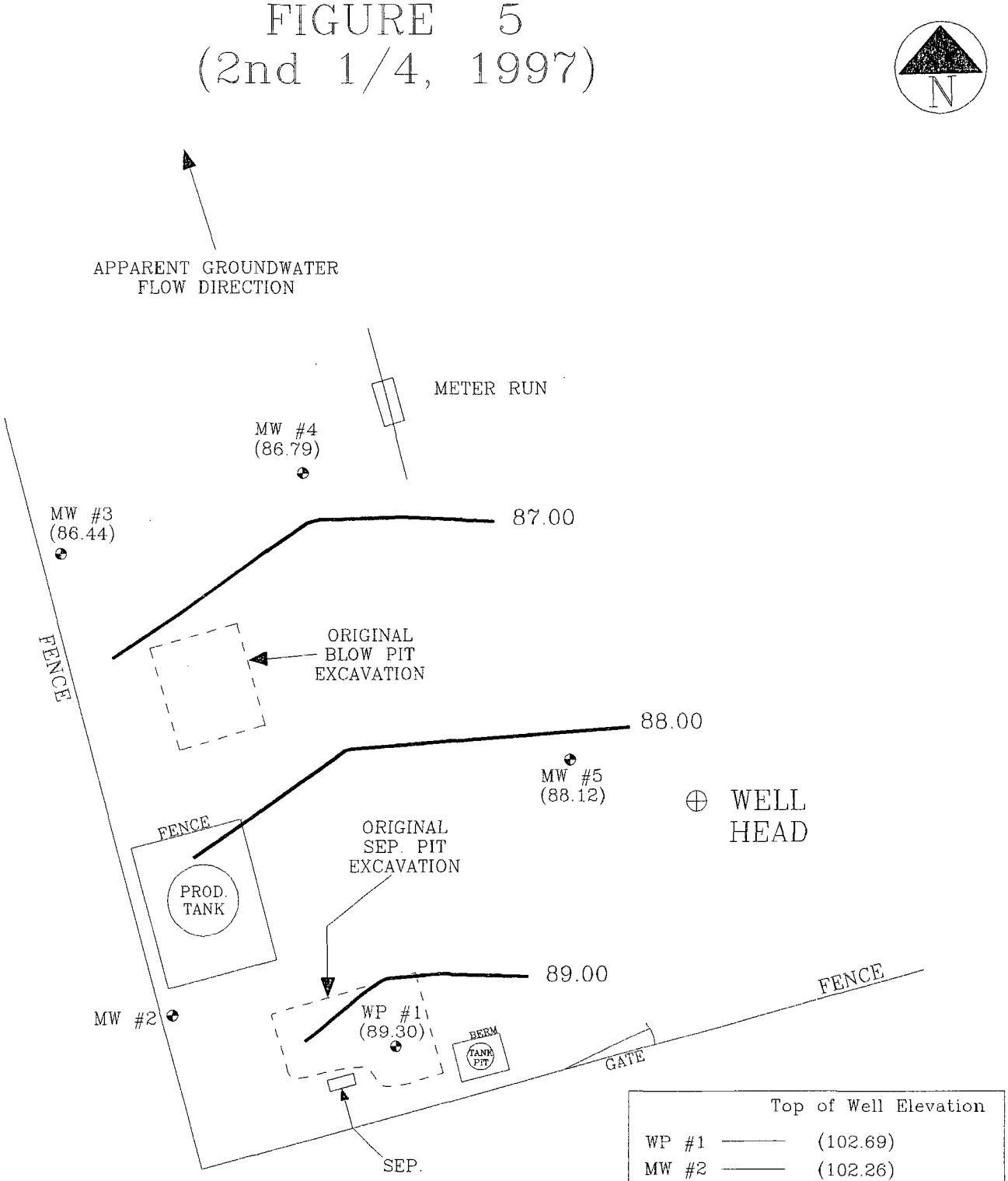
SAN JUAN COUNTY, NEW MEXICO

BLAGG ENGINEERING, INC.
CONSULTING PETROLEUM / RECLAMATION SERVICES
P.O. BOX 87
BLOOMFIELD, NEW MEXICO 87413
PHONE: (505) 632-1199

PROJECT: RECLAM. SYS.
DRAWN BY: NJV
FILENAME: 06-11-GW
DRAFTED: 7/22/97 NJV

GROUNDWATER GRADIENT MAP 6/96

FIGURE 5
(2nd 1/4, 1997)



	Top of Well Elevation
WP #1	(102.69)
MW #2	(102.26)
MW #3	(101.74)
MW #4	(100.46)
MW #5	(101.95)

WP #1 (89.30) Groundwater Elevation as of 6/24/97.

1 INCH = 50 FT.

0 50 100 FT.

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.

AMOCO PRODUCTION COMPANY

GCU # 93

SW/4 NW/4 SEC. 36, T29N, R12W

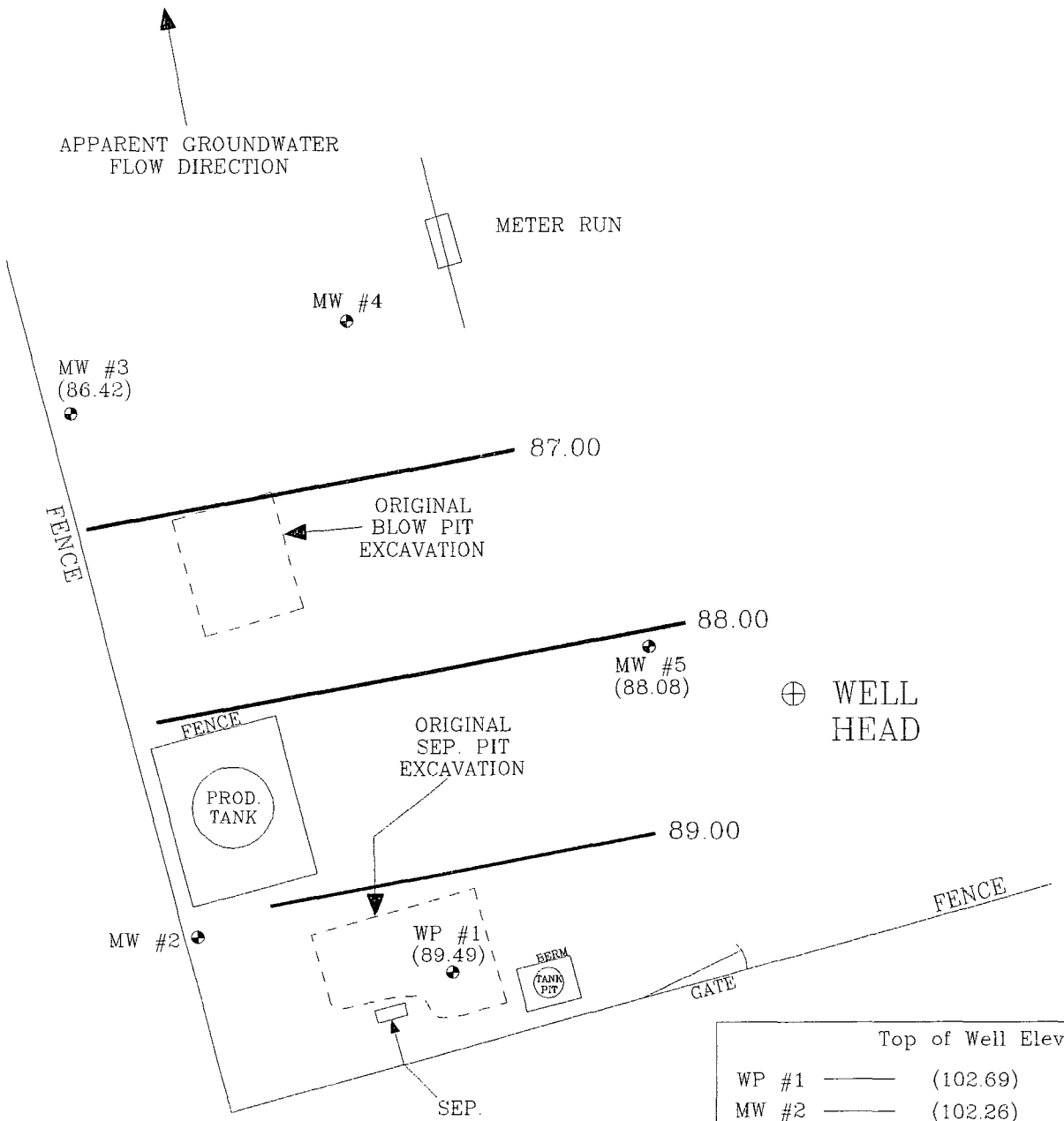
SAN JUAN COUNTY, NEW MEXICO

BLAGG ENGINEERING, INC.
CONSULTING PETROLEUM / RECLAMATION SERVICES
P.O. BOX 87
BLOOMFIELD, NEW MEXICO 87413
PHONE: (505) 632-1199

PROJECT: 1/4ly SAMP.
DRAWN BY: NJV
FILENAME: 06-24-GW
DRAFTED: 2/02/98 NJV
REVISED: 7/22/99 NJV

GROUNDWATER GRADIENT MAP 6/97

FIGURE 6
(3rd 1/4, 1997)



Top of Well Elevation	
WP #1	(102.69)
MW #2	(102.26)
MW #3	(101.74)
MW #4	(100.46)
MW #5	(101.95)

WP #1 (89.49) Groundwater Elevation as of 9/17/97.

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.

1 INCH = 50 FT.

0 50 100 FT.

AMOCO PRODUCTION COMPANY

GCU # 93

SW/4 NW/4 SEC. 36, T29N, R12W

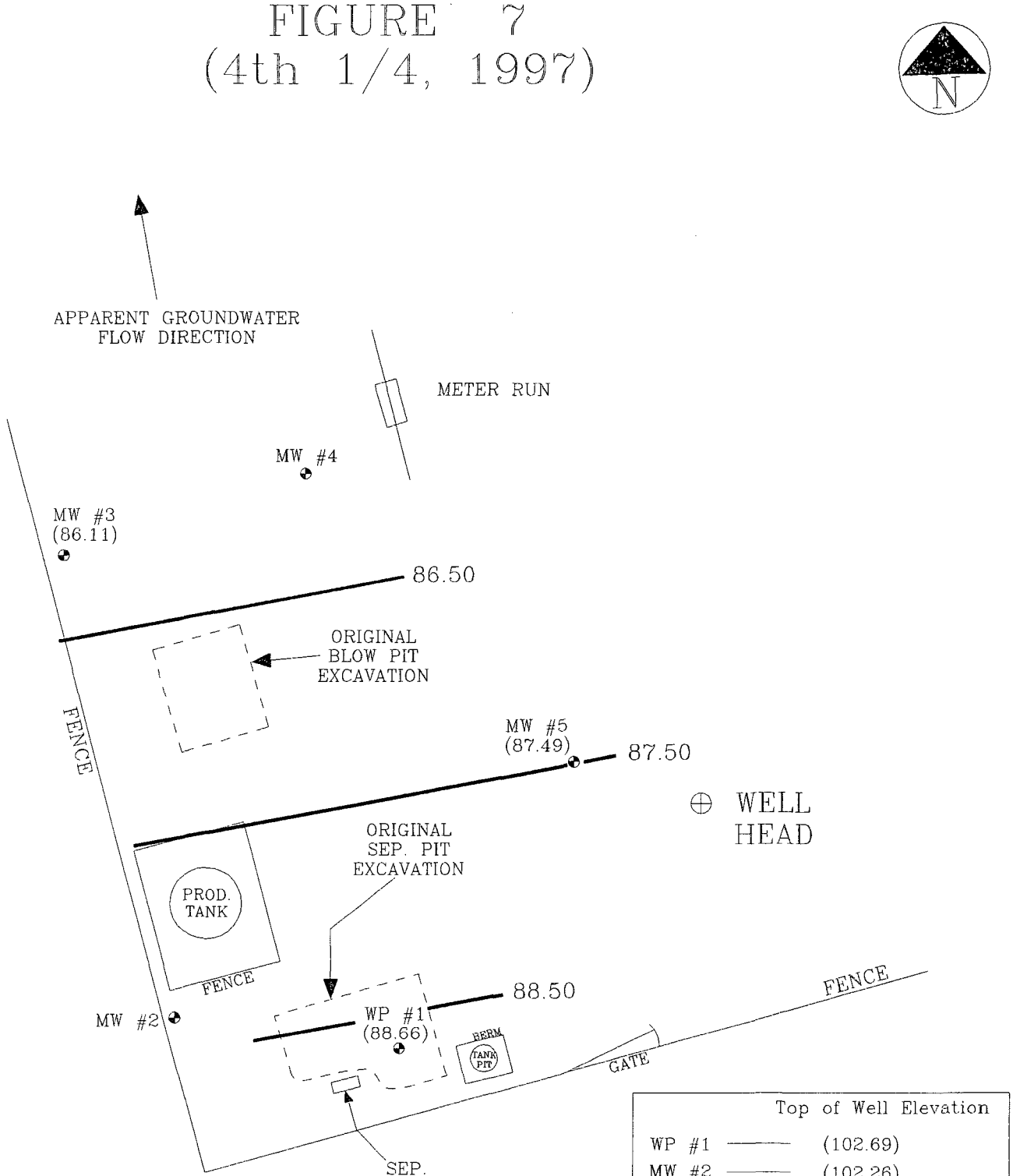
SAN JUAN COUNTY, NEW MEXICO

BLAGG ENGINEERING, INC.
CONSULTING PETROLEUM / RECLAMATION SERVICES
P.O. BOX 87
BLOOMFIELD, NEW MEXICO 87413
PHONE: (505) 632-1199

PROJECT: 1/4ly SAMP.
DRAWN BY: NJV
FILENAME: 09-17-GW
DRAFTED: 2/02/98 NJV
REVISED: 7/22/99 NJV

GROUNDWATER GRADIENT MAP 9/97

FIGURE 7
(4th 1/4, 1997)



Top of Well Elevation	
WP #1	(102.69)
MW #2	(102.26)
MW #3	(101.74)
MW #4	(100.46)
MW #5	(101.95)

WP #1 (88.66) Groundwater Elevation as of 12/19/97.

1 INCH = 50 FT.

0 50 100 FT.

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.

AMOCO PRODUCTION COMPANY

GCU # 93

SW/4 NW/4 SEC. 36, T29N, R12W

SAN JUAN COUNTY, NEW MEXICO

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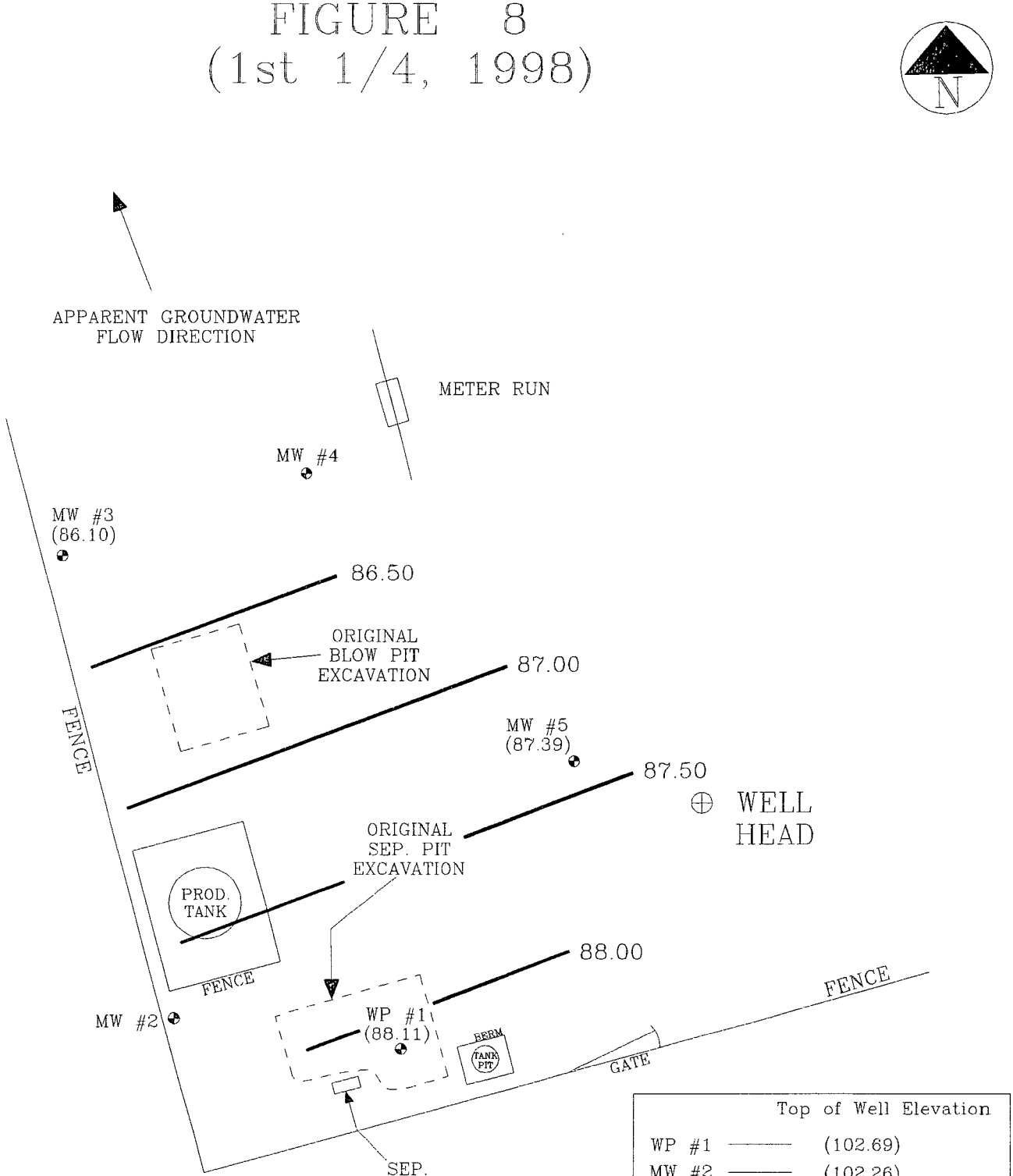
P.O. BOX 87
BLOOMFIELD, NEW MEXICO 87413
PHONE: (505) 632-1199

PROJECT: 1/4ly SAMP.
DRAWN BY: NJV
FILENAME: 12-19-GW
DRAFTED: 2/02/98 NJV
REVISED: 7/22/99 NJV

GROUNDWATER GRADIENT MAP 12/97

FIGURE 8
(1st 1/4, 1998)



Top of Well Elevation	
WP #1	(102.69)
MW #2	(102.26)
MW #3	(101.74)
MW #4	(100.46)
MW #5	(101.95)

WP #1 (88.11) Groundwater Elevation as of 2/24/98.

1 INCH = 50 FT.

0 50 100 FT.

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.

AMOCO PRODUCTION COMPANY

GCU # 93

SW/4 NW/4 SEC. 36, T29N, R12W

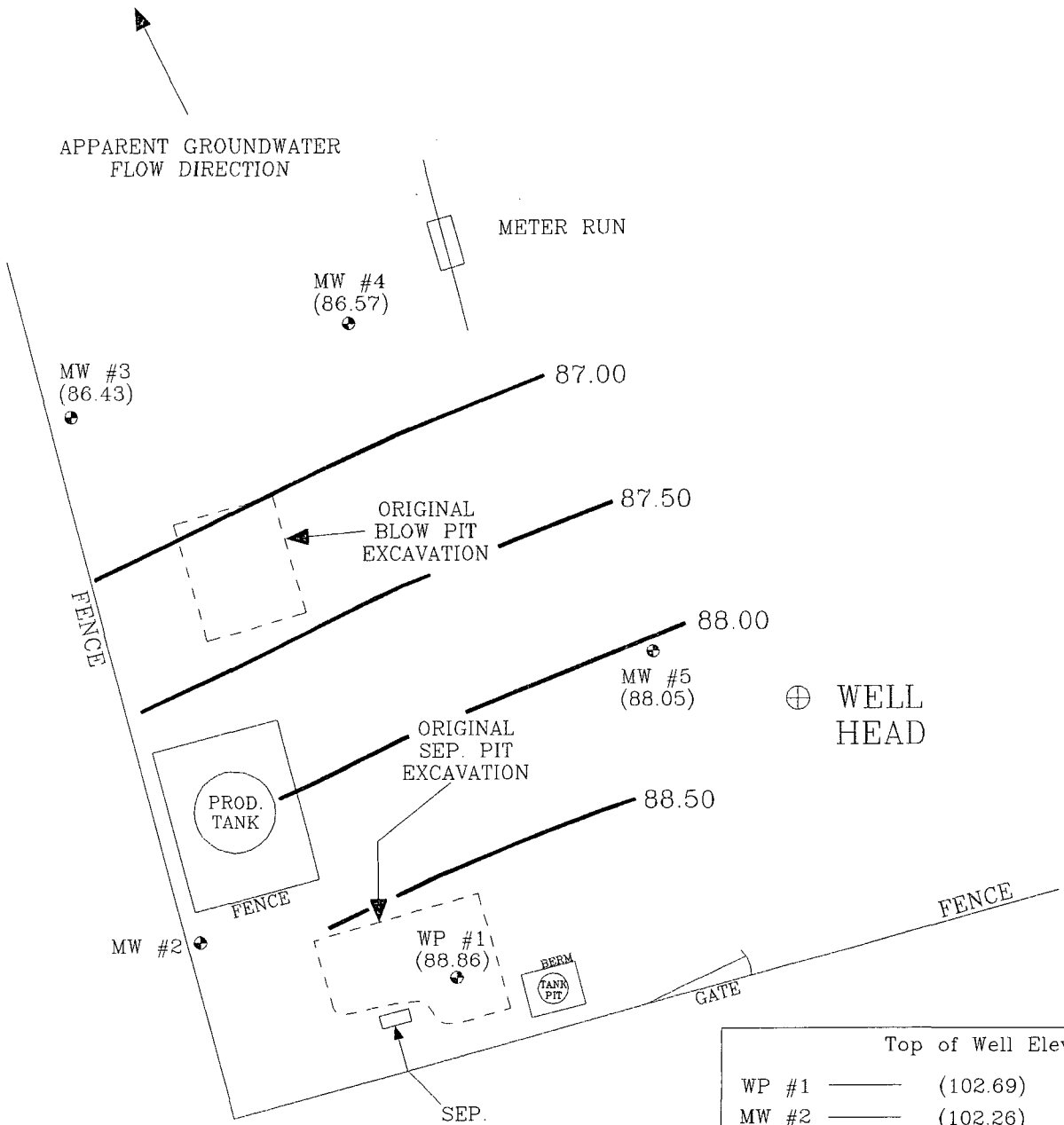
SAN JUAN COUNTY, NEW MEXICO

BLAGG ENGINEERING, INC.
CONSULTING PETROLEUM / RECLAMATION SERVICES
P.O. BOX 87
BLOOMFIELD, NEW MEXICO 87413
PHONE: (505) 632-1199

PROJECT: 1/4ly SAMP.
DRAWN BY: NJV
FILENAME: 02-24-GW
DRAFTED: 2/02/98 NJV
REVISED: 7/22/99 NJV

GROUNDWATER GRADIENT MAP 2/98

FIGURE 9
(2nd 1/4, 1998)



Top of Well Elevation	
WP #1	(102.69)
MW #2	(102.26)
MW #3	(101.74)
MW #4	(100.46)
MW #5	(101.95)

WP #1 (88.86) Groundwater Elevation as of 6/08/98.

1 INCH = 50 FT.

0 50 100 FT.

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.

AMOCO PRODUCTION COMPANY

GCU # 93

SW/4 NW/4 SEC. 36, T29N, R12W

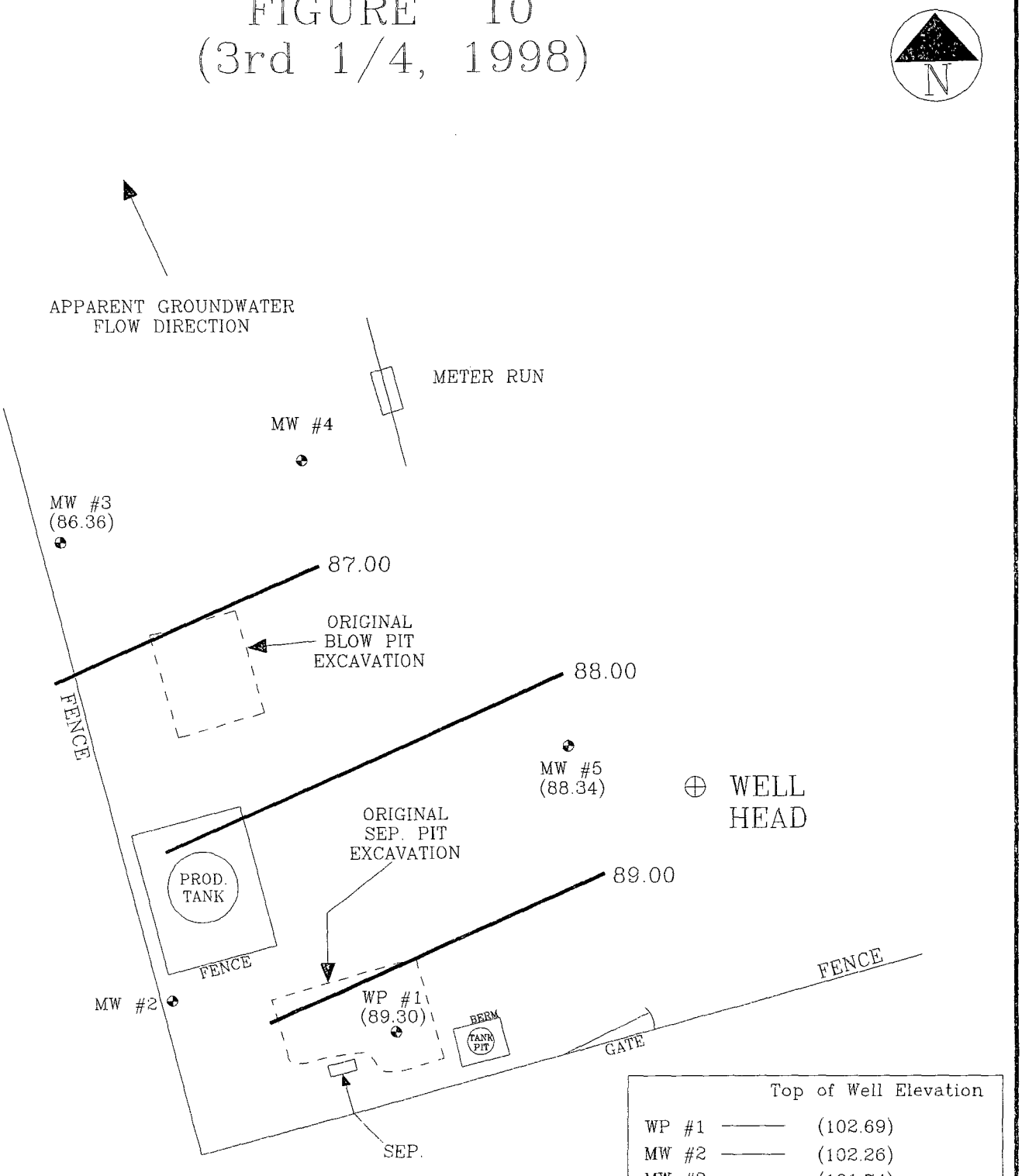
SAN JUAN COUNTY, NEW MEXICO

BLAGG ENGINEERING, INC.
CONSULTING PETROLEUM / RECLAMATION SERVICES
P.O. BOX 87
BLOOMFIELD, NEW MEXICO 87413
PHONE: (505) 632-1199

PROJECT: 1/4ly SAMP.
DRAWN BY: NJV
FILENAME: 06-08-GW
DRAFTED: 12/20/98 NJV
REVISED: 7/22/99 NJV

GROUNDWATER GRADIENT MAP 6/98

FIGURE 10
(3rd 1/4, 1998)



	Top of Well Elevation
WP #1	(102.69)
MW #2	(102.26)
MW #3	(101.74)
MW #4	(100.46)
MW #5	(101.95)

WP #1 (89.30) Groundwater Elevation as of 9/28/98.

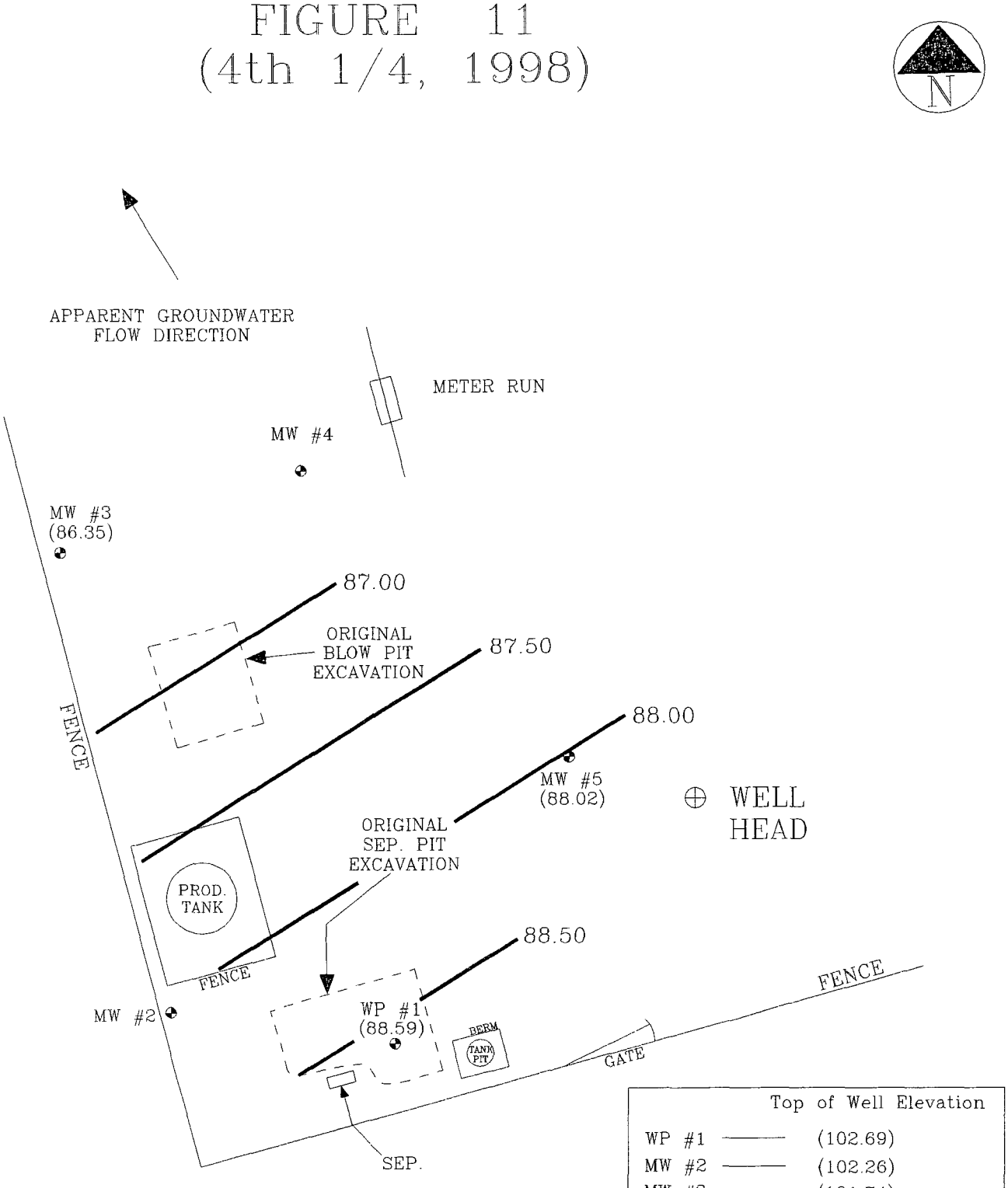
1 INCH = 50 FT.

0 50 100 FT.

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.

AMOCO PRODUCTION COMPANY GCU # 93 SW/4 NW/4 SEC. 36, T29N, 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: 1/4ly SAMP. DRAWN BY: NJV FILENAME: 09-28-GW DRAFTED: 12/20/98 NJV REVISED: 7/22/99 NJV	GROUNDWATER GRADIENT MAP 9/98

FIGURE 11
(4th 1/4, 1998)



Top of Well Elevation	
WP #1	(102.69)
MW #2	(102.26)
MW #3	(101.74)
MW #4	(100.46)
MW #5	(101.95)

WP #1 (88.59) Groundwater Elevation as of 12/17/98.

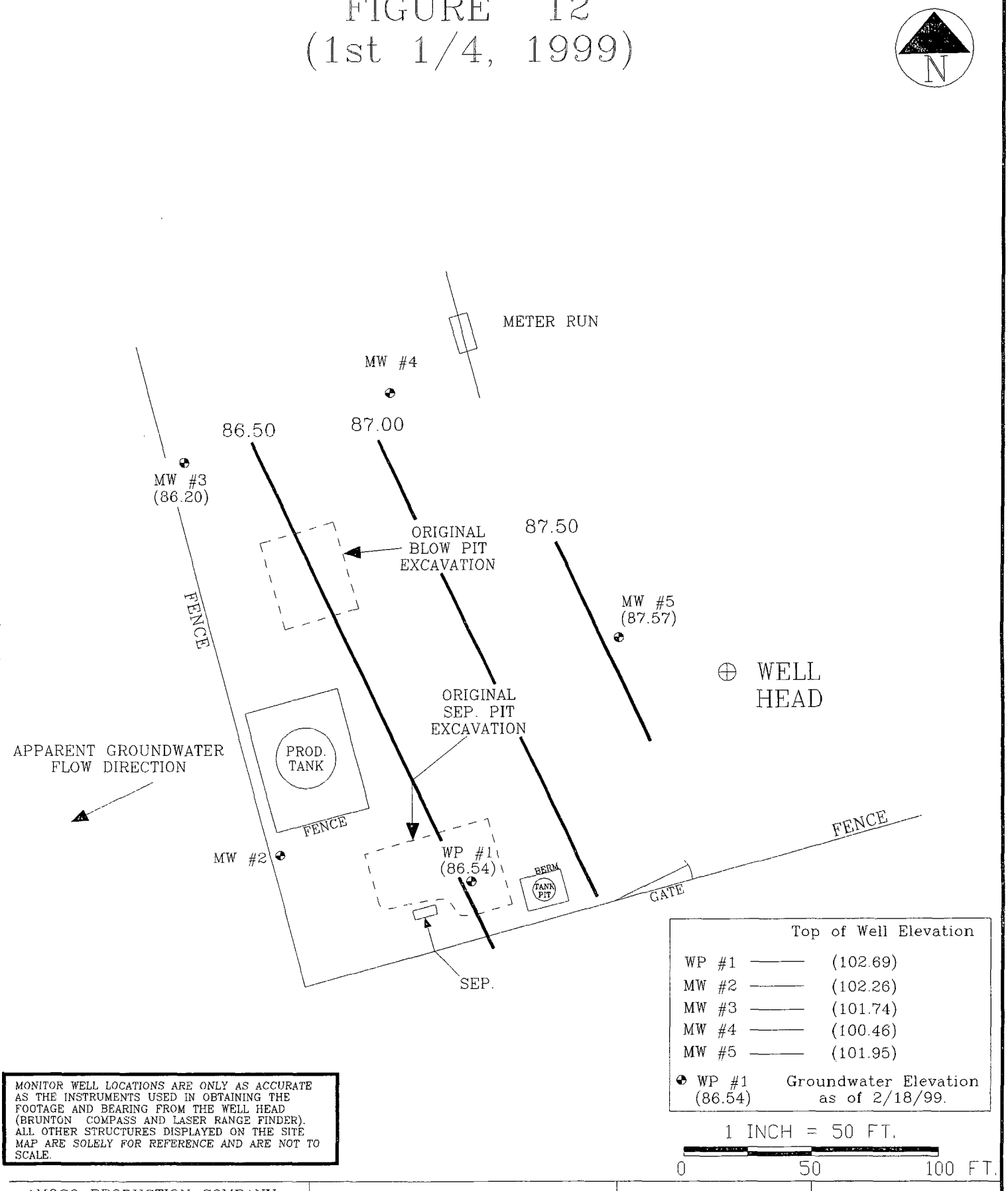
1 INCH = 50 FT.

0 50 100 FT.

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.

AMOCO PRODUCTION COMPANY GCU # 93 SW/4 NW/4 SEC. 36, T29N, 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: 1/4ly SAMP. DRAWN BY: NJV FILENAME: 09-28-GW DRAFTED: 7/22/99 NJV	GROUNDWATER GRADIENT MAP 12/98

FIGURE 12
(1st 1/4, 1999)



	Top of Well Elevation
WP #1	(102.69)
MW #2	(102.26)
MW #3	(101.74)
MW #4	(100.46)
MW #5	(101.95)

WP #1 (86.54) Groundwater Elevation as of 2/18/99.

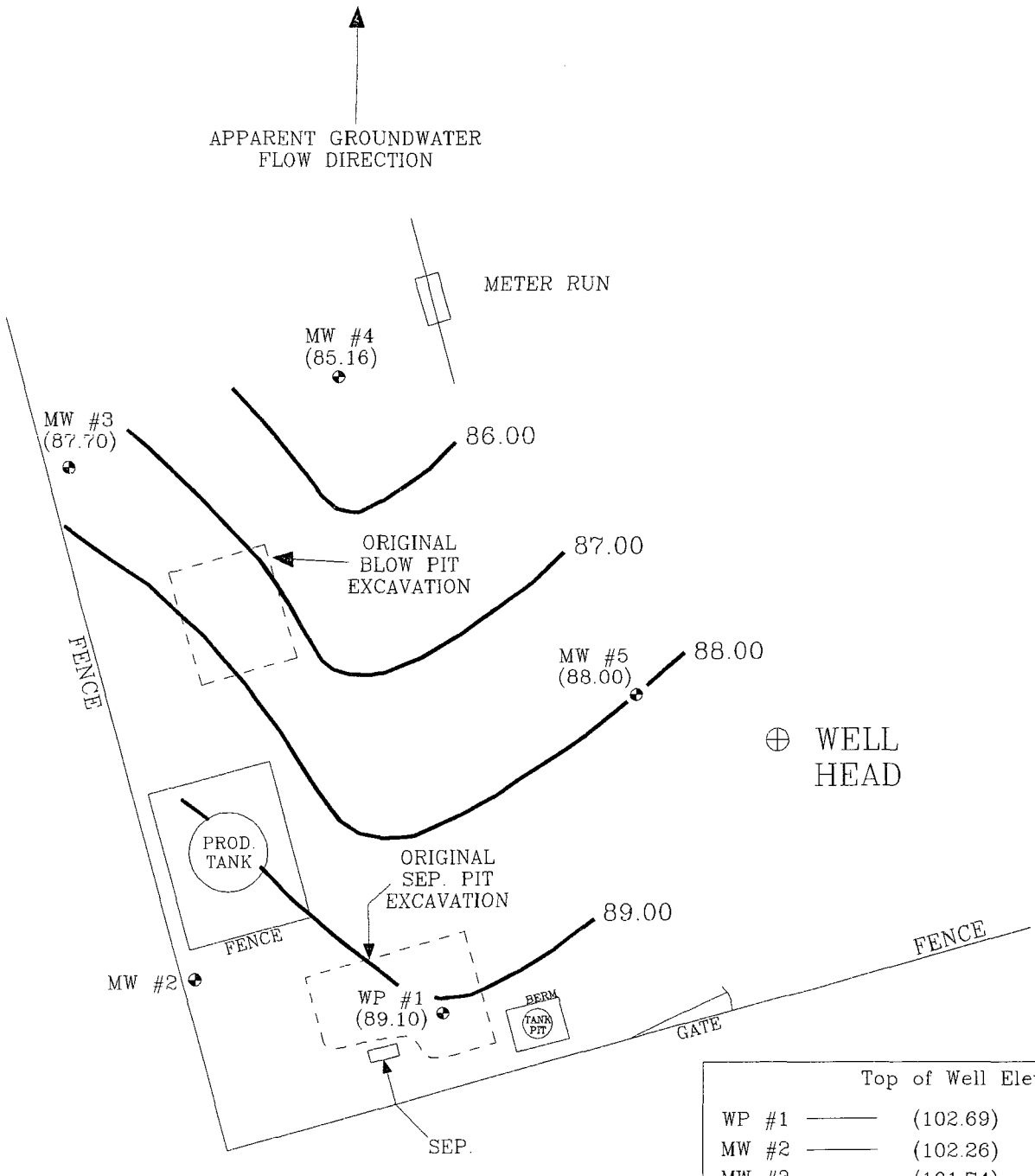
1 INCH = 50 FT.

0 50 100 FT.

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.

AMOCO PRODUCTION COMPANY GCU # 93 SW/4 NW/4 SEC. 36, T29N, 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: 1/4ly SAMP. DRAWN BY: NJV FILENAME: 02-18-GW DRAFTED: 7/22/99 NJV	GROUNDWATER GRADIENT MAP 2/99

FIGURE 13
(2nd 1/4, 1999)



Top of Well Elevation	
WP #1	(102.69)
MW #2	(102.26)
MW #3	(101.74)
MW #4	(100.46)
MW #5	(101.95)

◕ WP #1 (89.10) Groundwater Elevation as of 6/22/99.

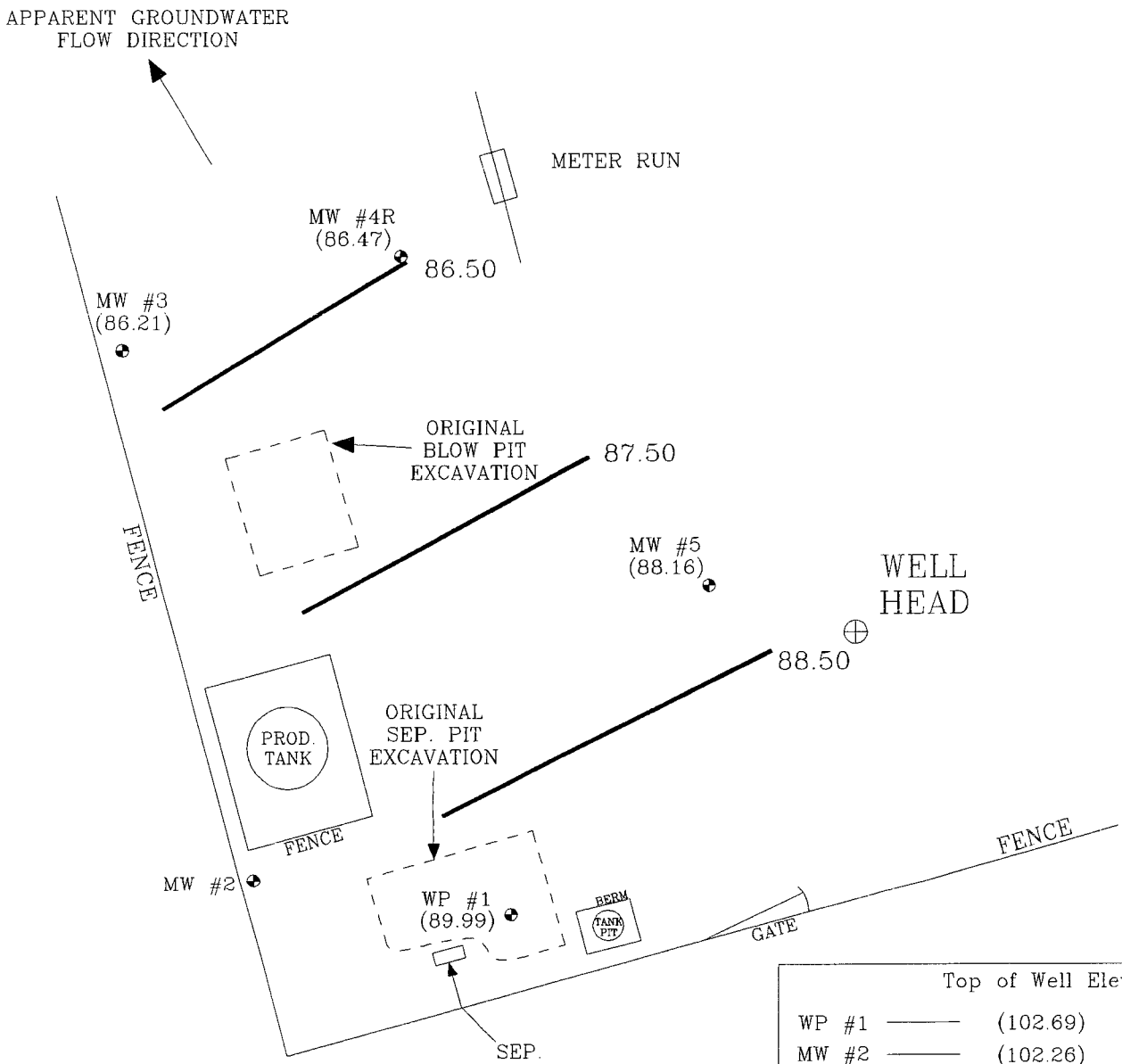
1 INCH = 50 FT.

0 50 100 FT.

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.

AMOCO PRODUCTION COMPANY GCU # 93 SW/4 NW/4 SEC. 36, T29N, 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: 1/4ly SAMP. DRAWN BY: NJV FILENAME: 06-08-GW DRAFTED: 7/22/99 NJV	GROUNDWATER GRADIENT MAP 6/99

FIGURE 14
(3rd 1/4, 1999)



Top of Well Elevation	
WP #1	(102.69)
MW #2	(102.26)
MW #3	(101.74)
MW #4	(100.46)
MW #5	(101.95)

WP #1 (88.99) Groundwater Elevation as of 8/30/99.

1 INCH = 50 FT.

0 50 100 FT.

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.

AMOCO PRODUCTION COMPANY

GCU # 93

SW/4 NW/4 SEC. 36, T29N, R12W

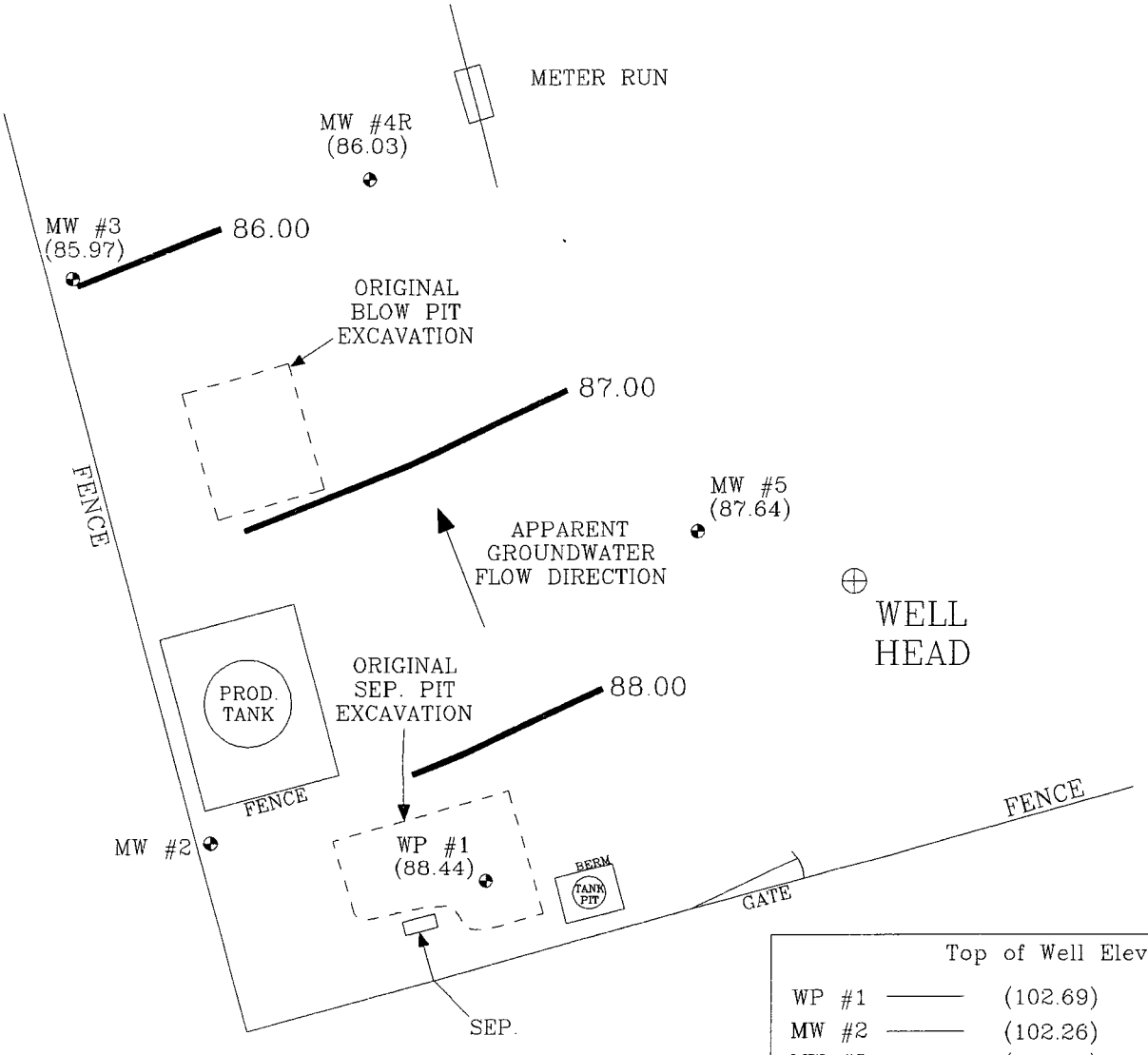
SAN JUAN COUNTY, NEW MEXICO

BLAGG ENGINEERING, INC.
CONSULTING PETROLEUM / RECLAMATION SERVICES
P.O. BOX 87
BLOOMFIELD, NEW MEXICO 87413
PHONE: (505) 632-1199

PROJECT: 1/4ly SAMP.
DRAWN BY: NJV
FILENAME: 08-30-GW
DRAFTED: 8/30/99 NJV

GROUNDWATER GRADIENT MAP 08/99

FIGURE 15
(4th 1/4, 1999)



Top of Well Elevation	
WP #1	(102.69)
MW #2	(102.26)
MW #3	(101.74)
MW #4	(100.46)
MW #5	(101.95)

WP #1 (88.44) Groundwater Elevation as of 12/13/99.

1 INCH = 50 FT.

0 50 100 FT.

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.

AMOCO PRODUCTION COMPANY

GCU # 93

SW/4 NW/4 SEC. 36, T29N, R12W

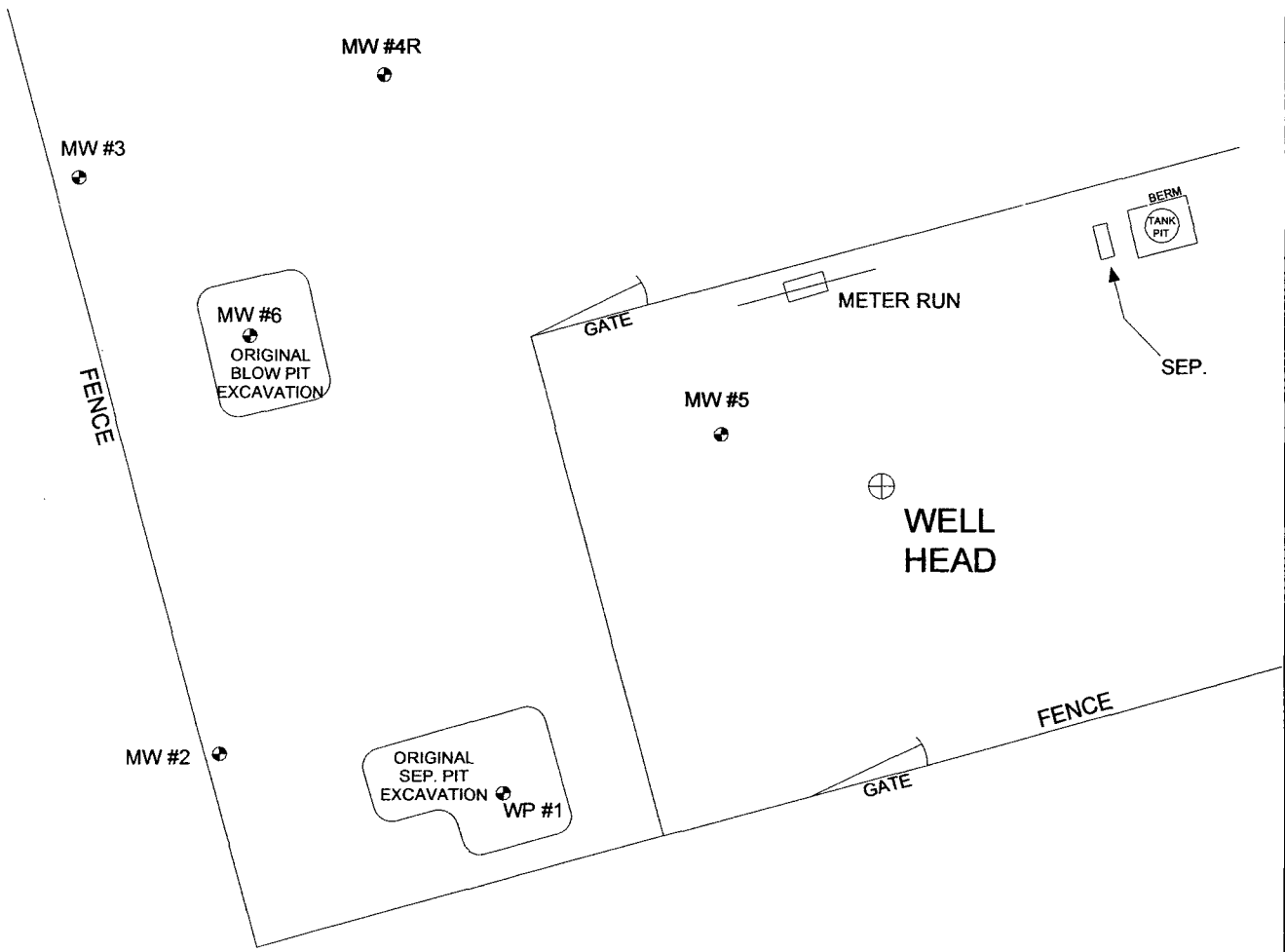
SAN JUAN COUNTY, NEW MEXICO

BLAGG ENGINEERING, INC.
CONSULTING PETROLEUM / RECLAMATION SERVICES
P.O. BOX 87
BLOOMFIELD, NEW MEXICO 87413
PHONE: (505) 632-1199

PROJECT: 1/4ly SAMP.
DRAWN BY: NJV
FILENAME: 12-13-GW
DRAFTED: 12/23/99 NJV

GROUNDWATER GRADIENT MAP 12/99

FIGURE 16



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.

1 INCH = 50 FT.

0 50 100 FT.

BP AMERICA PRODUCTION COMPANY GCU # 93 SW/4 NW/4 SEC. 36, T29N, 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: 1/4ly MONITORING DRAWN BY: NJV FILENAME: 07-12-05-SM REVISED: 07/12/05 NJV	SITE MAP 07/05

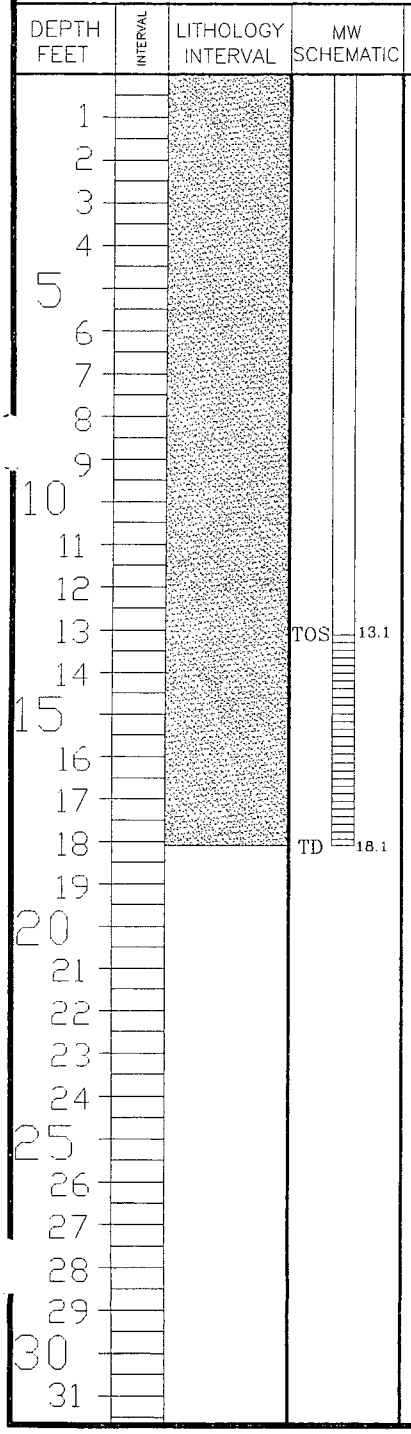
BLAGG ENGINEERING, Inc.

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

BORE / TEST HOLE REPORT

LOCATION NAME:	GCU # 93
CLIENT:	AMOCO PRODUCTION COMPANY
CONTRACTOR:	BLAGG ENGINEERING, INC.
EQUIPMENT USED:	MOBILE DRILL RIG (EARTHPROBE)
BORING LOCATION:	N69W, 228 FEET FROM WELL HEAD.

BORING #.....	BH - 2
MW #.....	3
PAGE #.....	2
DATE STARTED	5/30/96
DATE FINISHED	6/03/96
OPERATOR.....	JCB
PREPARED BY	NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

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

DARK YELLOWISH BROWN SAND TO SILTY SAND CONTINUOUS THROUGHOUT ENTIRE BORING, NON COHESIVE, SLIGHTLY MOIST TO SATURATED (AT GROUNDWATER), FIRM TO LOOSE, NO APPARENT HYDROCARBON ODOR OBSERVED (0.0 - 12.5 FT. INTERVAL), STRONG HYDROCARBON ODOR (12.5 - 18.1) FT. INTERVAL).

▼ GW DEPTH ON 6/11/96 = 12.60 FT. (APPROX.) FROM GROUND SURFACE.

NOTES:
- SAND TO SILTY SAND.
- TOS - TOP OF SCREEN FROM GROUND SURFACE.
- TD - TOTAL DEPTH OF MONITOR WELL FROM GROUND SURFACE.
- GW - GROUND WATER.

DRAWING: GCU93-3	DATE: 3/07/97	DWN BY: NJV

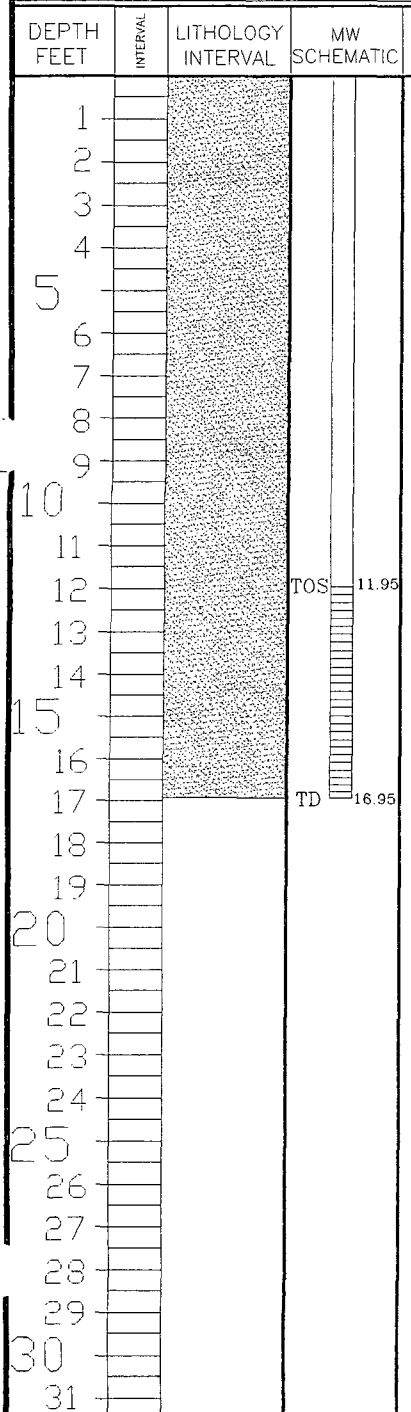
BLAGG ENGINEERING, Inc.

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

BORE / TEST HOLE REPORT

LOCATION NAME:	GCU # 93
CLIENT:	AMOCO PRODUCTION COMPANY
CONTRACTOR:	BLAGG ENGINEERING, INC.
EQUIPMENT USED:	MOBILE DRILL RIG (EARTHPROBE)
BORING LOCATION:	N69W, 228 FEET FROM WELL HEAD.

BORING #.....	BH - 2
MW #.....	3
PAGE #.....	2A
DATE STARTED	5/07/97
DATE FINISHED	5/07/97
OPERATOR.....	JCB
PREPARED BY	NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 3.05 FT. ABOVE GROUND SURFACE, PULLED UP CASING 1.15 FT. ON 5/07/97.

DARK YELLOWISH BROWN SAND TO SILTY SAND CONTINUOUS THROUGHOUT ENTIRE BORING, NON COHESIVE, SLIGHTLY MOIST TO SATURATED (AT GROUNDWATER), FIRM TO LOOSE, NO APPARENT HYDROCARBON ODOR OBSERVED (0.0 - 12.5 FT. INTERVAL), STRONG HYDROCARBON ODOR (12.5 - 18.1) FT. INTERVAL).

▼ GW DEPTH ON 6/24/97 = 12.25 FT. (APPROX.) FROM GROUND SURFACE.

NOTES:
- SAND TO SILTY SAND.
- TOS - TOP OF SCREEN FROM GROUND SURFACE.
- TD - TOTAL DEPTH OF MONITOR WELL FROM GROUND SURFACE.
- GW - GROUND WATER.

DRAWING: GCU93-3A	DATE: 7/30/99	DWN BY: NJV

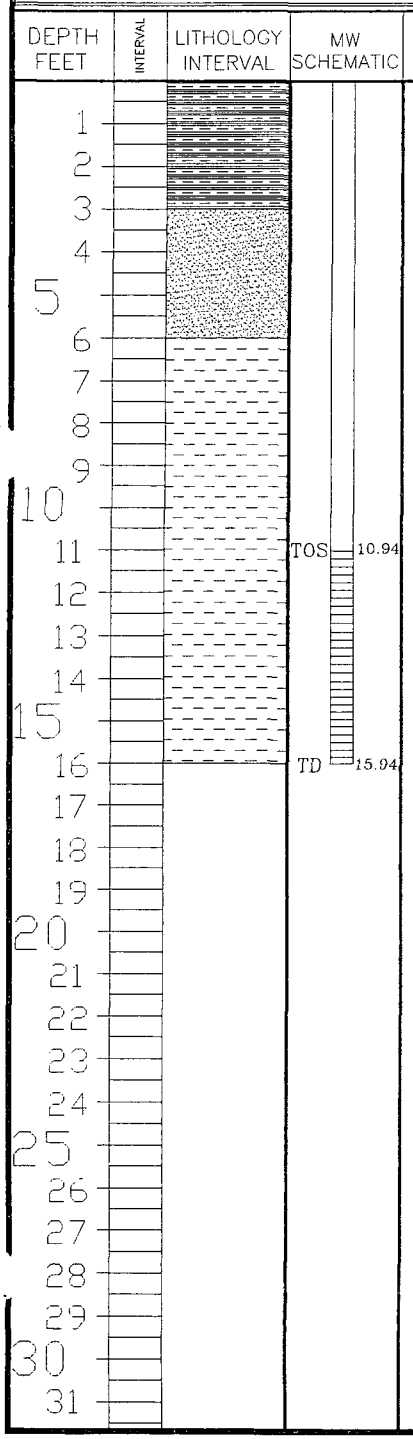
BLAGG ENGINEERING, Inc.

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

BORE / TEST HOLE REPORT

LOCATION NAME:	GCU # 93
CLIENT:	AMOCO PRODUCTION COMPANY
CONTRACTOR:	BLAGG ENGINEERING, INC.
EQUIPMENT USED:	MOBILE DRILL RIG (EARTHPROBE)
BORING LOCATION:	N50.5W, 171 FEET FROM WELL HEAD.

BORING #.....	BH - 3
MW #.....	4
PAGE #.....	3
DATE STARTED	6/06/97
DATE FINISHED	6/06/97
OPERATOR.....	JCB
PREPARED BY	NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 2.06 FT. ABOVE GROUND SURFACE.

DARK YELLOWISH BROWN SILTY CLAY, COHESIVE, SLIGHTLY MOIST, FIRM TO STIFF, NO APPARENT HYDROCARBON ODOR OBSERVED (0.0 - 3.0 FT. INTERVAL).

DARK YELLOWISH BROWN SAND TO SILTY SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT HYDROCARBON ODOR OBSERVED (3.0 - 6.0 FT. INTERVAL).

MEDIUM TO DARK GRAY SAND TO SILTY SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM, STRONG HYDROCARBON ODOR OBSERVED (6.0 - 15.94 FT. INTERVAL).

▼ GW DEPTH ON 6/24/97 = 11.61 FT. (APPROX.) FROM GROUND SURFACE.

NOTES:
- CLAY.
- SAND TO SILTY SAND.
- SAND TO SILTY SAND (DISCOLORED).
- TOS - TOP OF SCREEN FROM GROUND SURFACE.
- TD - TOTAL DEPTH OF MONITOR WELL FROM GROUND SURFACE.
- GW - GROUND WATER.

DRAWING: GCU93-4	DATE: 6/19/97	DWN BY: NJV

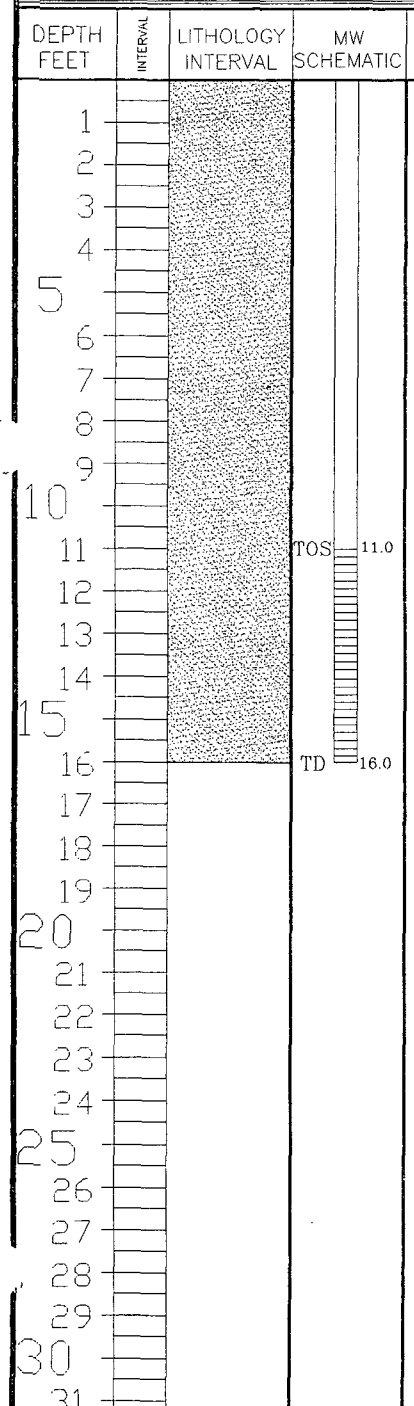
BLAGG ENGINEERING, Inc.

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

BORE / TEST HOLE REPORT

LOCATION NAME:	GCU # 93
CLIENT:	AMOCO PRODUCTION COMPANY
CONTRACTOR:	BLAGG ENGINEERING, INC.
EQUIPMENT USED:	MOBILE DRILL RIG (EARTHPROBE)
BORING LOCATION:	N72W, 44.5 FEET FROM WELL HEAD.

BORING #.....	BH - 4
MW #.....	5
PAGE #.....	4
DATE STARTED	6/06/97
DATE FINISHED	6/06/97
OPERATOR.....	JCB
PREPARED BY	NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 2.00 FT. ABOVE GROUND SURFACE.

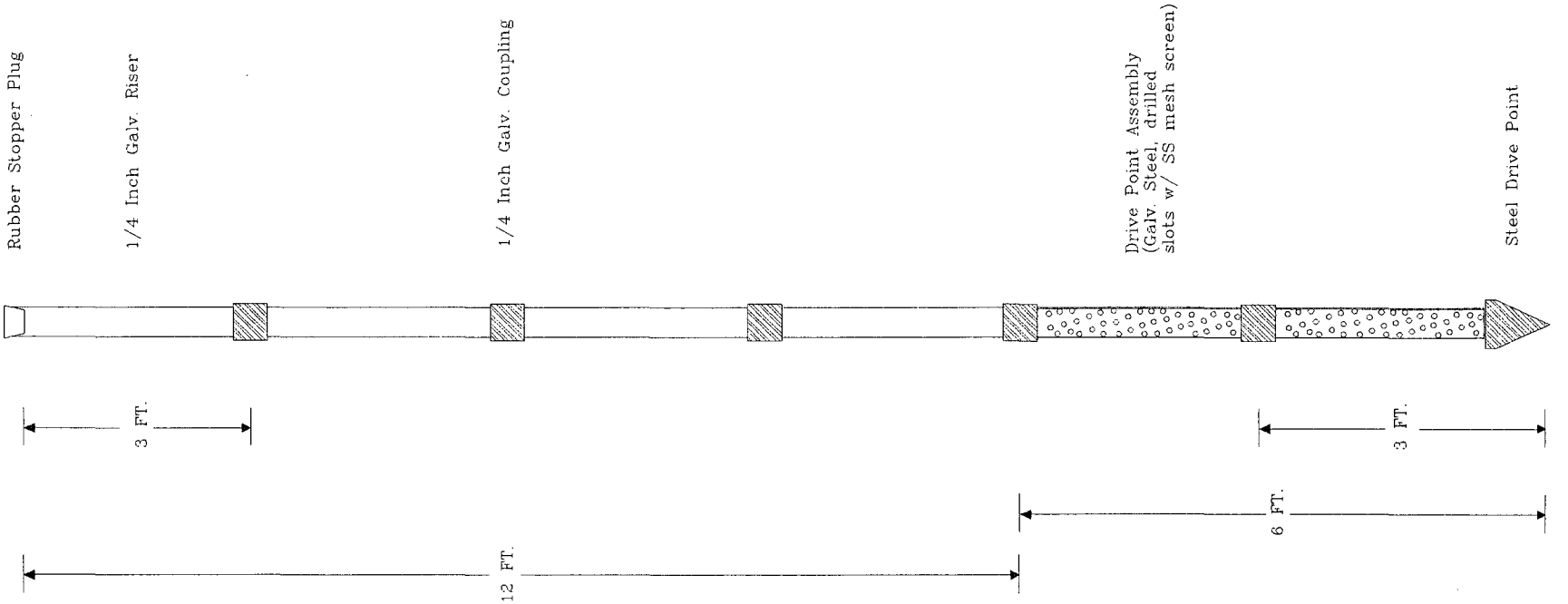
DARK YELLOWISH BROWN SAND TO SILTY SAND CONTINUOUS THROUGHOUT ENTIRE BORING, NON COHESIVE, SLIGHTLY MOIST TO SATURATED (AT GROUNDWATER), FIRM, NO APPARENT HYDROCARBON ODOR OBSERVED (0.0 - 16.0 FT. INTERVAL).

GW DEPTH ON 6/24/97 = 11.83 FT. (APPROX.) FROM GROUND SURFACE.

NOTES:
- SAND TO SILTY SAND.
- TOS - TOP OF SCREEN FROM GROUND SURFACE.
- TD - TOTAL DEPTH OF MONITOR WELL FROM GROUND SURFACE.
- GW - GROUND WATER.

DRAWING: GCU93-5	DATE: 6/19/97	DWN BY: NJV

WELL POINT #1
(WP-1)



AMOCO PRODUCTION COMPANY

GCU # 93

MONITOR WELL CONSTRUCTION & COMPLETION

INSTALLED WITHIN EXCAVATION

BLAGG ENGINEERING, INC.

CONSULTING PETROLEUM / RECLAMATION SERVICES

P.O. BOX 87

BLOOMFIELD, NEW MEXICO 87413

PHONE: (505) 632-1199

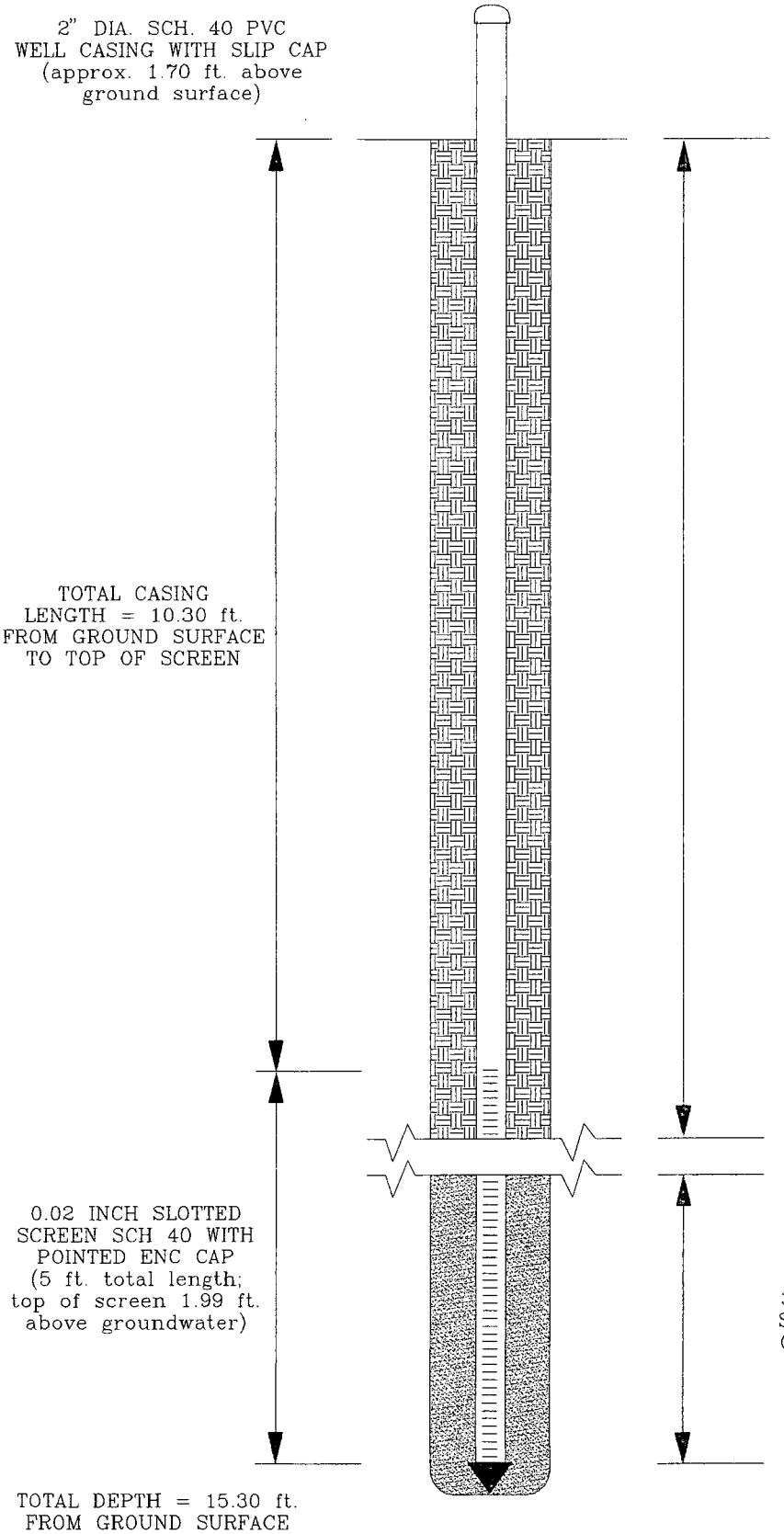
MONITOR WELL SCHEMATIC

DRAFTED BY: NJV

DATE: FEB. '97

FILENAME: WP-1

MONITOR WELL #2



AMOCO PRODUCTION COMPANY

GCU # 93

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

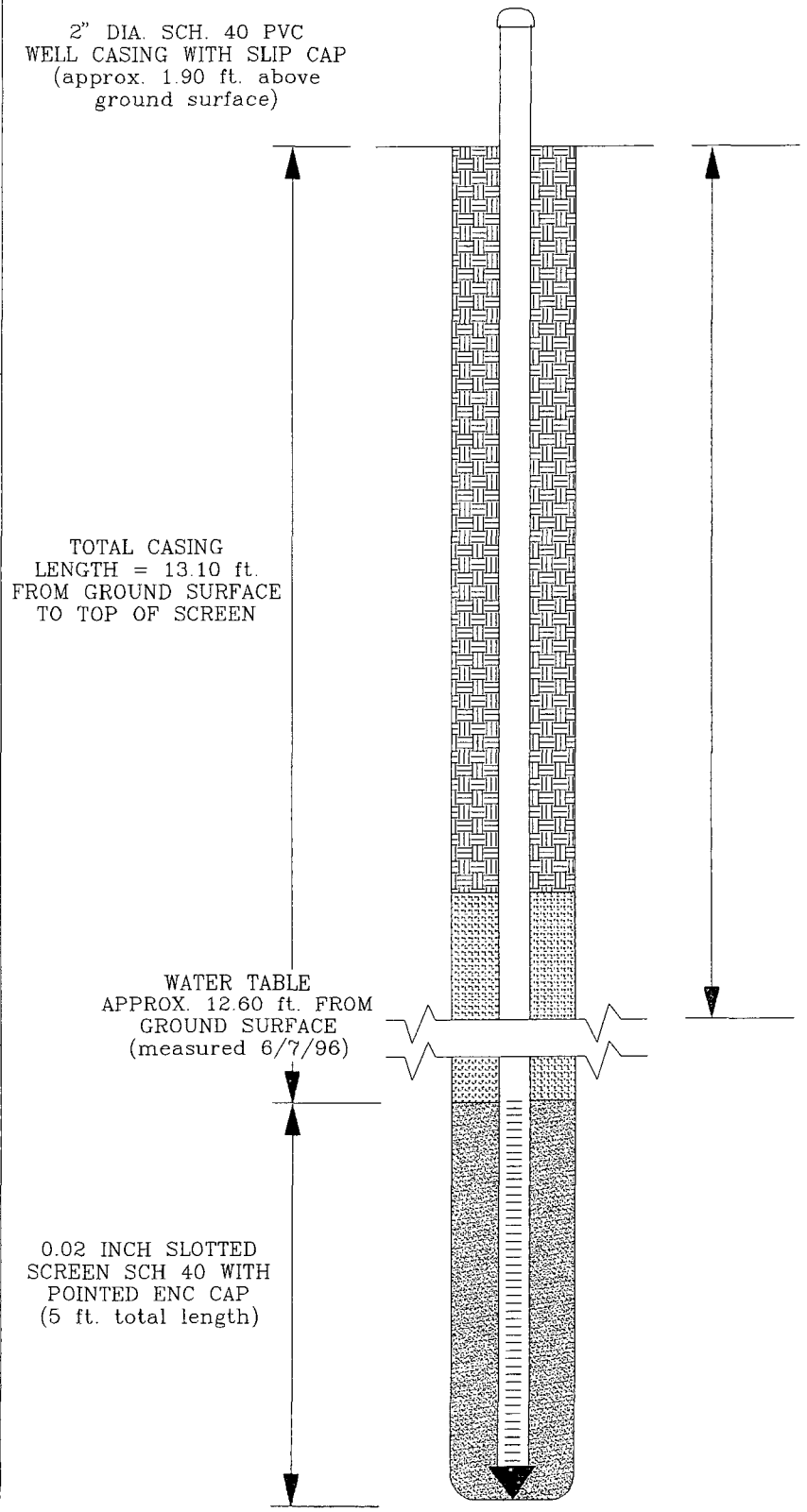
MONITOR WELL SCHEMATIC

DRAFTED BY: NJV

DATE: FEB. '97

FILENAME: MW-2

MONITOR WELL #3



AMOCO PRODUCTION COMPANY

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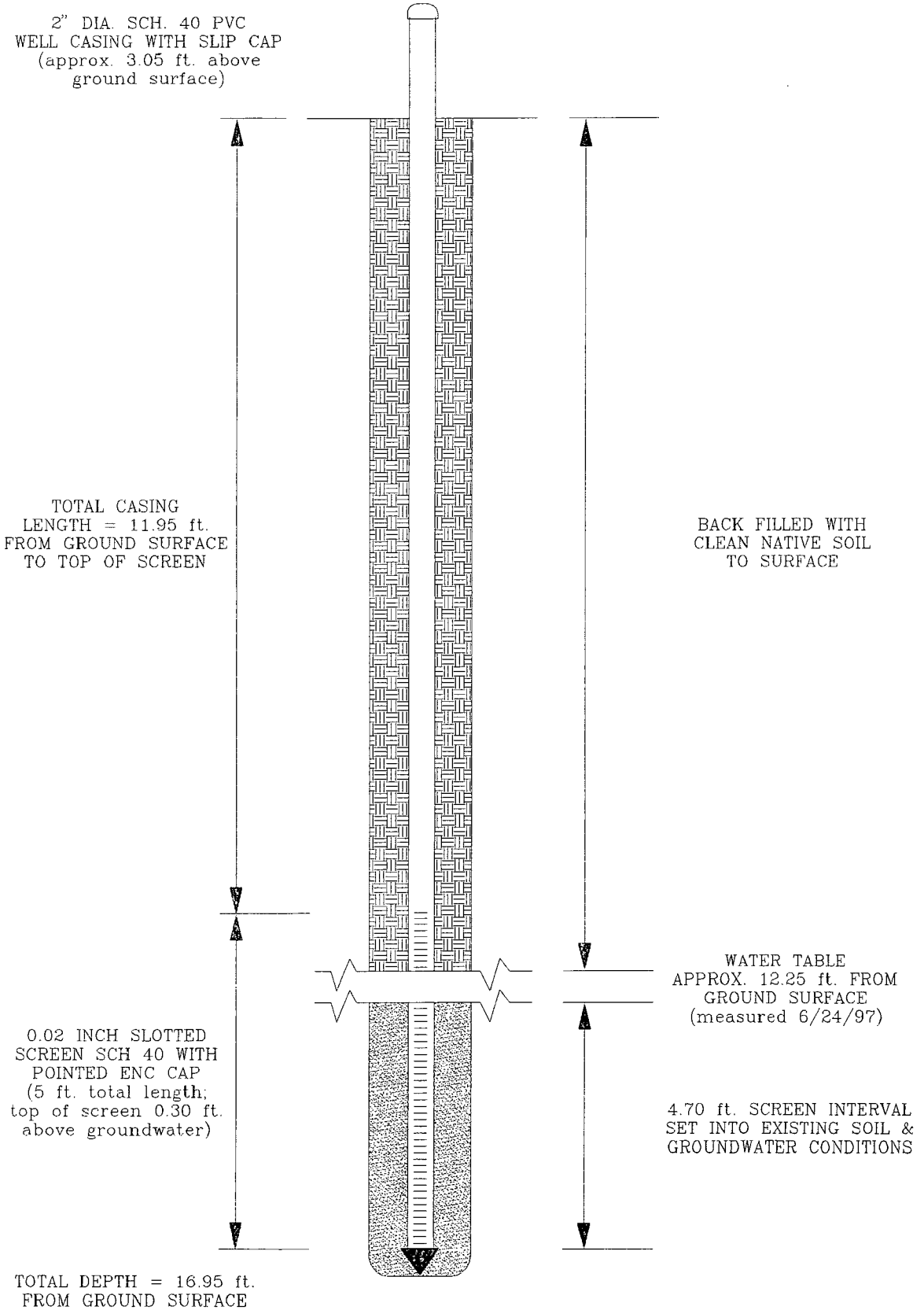
MONITOR WELL SCHEMATIC

DRAFTED BY: NJV

DATE: FEB. '97

FILENAME: MW-3

MONITOR WELL #3
(after 5/7/97)



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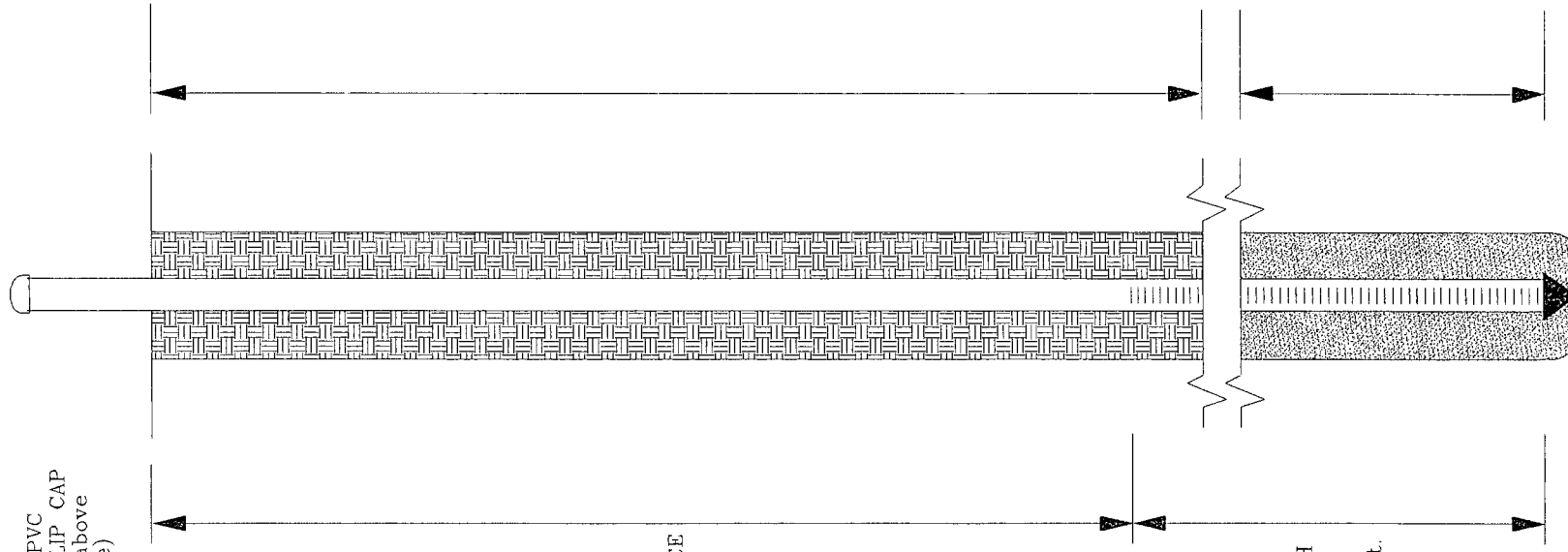
MONITOR WELL SCHEMATIC

DRAFTED BY: NJV

DATE: JUN. '97

FILENAME: MW-3

MONITOR WELL #4



AMOCO PRODUCTION COMPANY

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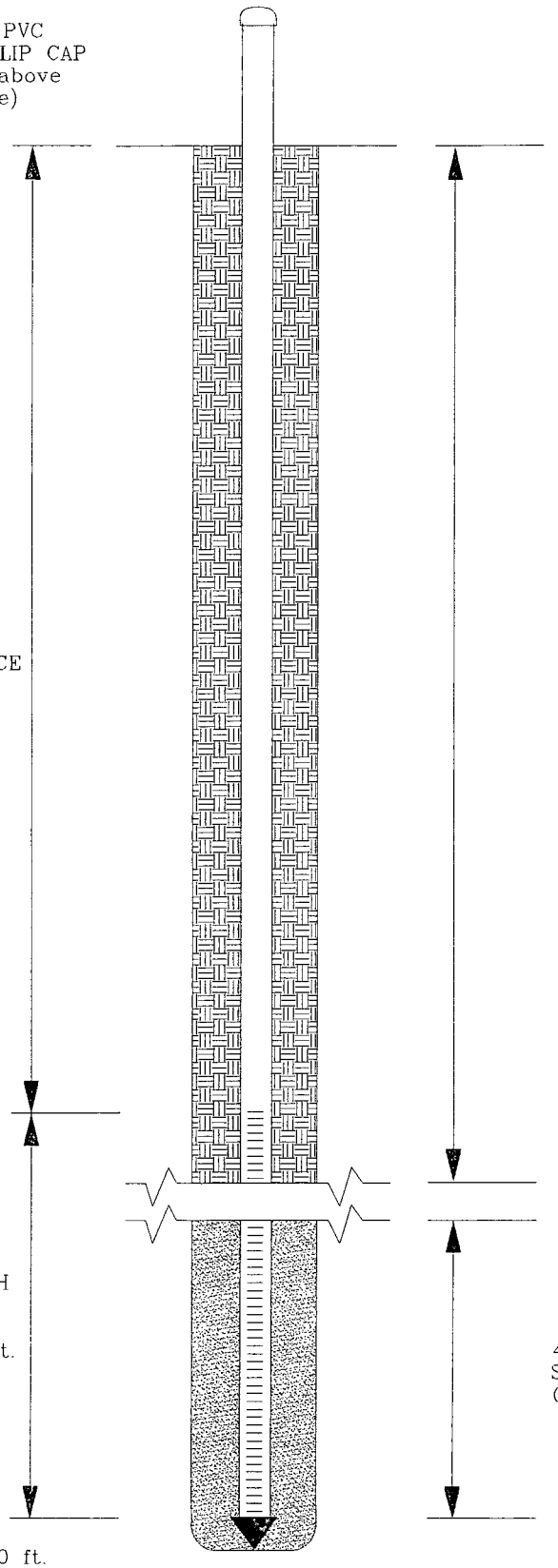
MONITOR WELL SCHEMATIC

DRAFTED BY: NJV

DATE: JUN. '97

FILENAME: MW-4

MONITOR WELL #5



AMOCO PRODUCTION COMPANY

GCU # 93

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PHONE: (505) 632-1199

MONITOR WELL SCHEMATIC

DRAFTED BY: NJV

DATE: JUN. '97

FILENAME: MW-5

ANALYTICA
ENVIRONMENTAL LABORATORY

PURGEABLE AROMATICS

Blagg Engineering, Inc.

Project ID:	GCU 93 Separator Pit	Report Date:	02/27/96
Sample ID:	PW 1 @ GW (14')	Date Sampled:	02/21/96
Lab ID:	2705	Date Received:	02/22/96
Sample Matrix:	Water	Date Analyzed:	02/26/96
Preservative:	Cool, HgCl2		
Condition:	Intact		

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	418	50.0
Toluene	ND	50.0
Ethylbenzene	455	50.0
m,p-Xylenes	3,710	100
o-Xylene	960	50.0
Total BTEX	**5,540**	

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Trifluorotoluene	97	88 - 110%

Reference: Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209, Oct. 1984.

Comments:

Analyst

Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8020
AROMATIC VOLATILE ORGANICS

Client:	Blagg / Amoco	Project #:	04034
Sample ID:	PW 1 @ GW (14')	Date Reported:	02-22-96
Chain of Custody:	4455	Date Sampled:	02-21-96
Laboratory Number:	A018	Date Received:	02-22-96
Sample Matrix:	Water	Date Analyzed:	02-22-96
Preservative:	HgCl2 & Cool	Analysis Requested:	BTEX
Condition:	Cool & Intact		

Parameter	Concentration (ug/L)	Dilution Factor	Det. Limit (ug/L)
Benzene	**398**	**10**	**3.4**
Toluene	**40.9**	**10**	**3.6**
Ethylbenzene	**445**	**10**	**2.8**
p,m-Xylene	**3,260**	**10**	**5.3**
o-Xylene	**974**	**10**	**3.5**
Total BTEX	**5,120**		

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	**99 %**
	Bromofluorobenzene	**96 %**

References: 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. 1994.

Comments: **GCU 93 Sep. Pit.**

Analyst

Review

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ANALYTICA
ENVIRONMENTAL LABORATORY

General Water Quality
Blagg Engineering, Inc.

Project ID:	GCU 93 - Separator Pit	Date Reported:	02/27/96
Sample ID:	PW 1 @ GW (14')	Date Sampled:	02/21/96
Laboratory ID:	2705	Time Sampled:	16:00
Sample Matrix:	Water	Date Received:	02/22/96

Parameter		Analytical Result	Units
General	Lab pH	7.4	s.u.
	Lab Conductivity @ 25° C	1,430	µmhos/cm
	Total Dissolved Solids @ 180°C	1,020	mg/L
	Total Dissolved Solids (Calc)	994	mg/L
Anions	Total Alkalinity as $CaCO_3$	729	mg/L
	Bicarbonate Alkalinity as $CaCO_3$	729	mg/L
	Carbonate Alkalinity as $CaCO_3$	NA	mg/L
	Hydroxide Alkalinity as $CaCO_3$	NA	mg/L
	Chloride	77.5	mg/L
	Sulfate	78.2	mg/L
	Nitrate + Nitrite - N	NA	
	Nitrate - N	NA	
	Nitrite - N	NA	
Cations	Total Hardness as $CaCO_3$	561	mg/L
	Calcium	184	mg/L
	Magnesium	24.5	mg/L
	Potassium	< 5.0	mg/L
	Sodium	190	mg/L
Data Validation			Acceptance Level
	Cation/Anion Difference	2.97	+/- 5 %
	TDS (180):TDS (calculated)	1.0	1.0 - 1.2

Reference U.S.E.P.A. 600/4-79-020, Methods for Chemical Analysis of Water and Wastes, 1983.
Standard Methods For The Examination Of Water And Wastewater, 18th ed., 1992.

Review

ANALYTICA
ENVIRONMENTAL LABORATORY

807 S. CARLTON • FARMINGTON, NM 87401 • (505) 326-2395

CHAIN OF CUSTODY

PROJECT MANAGER:
Analytica Lab I.D.:

Company: BLAGG
Address:

Phone:
Fax:

Bill To: SAME AS ABOVE
Company:
Address:

Sample ID	Date	Time	Matrix	Lab ID	Petroleum Hydrocarbons (418.1)	Gasoline / Diesel (mod. 8015)	Gasoline (GRO)	Aromatic HCs BTEX/MTBE (602/8020)	Chlorinated Hydrocarbons (8010)	SDWA Volatiles (502.1/503.1)	Chlorinated Pesticides / PCBs (608 / 8080)	Herbicides (615 / 8150)	Volatiles GC/MS (624 / 8240 / 8260)	Base / Neutral / Acid GC/MS (625 / 8270)	Polynuclear Aromatic Hydrocarbons (8100)	TCLP Extraction	Other (specify):	Cation / Anion	Specific Cations (specify):	Specific Anions (specify):	BOD / Fecal / Total Coliform	Solids : TDS / TSS / SS	Nutrients: NH4+ / NO2- / NO3- / TKN	Oil and Grease	Other (specify):	Priority Pollutants
PW2 CGW (14')	2/21/96	1600	WATER					✓										✓								

Project Information	Sample Receipt
Proj. #:	No. Containers:
Proj Name: 6cu 93 -	Custody Seals: Y / N / NA
P.O. No. SEP. PIT	Received Intact:
Shipped Via:	Received Cold
Required Turnaround Time (Prior Authorization Required for Rush)	

Sampled by:	Relinquished by:	Relinquished by:
Signature: Nelson Velez	Signature: Nelson Velez	Signature:
Date: 2/21/96	Date: 2/22/96	
Company: BLAGG	Company: BLAGG	Company:
Time: 1600	Time: 0930	
Received By:	**Received By:**	**Received By:**
Signature:	Signature:	Signature: Tamara Cain
Date:	Date:	
Company:	Company:	Company: Analytica
Time:	Time:	

4455

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location
BLAGG / AMOCO	GCU 93 - SEP. PIT
Sampler: (Signature) Nelson Velez	Chain of Custody Tape No.

ANALYSIS/PARAMETERS

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	BTEX (8020)						Remarks
PW1 @ GW (14')	2/21/96	1600	A018	WATER	2	Y						PRESERV. - COOL

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Nelson Velez	2/22/96	0900	[signature]	2/22/96	0900
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

ANALYTICA
ENVIRONMENTAL LABORATORY

PURGEABLE AROMATICS

Blagg Engineering, Inc.

Project ID:	GCU 93 - Blow Pit	Report Date:	02/21/96
Sample ID:	PW 1 @ GW (15')	Date Sampled:	02/19/96
Lab ID:	2699	Date Received:	02/20/96
Sample Matrix:	Water	Date Analyzed:	02/20/96
Preservative:	Cool, HgCl2		
Condition:	Intact		

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	94.1	5.00
Toluene	217	5.00
Ethylbenzene	11.4	0.50
m,p-Xylenes	95.7	10.0
o-Xylene	27.2	5.00
Total BTEX	**445**	

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Trifluorotoluene	106	88 - 110%

Reference: Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209, Oct. 1984.

Comments:

Analyst

Review

ANALYTICA
ENVIRONMENTAL LABORATORY

General Water Quality
Blagg Engineering, Inc.

Project ID:	GCU 93 - Blow Pit	Date Reported:	02/23/96
Sample ID:	PW 1 @ GW (15')	Date Sampled:	02/19/96
Laboratory ID:	2699	Time Sampled:	11:15
Sample Matrix:	Water	Date Received:	02/20/96

Parameter		Analytical Result	Units
General	Lab pH	7.6	s.u.
	Lab Conductivity @ 25° C	2,710	µmhos/cm
	Total Dissolved Solids @ 180°C	2,510	mg/L
	Total Dissolved Solids (Calc)	2,200	mg/L
Anions	Total Alkalinity as $CaCO_3$	390	mg/L
	Bicarbonate Alkalinity as $CaCO_3$	390	mg/L
	Carbonate Alkalinity as $CaCO_3$	NA	mg/L
	Hydroxide Alkalinity as $CaCO_3$	NA	mg/L
	Chloride	32.5	mg/L
	Sulfate	1,250	mg/L
	Nitrate + Nitrite - N	NA	
	Nitrate - N	NA	
	Nitrite - N	NA	
Cations	Total Hardness as $CaCO_3$	914	mg/L
	Calcium	334	mg/L
	Magnesium	19.6	mg/L
	Potassium	< 5.0	mg/L
	Sodium	330	mg/L
Data Validation			Acceptance Level
	Cation/Anion Difference	2.89	+/- 5 %
	TDS (180):TDS (calculated)	1.1	1.0 - 1.2

Reference U.S.E.P.A. 600/4-79-020, Methods for Chemical Analysis of Water and Wastes, 1983.
Standard Methods For The Examination Of Water And Wastewater, 18th ed., 1992.

Review

ANALYTICA
ENVIRONMENTAL LABORATORY
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CHAIN OF CUSTODY

Page 1 of 1

PROJECT MANAGER:
Analytica Lab I.D.:

Company: BLAGG
Address:

Phone:
Fax:

Bill To: SAME AS ABOVE
Company:
Address:

Sample ID	Date	Time	Matrix	Lab ID	Petroleum Hydrocarbons (418.1)	Gasoline / Diesel (mod. 8015)	Gasoline (GRO)	Aromatic HCs (BTEX/MTBE (602/8020)	Chlorinated Hydrocarbons (8010)	SDWA Volatiles (502.1 / 503.1)	Chlorinated Pesticides / PCBs (608 / 8080)	Herbicides (615 / 8150)	Volatiles GC/MS (624 / 8240 / 8260)	Base / Neutral / Acid GC/MS (625 / 8270)	Polynuclear Aromatic Hydrocarbons (8100)	TCLP Extraction	Other (specify):	Cation / Anion	Specific Cations (specify):	Specific Anions (specify):	BOD / Fecal / Total Coliform	Solids: TDS / TSS / SS	Nutrients: NH4+ / NO2- / NO3- / TKN	Oil and Grease	Other (specify):	Priority Pollutants	RCRA Metals (Total)	RCRA Metals TCLP (1311)	Other (specify):	COMMENTS
PW1 @ GW(15')	2/8/96	1115	WATER					✓										✓												BLOW PIT

BTEX - PRESERV. - $HgCl_2$ & COOL
ANION/CATION - PRESERV - COOL

Project Information	Sample Receipt
Proj. #:	No. Containers:
Proj. Name: GW 93 -	Custody Seals: Y / N / NA
P.O. No: BLOW PIT	Received Intact:
Shipped Via:	Received Cold:

Required Turnaround Time (Prior Authorization Required for Rush)

Sampled By:	Relinquished By:	Relinquished By:
Signature / Date: Nelson Vela 2/19/96	Signature / Date: Nelson Vela 2/20/96	Signature / Date:
Company: BLAGG	Company: BLAGG	Company:
Time: 1115	Time: 0728	Time:
Received By:	**Received By:**	**Received By:**
Signature / Date:	Signature / Date:	Signature / Date: 2/20/96
Company:	Company:	Company: ANALYTICA
Time:	Time:	Time: 7:29

Please Fill Out Thoroughly.

Shaded areas for lab use only.

White/Yellow: Analytica
Pink: Client

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8020
AROMATIC VOLATILE ORGANICS

Client:	Blagg / Amoco	Project #:	04034
Sample ID:	PW 2 @ GW (14')	Date Reported:	03-13-96
Chain of Custody:	4712	Date Sampled:	03-12-96
Laboratory Number:	A038	Date Received:	03-12-96
Sample Matrix:	Water	Date Analyzed:	03-12-96
Preservative:	HgCl2 & Cool	Analysis Requested:	BTEX
Condition:	Cool & Intact		

Parameter	Concentration (ug/L)	Dilution Factor	Det. Limit (ug/L)
Benzene	**87.2**	**1**	**0.3**
Toluene	**44.9**	**1**	**0.4**
Ethylbenzene	**0.4**	**1**	**0.3**
p,m-Xylene	**21.4**	**1**	**0.5**
o-Xylene	**20.2**	**1**	**0.3**
Total BTEX	**174**		

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	**96 %**
	Bromofluorobenzene	**98 %**

References: 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. 1994.

Comments: **GCU 93 Blow Pit.**

Analyst

Review

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4712

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location	ANALYSIS/PARAMETERS
BLAGG / AMOCO	BLOW PIT GCU 93	
Sampler: (Signature) Nelson Velez	Chain of Custody Tape No. 04034	

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	BTEX (8020)						Remarks
PW2 @ GW(14')	3/12/96	1420	A038	WATER	2	✓						PRESERV. - COOL

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Nelson Velez	3/12/96	1437	Glenn L. Ojeen	3/12/96	1437
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

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

BLAGG ENGINEERING, INC.

MONITOR WELL SAMPLING DATA

CLIENT : AMOCO PRODUCTION CO.

CHAIN-OF-CUSTODY # : 2490

GCU # 93 - SEPARATOR & BLOW PITS
UNIT E, SEC. 36, T29N, R12W

LABORATORY (S) USED : ANAITAS

Date : June 11, 1996

SAMPLER : R E O

Filename : 06-11-99.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/cm)	VOLUME PURGED (gal.)	FREE PRODUCT (ft)
1	102.79	88.83	13.96	18.00	1345	6.5	1700	0.75	-
2	102.24	89.81	12.43	17.00	1320	7.4	800	2.25	-
3	100.59	86.09	14.50	20.00	1410	7.1	1700	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 ".

Well # 1 = 1.25" well point . Collected BTEX & anion / cation samples for all MW's listed above .

ANAITAS ENVIRONMENTAL LABS

PURGEABLE AROMATICS

Blagg Engineering, Inc.

Project ID:	GCU 93	Report Date:	06/24/96
Sample ID:	WP - 1	Date Sampled:	06/11/96
Lab ID:	3899	Date Received:	06/11/96
Sample Matrix:	Water	Date Analyzed:	06/21/96
Preservative:	Cool, $HgCl_2$		
Condition:	Intact		

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	288	25.0
Toluene	102	25.0
Ethylbenzene	557	25.0
m,p-Xylenes	4,770	100
o-Xylene	874	25.0

Total BTEX	6,590

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Trifluorotoluene	96	88 - 110%
Bromofluorobenzene	99	86 - 115%

Reference: Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209, Oct. 1984.

Comments:

Analyst

Review

ANAITAS ENVIRONMENTAL LABS

PURGEABLE AROMATICS

Blagg Engineering, Inc.

Project ID:	GCU 93	Report Date:	06/24/96
Sample ID:	MW - 2	Date Sampled:	06/11/96
Lab ID:	3900	Date Received:	06/11/96
Sample Matrix:	Water	Date Analyzed:	06/20/96
Preservative:	Cool, $HgCl_2$		
Condition:	Intact		

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	ND	0.50
Toluene	0.64	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	2.88	1.00
o-Xylene	0.64	0.50
Total BTEX	4.16	

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Trifluorotoluene	92	88 - 110%
Bromofluorobenzene	93	86 - 115%

Reference: Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209, Oct. 1984.

Comments:

Analyst

Review

ANAITAS ENVIRONMENTAL LABS

PURGEABLE AROMATICS

Blagg Engineering, Inc.

Project ID:	GCU 93	Report Date:	06/24/96
Sample ID:	MW - 3	Date Sampled:	06/11/96
Lab ID:	3901	Date Received:	06/11/96
Sample Matrix:	Water	Date Analyzed:	06/21/96
Preservative:	Cool, $HgCl_2$		
Condition:	Intact		

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	208	5.00
Toluene	28.3	5.00
Ethylbenzene	55.3	5.00
m,p-Xylenes	123	10.0
o-Xylene	9.06	5.00
Total BTEX	420	

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Trifluorotoluene	99	88 - 110%
Bromofluorobenzene	100	86 - 115%

Reference: Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209, Oct. 1984.

Comments:

Analyst

Review

ANAITAS ENVIRONMENTAL LABS

General Water Quality

Blagg Engineering, Inc.

Project ID:	GCU 93	Date Reported:	06/24/96
Sample ID:	WP - 1	Date Sampled:	06/11/96
Laboratory ID:	3899	Time Sampled:	13:45
Sample Matrix:	Water	Date Received:	06/11/96

Parameter		Analytical Result	Units
General	Lab pH	6.4	s.u.
	Lab Conductivity @ 25° C	2,240	µmhos/cm
	Total Dissolved Solids @ 180°C	1,750	mg/L
	Total Dissolved Solids (Calc)	1,580	mg/L
Anions	Total Alkalinity as $CaCO_3$	263	mg/L
	Bicarbonate Alkalinity as $CaCO_3$	263	mg/L
	Carbonate Alkalinity as $CaCO_3$	NA	mg/L
	Hydroxide Alkalinity as $CaCO_3$	NA	mg/L
	Chloride	90.0	mg/L
	Sulfate	868	mg/L
	Nitrate + Nitrite - N	NA	
	Nitrate - N	NA	
	Nitrite - N	NA	
Cations	Total Hardness as $CaCO_3$	1,080	mg/L
	Calcium	243	mg/L
	Magnesium	116	mg/L
	Potassium	7.00	mg/L
	Sodium	100	mg/L
Data Validation			Acceptance Level
	Cation/Anion Difference	0.65	+/- 5 %
	TDS (180):TDS (calculated)	1.1	1.0 - 1.2

Reference U.S.E.P.A. 600/4-79-020, Methods for Chemical Analysis of Water and Wastes, 1983.
Standard Methods For The Examination Of Water And Wastewater, 18th ed., 1992.

Review

ANAITAS ENVIRONMENTAL LABS

General Water Quality

Blagg Engineering, Inc.

Project ID:	GCU 93	Date Reported:	06/24/96
Sample ID:	MW - 2	Date Sampled:	06/11/96
Laboratory ID:	3900	Time Sampled:	13:20
Sample Matrix:	Water	Date Received:	06/11/96

Parameter		Analytical Result	Units
General	Lab pH	7.4	s.u.
	Lab Conductivity @ 25° C	1,010	µmhos/cm
	Total Dissolved Solids @ 180°C	650	mg/L
	Total Dissolved Solids (Calc)	629	mg/L
Anions	Total Alkalinity as $CaCO_3$	310	mg/L
	Bicarbonate Alkalinity as $CaCO_3$	310	mg/L
	Carbonate Alkalinity as $CaCO_3$	NA	mg/L
	Hydroxide Alkalinity as $CaCO_3$	NA	mg/L
	Chloride	15.0	mg/L
	Sulfate	198	mg/L
	Nitrate + Nitrite - N	NA	
	Nitrate - N	NA	
	Nitrite - N	NA	
Cations	Total Hardness as $CaCO_3$	244	mg/L
	Calcium	89.7	mg/L
	Magnesium	4.84	mg/L
	Potassium	6.00	mg/L
	Sodium	130	mg/L

Data Validation			Acceptance Level
	Cation/Anion Difference	0.29	+/- 5 %
	TDS (180):TDS (calculated)	1.0	1.0 - 1.2

Reference U.S.E.P.A. 600/4-79-020, Methods for Chemical Analysis of Water and Wastes, 1983.
Standard Methods For The Examination Of Water And Wastewater, 18th ed., 1992.

Review

ANAITAS ENVIRONMENTAL LABS

General Water Quality
Blagg Engineering, Inc.

Project ID:	GCU 93	Date Reported:	06/24/96
Sample ID:	MW - 3	Date Sampled:	06/11/96
Laboratory ID:	3901	Time Sampled:	14:10
Sample Matrix:	Water	Date Received:	06/11/96

Parameter		Analytical Result	Units
General	Lab pH	7.5	s.u.
	Lab Conductivity @ 25° C	3,680	µmhos/cm
	Total Dissolved Solids @ 180°C	2,490	mg/L
	Total Dissolved Solids (Calc)	2,490	mg/L
Anions	Total Alkalinity as $CaCO_3$	525	mg/L
	Bicarbonate Alkalinity as $CaCO_3$	525	mg/L
	Carbonate Alkalinity as $CaCO_3$	NA	mg/L
	Hydroxide Alkalinity as $CaCO_3$	NA	mg/L
	Chloride	25.0	mg/L
	Sulfate	1,370	mg/L
	Nitrate + Nitrite - N	NA	
	Nitrate - N	NA	
	Nitrite - N	NA	
Cations	Total Hardness as $CaCO_3$	726	mg/L
	Calcium	259	mg/L
	Magnesium	19.3	mg/L
	Potassium	10.0	mg/L
	Sodium	490	mg/L
Data Validation			Acceptance Level
	Cation/Anion Difference	4.77	+/- 5 %
	TDS (180):TDS (calculated)	1.0	1.0 - 1.2

Reference U.S.E.P.A. 600/4-79-020, Methods for Chemical Analysis of Water and Wastes, 1983. Standard Methods For The Examination Of Water And Wastewater, 18th ed., 1992.

Review

ANAITAS ENVIRONMENTAL LABS

June 24, 1996

Bob O'Neill
Blagg Engineering, Inc.
PO Box 87
Bloomfield, NM 87413

Dear Mr. O'Neill:

Enclosed are the results for the analysis of the samples received June 11, 1996. The samples were from the GCU 93 site. Analyses for Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) and general water quality parameters were performed on the samples, as per the accompanying chain of custody form.

Analysis was performed on the samples according to EPA Method 602, using a Hewlett-Packard 5890 gas chromatograph equipped with an OI Analytical purge and trap (model 4560) and a photoionization detector. Detectable levels of btex analytes were found in the samples, as reported.

Water parameters were determined for the samples according to the appropriate methodologies as outlined in Standard Methods for the Examination of Water and Wastewater, 18th edition, 1992.

Quality control reports appear at the end of the analytical package and can be identified by title. Should you have any questions regarding the analysis, feel free to call.

Sincerely,

Denise A. Bohemier
Lab Director

807 SOUTH CARLTON • FARMINGTON, NM 87401• (505) 326-2395 PH • 326-2486 FAX

PURGEABLE AROMATICS

Quality Control Report

Method Blank Analysis

Sample Matrix: Water
Lab ID: MB35236

Report Date: 06/24/96
Date Analyzed: 06/20/96

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	ND	0.50
Toluene	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	1.00
o-Xylene	ND	0.50

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Trifluorotoluene	98	88 - 110%
Bromofluorobenzene	100	86 - 115%

Reference: Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209, Oct. 1984.

Comments:

Analyst

Review

PURGEABLE AROMATICS

Quality Control Report

Method Blank Analysis

Sample Matrix: Water
Lab ID: MB35237

Report Date: 06/24/96
Date Analyzed: 06/21/96

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	ND	0.50
Toluene	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	1.00
o-Xylene	ND	0.50

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Trifluorotoluene	99	88 - 110%
Bromofluorobenzene	99	86 - 115%

Reference: Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209, Oct. 1984.

Comments:

Analyst

Review

Purgeable Aromatics

Duplicate Analysis

Lab ID:	3808Dup	Report Date:	06/24/96
Sample Matrix:	Water	Date Sampled:	06/07/96
Preservative:	Cool, HgCl2	Date Received:	06/07/96
Condition:	Intact	Date Analyzed:	06/20/96

Target Analyte	Original Conc. (ug/L)	Duplicate Conc. (ug/L)	Acceptance Range (ug/L)
Benzene	347	339	280 - 406
Toluene	28.5	26.2	21.5 - 33.2
Ethylbenzene	156	148	99.4 - 205
m,p-Xylenes	1,580	1,550	NE
o-Xylene	ND	ND	NE

ND - Analyte not detected at the stated detection limit.
NA - Not applicable or not calculated.
NE - Duplicate acceptance range not established by the EPA.

	Surrogate	Percent Recovery	Acceptance Limits
Quality Control:	Trifluorotoluene	99	88 - 110%
	Bromofluorobenzene	97	86 - 115%

Reference: Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209, Oct. 1984.

Comments:

Analyst

Review

Purgeable Aromatics

Matrix Spike Analysis

Lab ID:	3807Spk	Report Date:	06/24/96
Sample Matrix:	Water	Date Sampled:	06/07/96
Preservative:	Cool, HgCl2	Date Received:	06/07/96
Condition:	Intact	Date Analyzed:	06/20/96

Target Analyte	Spike Added (ug/L)	Original Conc. (ug/L)	Spiked Sample Conc. (ug/L)	% Recovery	Acceptance Limits (%)
Benzene	10	ND	10.5	101%	39 -150
Toluene	10	1.84	11.5	97%	46 - 148
Ethylbenzene	10	ND	10.5	103%	32 - 160
m,p-Xylenes	20	ND	20.9	102%	NE
o-Xylene	10	ND	10.2	98%	NE

ND - Analyte not detected at the stated detection limit.
NA - Not applicable or not calculated.
NE - Spike acceptance range not established by the EPA.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Trifluorotoluene	103	88 - 110%
Bromofluorobenzene	104	86 - 115%

Reference: Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209, Oct. 1984.

Comments:

Analyst

Review

Purgeable Aromatics

Matrix Spike Analysis

Lab ID:	3883Spk	Report Date:	06/24/96
Sample Matrix:	Water	Date Sampled:	06/10/96
Preservative:	Cool, $HgCl_2$	Date Received:	06/10/96
Condition:	Intact	Date Analyzed:	06/21/96

Target Analyte	Spike Added (ug/L)	Original Conc. (ug/L)	Spiked Sample Conc. (ug/L)	% Recovery	Acceptance Limits (%)
Benzene	10	ND	10.1	101%	39 -150
Toluene	10	0.58	10.4	98%	46 - 148
Ethylbenzene	10	ND	10.7	104%	32 - 160
m,p-Xylenes	20	ND	20.4	100%	NE
o-Xylene	10	ND	10.2	99%	NE

ND - Analyte not detected at the stated detection limit.
NA - Not applicable or not calculated.
NE - Spike acceptance range not established by the EPA.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Trifluorotoluene	96	88 - 110%
Bromofluorobenzene	99	86 - 115%

Reference: Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209, Oct. 1984.

Comments:

Analyst

Review

Purgeable Aromatics

Duplicate Analysis

Lab ID:	3813Dup	Report Date:	06/24/96
Sample Matrix:	Water	Date Sampled:	06/07/96
Preservative:	Cool, $HgCl_2$	Date Received:	06/07/96
Condition:	Intact	Date Analyzed:	06/21/96

Target Analyte	Original Conc. (ug/L)	Duplicate Conc. (ug/L)	Acceptance Range (ug/L)
Benzene	9,940	9,930	8,150 - 11,700
Toluene	24,260	24,350	19,930 - 28,700
Ethylbenzene	962	957	632 - 1,290
m,p-Xylenes	8,070	8,110	NE
o-Xylene	2,180	2,140	NE

ND - Analyte not detected at the stated detection limit.
NA - Not applicable or not calculated.
NE - Duplicate acceptance range not established by the EPA.

	Surrogate	Percent Recovery	Acceptance Limits
Quality Control:	Trifluorotoluene	96	88 - 110%
	Bromofluorobenzene	99	86 - 115%

Reference: Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209, Oct. 1984.

Comments:

Analyst

Review

General Water Quality
Quality Control Report

Blagg Engineering, Inc.

Report Date: 6/24/96

Parameter	Analytical Result	Certified Value	Acceptance Range	Units
Laboratory pH	9.07	9.09	8.89 - 9.29	s.u.
Conductivity	1295	1220	1040 - 1400	µmhos/cm
Total Dissolved Solids	960	913	794 - 1030	mg/L
Total Alkalinity	191	180	160 - 200	mg/L
Chloride	135	138	128 - 148	mg/L
Sulfate	115	124	107 - 141	mg/L
Total Hardness	254	254	218 - 290	mg/L
Calcium	57.8	54.6	47.0 - 62.2	mg/L
Magnesium	NA	NA	NA	mg/L
Potassium	120	123	105 - 141	mg/L
Sodium	170	173	147 - 199	mg/L

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983. Standard Methods For The Examination Of Water And Wastewater, 18th ed., 1992.

Comments:

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CHAIN OF CUSTODY

Page 1 of 1

PROJECT MANAGER:
Anaitas Lab I.D.:

Company: BLAGG
Address:

Phone: 632-1199
Fax:

Bill To: SAME
Company:
Address:

Sample ID	Date	Time	Matrix	Lab ID	Petroleum Hydrocarbons (418.1)	Gasoline / Diesel (mod. 8015)	Gasoline (GRO)	Aromatic HCs (BTEX/MTBE (602 / 8020)	Chlorinated Hydrocarbons (8010)	SDWA Volatiles (502.1 / 503.1)	Chlorinated Pesticides / PCBs (608 / 8080)	Herbicides (615 / 8150)	Volatiles GC/MS (624 / 8240 / 8260)	Base / Neutral / Acid GC/MS (625 / 8270)	Polynuclear Aromatic Hydrocarbons (8100)	TCLP Extraction	Other (specify):	Cation / Anion	Specific Cations (specify):	Specific Anions (specify):	BOD / Fecal / Total Coliform	Solids: TDS / TSS / SS	Nutrients: NH4+ / NO2- / NO3- / TKN	Oil and Grease	Other (specify):	Priority Pollutants	RCRA Metals (Total)	RCRA Metals TCLP (1311)	Other (specify):
MW-1	6-11	1345	WATER					✓										✓											
MW-2	"	1320	"					✓										✓											
MW-3	"	1410	"					✓										✓											

Project Information	Sample Receipt
Proj. #:	No. Containers:
Proj. Name: AMOCO	Custody Seals: Y / N / NA
P. O. No:	Received Intact:
Shipped Via: DEL'D	Received Cold:

Required Turnaround Time (Prior Authorization Required for Rush)

6C4 93

Sampled By:	Relinquished By:	Relinquished By:
Signature / Date: RGO 6-11-96	Signature / Date: RGO 6-11-96	Signature / Date:
Company: BEI / Time: —	Company: BEI / Time: 1430	Company: / Time:
Received By:	**Received By:**	**Received By:**
Signature / Date:	Signature / Date:	Signature / Date: 6/11/96
Company: / Time:	Company: / Time:	Company: Anaitas / Time: 14:30

Please Fill Out Thoroughly.

Shaded areas for lab use only.

White/Yellow: Anaitas
Pink: Client

BLAGG ENGINEERING, INC.

MONITOR WELL SAMPLING DATA

CLIENT : AMOCO PRODUCTION CO.

CHAIN-OF-CUSTODY # : 5116

GCU # 93 - SEPARATOR & BLOW PITS
UNIT E, SEC. 36, T29N, R12W

LABORATORY (S) USED : ENVIROTECH, INC.

Date : June 24, 1997

Filename : 06-24-97.WK4

SAMPLER : N J V

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	102.69	89.30	13.39	18.00	1135	6.7	1,700	1.00	-
2	102.26	-	-	17.00	-	-	-	-	-
3	101.74	86.44	15.30	20.00	1205	7.0	2,700	2.50	-
4	100.46	86.79	13.67	18.00	1240	7.1	2,600	2.25	-
5	101.95	88.12	13.83	18.00	1310	7.2	2,000	2.10	-

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 ".

Well # 1 = 1.25" well point, MW #'s 4 & 5 installed June 6, 1997 . Collected BTEX samples for each MW (except # 2) & anion / cation for MW #'s 4 & 5 . Pulled up casing on MW # 3 1.15 ft. - 5 / 7 / 97 (prev. well elev. = 100.59 ft.) . Used new survey (conducted on 1 / 25 / 99) for all MW's .

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8020
AROMATIC VOLATILE ORGANICS

Client:	Blagg / Amoco	Project #:	04034-10
Sample ID:	MW #1	Date Reported:	06-26-97
Chain of Custody:	5116	Date Sampled:	06-24-97
Laboratory Number:	B497	Date Received:	06-24-97
Sample Matrix:	Water	Date Analyzed:	06-25-97
Preservative:	HgCl2 & Cool	Analysis Requested:	BTEX
Condition:	Cool & Intact		

Parameter	Concentration (ug/L)	Dilution Factor	Det. Limit (ug/L)
Benzene	**587**	**10**	**1.8**
Toluene	**111**	**10**	**1.7**
Ethylbenzene	**389**	**10**	**1.5**
p,m-Xylene	**327**	**10**	**2.2**
o-Xylene	**513**	**10**	**1.0**
Total BTEX	**1,928**		

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	**100 %**
	Bromofluorobenzene	**100 %**

References: 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. 1994.

Comments: **GCU #93.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8020
AROMATIC VOLATILE ORGANICS

Client:	Blagg / Amoco	Project #:	04034-10
Sample ID:	MW #3	Date Reported:	06-26-97
Chain of Custody:	5116	Date Sampled:	06-24-97
Laboratory Number:	B498	Date Received:	06-24-97
Sample Matrix:	Water	Date Analyzed:	06-25-97
Preservative:	HgCl2 & Cool	Analysis Requested:	BTEX
Condition:	Cool & Intact		

Parameter	Concentration (ug/L)	Dilution Factor	Det. Limit (ug/L)
Benzene	**1,207**	**10**	**1.8**
Toluene	**346**	**10**	**1.7**
Ethylbenzene	**446**	**10**	**1.5**
p,m-Xylene	**491**	**10**	**2.2**
o-Xylene	**430**	**10**	**1.0**
Total BTEX	**2,920**		

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	**99 %**
	Bromofluorobenzene	**100 %**

References: 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. 1994.

Comments: **GCU #93.**

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PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8020
AROMATIC VOLATILE ORGANICS

Client:	Blagg / Amoco	Project #:	04034-10
Sample ID:	MW #4	Date Reported:	06-26-97
Chain of Custody:	5116	Date Sampled:	06-24-97
Laboratory Number:	B499	Date Received:	06-24-97
Sample Matrix:	Water	Date Analyzed:	06-25-97
Preservative:	HgCl2 & Cool	Analysis Requested:	BTEX
Condition:	Cool & Intact		

Parameter	Concentration (ug/L)	Dilution Factor	Det. Limit (ug/L)
Benzene	**15,300**	**10**	**1.8**
Toluene	**5,380**	**10**	**1.7**
Ethylbenzene	**809**	**10**	**1.5**
p,m-Xylene	**5,010**	**10**	**2.2**
o-Xylene	**1,580**	**10**	**1.0**
Total BTEX	**28,070**		

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	**99 %**
	Bromofluorobenzene	**100 %**

References: 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. 1994.

Comments: **GCU #93.**

Analyst

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8020
AROMATIC VOLATILE ORGANICS

Client:	Blagg / Amoco	Project #:	04034-10
Sample ID:	MW #5	Date Reported:	06-26-97
Chain of Custody:	5116	Date Sampled:	06-24-97
Laboratory Number:	B500	Date Received:	06-24-97
Sample Matrix:	Water	Date Analyzed:	06-25-97
Preservative:	HgCl2 & Cool	Analysis Requested:	BTEX
Condition:	Cool & Intact		

Parameter	Concentration (ug/L)	Dilution Factor	Det. Limit (ug/L)
Benzene	**6.9**	**1**	**0.2**
Toluene	**2.9**	**1**	**0.2**
Ethylbenzene	**0.8**	**1**	**0.2**
p,m-Xylene	**6.8**	**1**	**0.2**
o-Xylene	**1.4**	**1**	**0.1**
Total BTEX	**18.8**		

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	**97 %**
	Bromofluorobenzene	**99 %**

References: 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. 1994.

Comments: **GCU #93.**

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PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

Client:	Blagg / Amoco	Project #:	04034-10
Sample ID:	MW #4	Date Reported:	06-26-97
Laboratory Number:	B499	Date Sampled:	06-24-97
Sample Matrix:	Water	Date Received:	06-24-97
Preservative:	Cool	Date Analyzed:	06-25-97
Condition:	Cool & Intact	Chain of Custody:	5116

Parameter	Analytical Result	Units		Units
pH	**7.07**	s.u.		
Conductivity @ 25° C	**4,765**	umhos/cm		
Total Dissolved Solids @ 180C	**2,380**	mg/L		
Total Dissolved Solids (Calc)	**2,362**	mg/L		
SAR	**4.0**	ratio		
Total Alkalinity as CaCO3	**548**	mg/L		
Total Hardness as CaCO3	**1,152**	mg/L		
Bicarbonate as HCO3	**548**	mg/L	8.98	meq/L
Carbonate as CO3	**<1**	mg/L	0.00	meq/L
Hydroxide as OH	**<1**	mg/L	0.00	meq/L
Nitrate Nitrogen	**1.0**	mg/L	0.02	meq/L
Nitrite Nitrogen	**<0.001**	mg/L	0.00	meq/L
Chloride	**96.0**	mg/L	2.71	meq/L
Fluoride	**2.20**	mg/L	0.12	meq/L
Phosphate	**1.6**	mg/L	0.05	meq/L
Sulfate	**1,190**	mg/L	24.78	meq/L
Calcium	**368**	mg/L	18.36	meq/L
Magnesium	**56.6**	mg/L	4.66	meq/L
Potassium	**3.6**	mg/L	0.09	meq/L
Sodium	**310**	mg/L	13.49	meq/L
Cations			36.60	meq/L
Anions			36.65	meq/L
Cation/Anion Difference			**0.14%**	

Reference: U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: **GCU #93.**

Analyst

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

Client:	Blagg / Amoco	Project #:	04034-10
Sample ID:	MW #5	Date Reported:	06-26-97
Laboratory Number:	B500	Date Sampled:	06-24-97
Sample Matrix:	Water	Date Received:	06-24-97
Preservative:	Cool	Date Analyzed:	06-25-97
Condition:	Cool & Intact	Chain of Custody:	5116

Parameter	Analytical Result	Units		Units
pH	**7.10**	s.u.		
Conductivity @ 25° C	**3,410**	umhos/cm		
Total Dissolved Solids @ 180C	**1,700**	mg/L		
Total Dissolved Solids (Calc)	**1,697**	mg/L		
SAR	**0.6**	ratio		
Total Alkalinity as CaCO3	**348**	mg/L		
Total Hardness as CaCO3	**1,204**	mg/L		
Bicarbonate as HCO3	**348**	mg/L	5.70	meq/L
Carbonate as CO3	**<1**	mg/L	0.00	meq/L
Hydroxide as OH	**<1**	mg/L	0.00	meq/L
Nitrate Nitrogen	**0.7**	mg/L	0.01	meq/L
Nitrite Nitrogen	**<0.001**	mg/L	0.00	meq/L
Chloride	**42.0**	mg/L	1.18	meq/L
Fluoride	**1.82**	mg/L	0.10	meq/L
Phosphate	**1.3**	mg/L	0.04	meq/L
Sulfate	**930**	mg/L	19.36	meq/L
Calcium	**413**	mg/L	20.61	meq/L
Magnesium	**42.0**	mg/L	3.46	meq/L
Potassium	**5.2**	mg/L	0.13	meq/L
Sodium	**50.2**	mg/L	2.18	meq/L
Cations			26.38	meq/L
Anions			26.40	meq/L
Cation/Anion Difference			**0.06%**	

Reference: U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: **GCU #93.**

Analyst

Review

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CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location
BLAGG / AMOCO	GCU #93

Sampler: (Signature)	Chain of Custody Tape No.
Nelson Velez	04034-10

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	BTEX (8020)	ANION/ CATION					Remarks
												ANION/CATION PRESERV. - COOL
MW #1	6/24/97	1135	B497	WATER	2	✓						BTEX PRESERV. -
MW #3	6/24/97	1205	B498	WATER	2	✓						COOL & $HgCl_2$
MW #4	6/24/97	1240	B499	WATER	3	✓	✓					
MW #5	6/24/97	1310	B500	WATER	3	✓	✓					
				Samples received cool & intact								

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Nelson Velez	6/24/97	1537	Glenn L. Queen	6/24/97	1537
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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BLAGG ENGINEERING, INC.

MONITOR WELL SAMPLING DATA

CLIENT : AMOCO PRODUCTION CO.

CHAIN-OF-CUSTODY # : 5407

GCU # 93 - SEPARATOR & BLOW PITS
UNIT E, SEC. 36, T29N, R12W

LABORATORY (S) USED : ENVIROTECH, INC.

Date : Sept. 17, 1997

Filename : 09-17-97.WK3

SAMPLER : N J V

PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING	pH TIME	CONDUCT (umhos)	VOLUME PURGED (gal.)	FREE PRODUCT (ft)
1	102.69	89.49	13.20	18.00	1315	6.7	1,700	1.00	-
2	102.26	-	-	17.00	-	-	-	-	-
3	101.74	86.42	15.32	20.00	-	-	-	-	-
4	100.46	-	-	18.00	-	-	-	-	-
5	101.95	88.08	13.87	18.00	1255	6.9	1,700	2.00	-

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 ".

Well # 1 = 1.25" well point . Collected BTEX samples for # 1 & # 5 .

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8020
AROMATIC VOLATILE ORGANICS

Client:	Blagg / AMOCO	Project #:	04034-10
Sample ID:	MW # 1	Date Reported:	09-18-97
Chain of Custody:	5407	Date Sampled:	09-17-97
Laboratory Number:	C057	Date Received:	09-17-97
Sample Matrix:	Water	Date Analyzed:	09-17-97
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	**164**	**1**	**0.2**
Ethylbenzene	**20.6**	**1**	**0.2**
p,m-Xylene	**306**	**1**	**0.2**
o-Xylene	**74.9**	**1**	**0.1**
Total BTEX	**565**		

ND - Parameter not detected at the stated detection limit.

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

References: 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. 1994.

Comments: **GCU #93.**

Analyst

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8020
AROMATIC VOLATILE ORGANICS

Client:	Blagg / AMOCO	Project #:	04034-10
Sample ID:	MW # 5	Date Reported:	09-18-97
Chain of Custody:	5407	Date Sampled:	09-17-97
Laboratory Number:	C056	Date Received:	09-17-97
Sample Matrix:	Water	Date Analyzed:	09-17-97
Preservative:	HgCl2 & Cool	Analysis Requested:	BTEX
Condition:	Cool & Intact		

Parameter	Concentration (ug/L)	Dilution Factor	Det. Limit (ug/L)
Benzene	**0.3**	**1**	**0.2**
Toluene	**ND**	**1**	**0.2**
Ethylbenzene	**0.2**	**1**	**0.2**
p,m-Xylene	**0.6**	**1**	**0.2**
o-Xylene	**0.2**	**1**	**0.1**
Total BTEX	**1.3**		

ND - Parameter not detected at the stated detection limit.

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

References: 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. 1994.

Comments: **GCU #93.**

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CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location	ANALYSIS/PARAMETERS
BLAGG/AMOCO	GCU #93	

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
												BOTH SAMPLES PRESERV. - COOL & HgCl2
MW #5	9/17/97	1255	C056	WATER	2	✓						
MW #9S1	9/17/97	1315	C057	WATER	2	✓						
				Samples received cool & intact								

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Nelson Velez	9/17/97	1437	Karen L. Ogden	9-17-97	1437
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

Ref COC 5404, 5407, 5408

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

QUALITY ASSURANCE / QUALITY CONTROL

DOCUMENTATION

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8020
AROMATIC VOLATILE ORGANICS
QUALITY ASSURANCE REPORT

Client:	QA/QC	Project #:	N/A
Sample ID:	Laboratory Blank	Date Reported:	06-26-97
Laboratory Number:	06-25-BTEX.BLANK	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	06-25-97
Condition:	N/A	Analysis Requested:	BTEX

Parameter	Concentration (ug/L)	Det. Limit (ug/L)
Benzene	**ND**	**0.2**
Toluene	**ND**	**0.2**
Ethylbenzene	**ND**	**0.2**
p,m-Xylene	**ND**	**0.2**
o-Xylene	**ND**	**0.1**

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	**97 %**
	Bromofluorobenzene	**99 %**

References: 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. 1994.

Comments: **QA/QC for samples B494 - B503.**

Analyst

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8020
AROMATIC VOLATILE ORGANICS
QUALITY ASSURANCE REPORT

Client:	QA/QC	Project #:	N/A
Sample ID:	Matrix Duplicate	Date Reported:	06-26-97
Laboratory Number:	B494	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	HgCl and Cool	Date Analyzed:	06-25-97
Condition:	Cool and Intact	Analysis Requested:	BTEX-8020

Parameter	Sample Result (ug/L)	Duplicate Result (ug/L)	Percent Diff.	Det. Limit (ug/L)	Dilution Factor
Benzene	**44.7**	**43.9**	**1.8%**	**0.2**	**1**
Toluene	**0.5**	**0.5**	**0.0%**	**0.2**	**1**
Ethylbenzene	**0.4**	**0.4**	**0.0%**	**0.2**	**1**
p,m-Xylene	**0.8**	**0.8**	**0.0%**	**0.2**	**1**
o-Xylene	**2.2**	**2.2**	**0.0%**	**0.1**	**1**

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria:	Parameter	Maximum Difference
	8020 Compounds	**30 %**

References: 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. 1994.

Comments: **QA/QC for samples B494 - B503.**

Analyst

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8020
AROMATIC VOLATILE ORGANICS
QUALITY ASSURANCE REPORT

Client:	QA/QC	Project #:	N/A
Sample ID:	Matrix Spike	Date Reported:	06-26-97
Laboratory Number:	B494	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	Cool	Date Analyzed:	06-25-97
Condition:	Cool and Intact		

Parameter	Sample Result (ug/L)	Spike Added (ug/L)	Spiked Sample Result (ug/L)	Det. Limit (ug/L)	Percent Recovery	SW-846 % Rec. Accept. Range
Benzene	**44.7**	**50.0**	**94.4**	**0.2**	**100%**	**39-150**
Toluene	**0.5**	**50.0**	**50.4**	**0.2**	**100%**	**46-148**
Ethylbenzene	**0.4**	**50.0**	**50.3**	**0.2**	**100%**	**32-160**
p,m-Xylene	**0.8**	**100**	**100**	**0.2**	**100%**	**46-148**
o-Xylene	**2.2**	**50.0**	**52.6**	**0.1**	**101%**	**46-148**

ND - Parameter not detected at the stated detection limit.

References: 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. 1994.

Comments: **QA/QC for samples B494 - B503.**

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8020
AROMATIC VOLATILE ORGANICS
QUALITY ASSURANCE REPORT

Client:	N/A	Project #:	N/A
Sample ID:	Laboratory Blank	Date Reported:	09-18-97
Laboratory Number:	09-17-PM-BTEX.BLANK	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	09-17-97
Condition:	N/A	Analysis Requested:	BTEX

Parameter	Concentration (ug/L)	Det. Limit (ug/L)
Benzene	**ND**	**0.2**
Toluene	**ND**	**0.2**
Ethylbenzene	**ND**	**0.2**
p,m-Xylene	**ND**	**0.2**
o-Xylene	**ND**	**0.1**

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	**98 %**
	Bromofluorobenzene	**99 %**

References: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.
USEPA, Sept. 1994.

Comments: **QA/QC for samples C055 - C059.**

Analyst

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8020
AROMATIC VOLATILE ORGANICS
QUALITY ASSURANCE REPORT

Client:	QA/QC	Project #:	N/A
Sample ID:	Matrix Duplicate	Date Reported:	09-18-97
Laboratory Number:	C055	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	HgCl and Cool	Date Analyzed:	09-17-97
Condition:	Cool and Intact	Analysis Requested:	BTEX

Parameter	Sample Result (ug/L)	Duplicate Result (ug/L)	Percent Diff.	Det. Limit (ug/L)	Dilution Factor
Benzene	**ND**	**ND**	**0.0%**	**0.2**	**1**
Toluene	**ND**	**ND**	**0.0%**	**0.2**	**1**
Ethylbenzene	**52.0**	**51.5**	**1.0%**	**0.2**	**1**
p,m-Xylene	**256**	**253**	**1.4%**	**0.2**	**1**
o-Xylene	**49.6**	**49.1**	**1.0%**	**0.1**	**1**

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria:	Parameter	Maximum Difference
	8020 Compounds	**30 %**

References: 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. 1994.

Comments: **QA/QC for samples C055 - C059.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8020
AROMATIC VOLATILE ORGANICS
QUALITY ASSURANCE REPORT

Client:	QA/QC	Project #:	N/A
Sample ID:	Matrix Spike	Date Reported:	09-18-97
Laboratory Number:	C055	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	Cool	Date Analyzed:	09-17-97
Condition:	Cool and Intact		

Parameter	Sample Result (ug/L)	Spike Added (ug/L)	Spiked Sample Result (ug/L)	Det. Limit (ug/L)	Percent Recovery	SW-846 % Rec. Accept. Range
Benzene	**ND**	**50.0**	**48.0**	**0.2**	**96%**	**39-150**
Toluene	**ND**	**50.0**	**48.4**	**0.2**	**97%**	**46-148**
Ethylbenzene	**52.0**	**50.0**	**101**	**0.2**	**99%**	**32-160**
p,m-Xylene	**256**	**100**	**352**	**0.2**	**99%**	**46-148**
o-Xylene	**49.6**	**50.0**	**97.5**	**0.1**	**98%**	**46-148**

ND - Parameter not detected at the stated detection limit.

References: 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. 1994.

Comments: **QA/QC for samples C055 - C059.**

Analyst

Review

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BLAGG ENGINEERING, INC.

MONITOR WELL SAMPLING DATA

CLIENT : AMOCO PRODUCTION CO.

CHAIN-OF-CUSTODY # : 5663

GCU # 93 - SEPARATOR & BLOW PITS
UNIT E, SEC. 36, T29N, R12W

LABORATORY (S) USED : ENVIROTECH, INC.

Date : *Dec. 19, 1997*

SAMPLER : N J V

Filename : *12-19-97.WK3*

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	102.69	88.66	14.03	18.00	0930	7.2	1,600	0.75	-
2	102.26	-	-	17.00	-	-	-	-	-
3	101.74	86.11	15.63	20.00	-	-	-	-	-
4	100.46	-	-	18.00	-	-	-	-	-
5	101.95	87.49	14.46	18.00	0950	7.3	1,900	1.75	-

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 ".

Well # 1 = 1.25" well point . Collected BTEX samples for # 1 & # 5 .

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Blagg / AMOCO	Project #:	04034-10
Sample ID:	MW # 1	Date Reported:	12-23-97
Chain of Custody:	5663	Date Sampled:	12-19-97
Laboratory Number:	C719	Date Received:	12-19-97
Sample Matrix:	Water	Date Analyzed:	12-22-97
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	**0.4**	**1**	**0.2**
Ethylbenzene	**3.8**	**1**	**0.2**
p,m-Xylene	**46.8**	**1**	**0.2**
o-Xylene	**8.3**	**1**	**0.1**
Total BTEX	**59.3**		

ND - Parameter not detected at the stated detection limit.

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

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

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

Comments: **GCU # 93.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Blagg / AMOCO	Project #:	04034-10
Sample ID:	MW # 5	Date Reported:	12-23-97
Chain of Custody:	5663	Date Sampled:	12-19-97
Laboratory Number:	C720	Date Received:	12-19-97
Sample Matrix:	Water	Date Analyzed:	12-22-97
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	**0.3**	**1**	**0.2**
p,m-Xylene	**0.4**	**1**	**0.2**
o-Xylene	**ND**	**1**	**0.1**
Total BTEX	**0.7**		

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: **GCU # 93.**

Analyst

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

QUALITY ASSURANCE / QUALITY CONTROL

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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:	Laboratory Blank	Date Reported:	12-23-97
Laboratory Number:	12-22-BTEX.BLANK	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	12-22-97
Condition:	N/A	Analysis Requested:	BTEX

Parameter	Concentration (ug/L)	Det. Limit (ug/L)
Benzene	**ND**	**0.2**
Toluene	**ND**	**0.2**
Ethylbenzene	**ND**	**0.2**
p,m-Xylene	**ND**	**0.2**
o-Xylene	**ND**	**0.1**

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	**101 %**
	Bromofluorobenzene	**102 %**

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 C717- C725.**

Analyst

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS
QUALITY ASSURANCE REPORT

Client:	QA/QC	Project #:	N/A
Sample ID:	Matrix Duplicate	Date Reported:	12-23-97
Laboratory Number:	C717	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	HgCl and Cool	Date Analyzed:	12-22-97
Condition:	Cool and Intact	Analysis Requested:	BTEX

Parameter	Sample Result (ug/L)	Duplicate Result (ug/L)	Percent Diff.	Det. Limit (ug/L)	Dilution Factor
Benzene	**1.5**	**1.5**	**0.0%**	**0.2**	**1**
Toluene	**1.4**	**1.4**	**0.0%**	**0.2**	**1**
Ethylbenzene	**3.9**	**3.9**	**0.0%**	**0.2**	**1**
p,m-Xylene	**20.2**	**19.9**	**1.4%**	**0.2**	**1**
o-Xylene	**2.1**	**2.1**	**0.0%**	**0.1**	**1**

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria:	Parameter	Maximum Difference
	8020 Compounds	**30 %**

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 C717- C725.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS
QUALITY ASSURANCE REPORT

Client:	QA/QC	Project #:	N/A
Sample ID:	Matrix Spike	Date Reported:	12-23-97
Laboratory Number:	C717	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	Cool	Date Analyzed:	12-22-97
Condition:	Cool and Intact		

Parameter	Sample Result (ug/L)	Spike Added (ug/L)	Spiked Sample Result (ug/L)	Det. Limit (ug/L)	Percent Recovery	SW-846 % Rec. Accept. Range
Benzene	**1.5**	**50.0**	**51.7**	**0.2**	**100%**	**39-150**
Toluene	**1.4**	**50.0**	**51.9**	**0.2**	**101%**	**46-148**
Ethylbenzene	**3.9**	**50.0**	**54.9**	**0.2**	**102%**	**32-160**
p,m-Xylene	**20.2**	**100**	**121**	**0.2**	**100%**	**46-148**
o-Xylene	**2.1**	**50.0**	**52.2**	**0.1**	**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 C717- C725.**

Analyst

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CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location
BLAGG / AMOCO	GCU #93

Sampler: (Signature)	Chain of Custody Tape No.
Nelson Velez	04034-10

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	BTEX (8020)						Remarks
MW #1	12/19/97	0930	C719	WATER	2	✓						PRESERV. - $HgCl_2$ & COOL
MW #5	12/19/97	0950	C720	WATER	2	✓						PRESERV. - $HgCl_2$ & COOL
				SAMPLES RECEIVED COOL & INTACT DLM								

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Nelson Velez	12/19/97	1253	Debra L. Queen	12-19-97	1253
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

Ref COC's 5662 - 5664

ENVIROTECH INC.
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Farmington, New Mexico 87401
(505) 632-0615

BLAGG ENGINEERING, INC.

MONITOR WELL SAMPLING DATA

CLIENT : AMOCO PRODUCTION CO.

CHAIN-OF-CUSTODY # : 5728

GCU # 93 - SEPARATOR & BLOW PITS
UNIT E, SEC. 36, T29N, R12W

LABORATORY (S) USED : ENVIROTECH, INC.

Date : February 24, 1998

Filename : 02-24-98.WK3

SAMPLER : N J V

PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING	pH TIME	CONDUCT (umhos)	VOLUME PURGED (gal.)	FREE PRODUCT (ft)
1	102.69	88.11	14.58	18.00	1145	7.1	1,500	0.75	-
2		-	-	17.00	-	-	-	-	-
3	101.74	86.10	15.64	20.00	-	-	-	-	-
4		-	-	18.00	-	-	-	-	-
5	101.95	87.39	14.56	18.00	1120	7.2	1,700	1.75	-

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 ".

Well # 1 = 1.25" well point . Collected BTEX samples for # 1 & # 5 .

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Blagg / AMOCO	Project #:	04034-10
Sample ID:	MW # 1	Date Reported:	02-26-98
Chain of Custody:	5728	Date Sampled:	02-24-98
Laboratory Number:	C935	Date Received:	02-24-98
Sample Matrix:	Water	Date Analyzed:	02-25-98
Preservative:	HgCl2 & Cool	Analysis Requested:	BTEX
Condition:	Cool & Intact		

Parameter	Concentration (ug/L)	Dilution Factor	Det. Limit (ug/L)
Benzene	**6.5**	**1**	**0.2**
Toluene	**ND**	**1**	**0.2**
Ethylbenzene	**147**	**1**	**0.2**
p,m-Xylene	**ND**	**1**	**0.2**
o-Xylene	**20.4**	**1**	**0.1**
Total BTEX	**174**		

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: **GCU # 93.**

Analyst

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Blagg / AMOCO	Project #:	04034-10
Sample ID:	MW # 5	Date Reported:	02-26-98
Chain of Custody:	5728	Date Sampled:	02-24-98
Laboratory Number:	C936	Date Received:	02-24-98
Sample Matrix:	Water	Date Analyzed:	02-25-98
Preservative:	HgCl2 & Cool	Analysis Requested:	BTEX
Condition:	Cool & Intact		

Parameter	Concentration (ug/L)	Dilution Factor	Det. Limit (ug/L)
Benzene	**10.5**	**1**	**0.2**
Toluene	**4.0**	**1**	**0.2**
Ethylbenzene	**ND**	**1**	**0.2**
p,m-Xylene	**5.3**	**1**	**0.2**
o-Xylene	**1.0**	**1**	**0.1**
Total BTEX	**20.8**		

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: **GCU # 93.**

Analyst

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CHAIN OF CUSTODY RECORD

Client/Project Name: BLAGG / AMOCO

Project Location: ECU #93

Sampler: (Signature) Nelson Velez

Chain of Custody Tape No.:

ANALYSIS/PARAMETERS

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	BTEX (8021)						Remarks
												BOTH SAMPLES PRESERV. - HgCl2 & COOL
MW #1	2/24/98	1145	C935	WATER	2	✓						
MW #5	2/24/98	1120	C936	WATER	2	✓						

SAMPLES RECEIVED COOL & INTACT Dith

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Nelson Velez	2/24/98	1241	Denise R. Aguero	2-24-98	1241
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

Ref COC 5727-5728

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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:	02-25-BTEX QA/QC	Date Reported:	02-26-98
Laboratory Number:	C931	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	02-25-98
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	6.8842E-05	7.1785E-05	4.28%	ND	0.2
Toluene	7.5643E-05	7.8386E-05	3.63%	ND	0.2
Ethylbenzene	8.8155E-05	9.1637E-05	3.95%	ND	0.2
p,m-Xylene	6.5684E-05	6.7715E-05	3.09%	ND	0.2
o-Xylene	8.7047E-05	9.0580E-05	4.06%	ND	0.1

Duplicate Conc. (ug/L)	Sample	Duplicate	%Diff.	Accept Limit
Benzene	0.4	0.3	3.4%	0 - 30%
Toluene	0.9	0.8	3.4%	0 - 30%
Ethylbenzene	5.6	5.4	3.4%	0 - 30%
p,m-Xylene	4.0	3.9	3.4%	0 - 30%
o-Xylene	3.6	3.5	3.4%	0 - 30%

Spike Conc. (ug/L)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Limits
Benzene	0.4	50.0	50.3	100.0%	39 - 150
Toluene	0.9	50.0	50.8	99.9%	46 - 148
Ethylbenzene	5.6	50.0	55.3	99.4%	32 - 160
p,m-Xylene	4.0	100.0	103.8	99.8%	46 - 148
o-Xylene	3.6	50.0	53.4	99.6%	46 - 148

ND - Parameter not detected at the stated detection limit.

* - Administrative Recovery Acceptance Range = 80% - 115%.

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 C931 - C939.**

Analyst

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BLAGG ENGINEERING, INC.

MONITOR WELL SAMPLING DATA

CLIENT : AMOCO PRODUCTION CO.

CHAIN-OF-CUSTODY # : 6016

GCU # 93 - SEPARATOR & BLOW PITS
UNIT E, SEC. 36, T29N, R12W

LABORATORY (S) USED : ENVIROTECH, INC.

Date : June 8, 1998

Filename : 06-08-98.WK3

SAMPLER : N J V

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	102.69	88.86	13.83	18.00	-	-	-	-	-
2		-	-	17.00	-	-	-	-	-
3	101.74	86.43	15.31	20.00	1255	7.0	2,100	2.30	-
4	100.46	86.57	13.89	18.00	1320	7.0	2,800	2.00	-
5	101.95	88.05	13.90	18.00	1225	7.0	1,700	2.00	-

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 ".

Collected BTEX samples for MW # 3, # 4, # 5 .

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Blagg / AMOCO	Project #:	04034-10
Sample ID:	MW #3	Date Reported:	06-09-98
Chain of Custody:	6016	Date Sampled:	06-08-98
Laboratory Number:	D363	Date Received:	06-08-98
Sample Matrix:	Water	Date Analyzed:	06-09-98
Preservative:	HgCl2 & Cool	Analysis Requested:	BTEX
Condition:	Cool & Intact		

Parameter	Concentration (ug/L)	Dilution Factor	Det. Limit (ug/L)
Benzene	**415**	**1**	**0.2**
Toluene	**232**	**1**	**0.2**
Ethylbenzene	**35.7**	**1**	**0.2**
p,m-Xylene	**86.6**	**1**	**0.2**
o-Xylene	**47.3**	**1**	**0.1**
Total BTEX	**816**		

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: **GCU #93.**

Analyst

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Blagg / AMOCO	Project #:	04034-10
Sample ID:	MW #4	Date Reported:	06-09-98
Chain of Custody:	6016	Date Sampled:	06-08-98
Laboratory Number:	D364	Date Received:	06-08-98
Sample Matrix:	Water	Date Analyzed:	06-09-98
Preservative:	HgCl2 & Cool	Analysis Requested:	BTEX
Condition:	Cool & Intact		

Parameter	Concentration (ug/L)	Dilution Factor	Det. Limit (ug/L)
Benzene	**201**	**1**	**0.2**
Toluene	**37.3**	**1**	**0.2**
Ethylbenzene	**91.4**	**1**	**0.2**
p,m-Xylene	**326**	**1**	**0.2**
o-Xylene	**41.8**	**1**	**0.1**
Total BTEX	**697**		

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: **GCU #93.**

Analyst

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Blagg / AMOCO	Project #:	04034-10
Sample ID:	MW #5	Date Reported:	06-09-98
Chain of Custody:	6016	Date Sampled:	06-08-98
Laboratory Number:	D365	Date Received:	06-08-98
Sample Matrix:	Water	Date Analyzed:	06-09-98
Preservative:	HgCl2 & Cool	Analysis Requested:	BTEX
Condition:	Cool & Intact		

Parameter	Concentration (ug/L)	Dilution Factor	Det. Limit (ug/L)
Benzene	**2.4**	**1**	**0.2**
Toluene	**0.5**	**1**	**0.2**
Ethylbenzene	**0.8**	**1**	**0.2**
p,m-Xylene	**3.9**	**1**	**0.2**
o-Xylene	**0.7**	**1**	**0.1**
Total BTEX	**8.3**		

ND - Parameter not detected at the stated detection limit.

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

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

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

Comments: **GCU #93.**

Analyst

Review

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CHAIN OF CUSTODY RECORD

6016

Client / Project Name	Project Location	ANALYSIS / PARAMETERS
BLAGG/AMOCO	GCU #93	
Sampler: NJV	Client No. 04034-10	

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	BTEX (8021)	Remarks
MW #3	6/8/98	1255	D363	WATER	2	✓	ALL SAMPLES
MW #4	6/8/98	1320	D364	WATER	2	✓	PRESERV. - $HgCl_2$
MW #5	6/8/98	1225	D365	WATER	2	✓	& COOL

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Nelson Velez	6/8/98	1416	Glenn L. Glenn	6.8.98	1414
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

Rel CoC's 6015 - 6016 · 6017

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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:	06-09-BTEX QA/QC	Date Reported:	06-09-98
Laboratory Number:	D362	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	06-09-98
Condition:	N/A	Analysis:	BTEX

Calibration and Detection Limits (ug/L)	I-Cal RF:	C-Cal RF:	%Diff. Accept. Range 0 - 15%	Blank Conc	Detect. Limit
Benzene	1.4863E-02	1.4878E-02	**0.10%**	**ND**	**0.2**
Toluene	2.2878E-02	2.2947E-02	**0.30%**	**ND**	**0.2**
Ethylbenzene	1.0578E-02	1.0663E-02	**0.81%**	**ND**	**0.2**
p,m-Xylene	8.4559E-03	8.5155E-03	**0.70%**	**ND**	**0.2**
o-Xylene	8.7385E-03	8.7912E-03	**0.60%**	**ND**	**0.1**

Duplicate Conc. (ug/L)	Sample	Duplicate	%Diff.	Accept Limit
Benzene	**236**	**237**	**0.2%**	**0 - 30%**
Toluene	**7.6**	**7.6**	**0.0%**	**0 - 30%**
Ethylbenzene	**17.4**	**17.5**	**0.6%**	**0 - 30%**
p,m-Xylene	**43.7**	**43.9**	**0.5%**	**0 - 30%**
o-Xylene	**24.2**	**24.4**	**0.8%**	**0 - 30%**

Spike Conc. (ug/L)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Limits
Benzene	**236**	**50.0**	**275**	**96%**	**39 - 150**
Toluene	**7.6**	**50.0**	**57.2**	**99%**	**46 - 148**
Ethylbenzene	**17.4**	**50.0**	**66.4**	**99%**	**32 - 160**
p,m-Xylene	**43.7**	**100.0**	**141**	**98%**	**46 - 148**
o-Xylene	**24.2**	**50.0**	**73.1**	**99%**	**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 D362- D366.**

Analyst

Review

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BLAGG ENGINEERING, INC.

MONITOR WELL SAMPLING DATA

CLIENT : AMOCO PRODUCTION CO.

CHAIN-OF-CUSTODY # : 6299

GCU # 93 - SEPARATOR & BLOW PITS
UNIT E, SEC. 36, T29N, R12W

LABORATORY (S) USED : ENVIROTECH, INC.

Date : September 28, 1998

Filename : 09-28-98.WK3

SAMPLER : N J V

PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING	pH TIME	CONDUCT (umhos)	VOLUME PURGED (gal.)	FREE PRODUCT (ft)
1	102.69	89.30	13.39	18.00	-	-	-	-	-
2		-	-	17.00	-	-	-	-	-
3	101.74	86.36	15.38	20.00	-	-	-	-	-
4		-	-	18.00	-	-	-	-	-
5	101.95	88.34	13.61	18.00	1545	7.3	2,000	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 ".

Well # 1 = 1.25" well point . Collected BTEX samples for # 5 only .

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Blagg / AMOCO	Project #:	04034-10
Sample ID:	MW #5	Date Reported:	09-29-98
Chain of Custody:	6299	Date Sampled:	09-28-98
Laboratory Number:	D992	Date Received:	09-28-98
Sample Matrix:	Water	Date Analyzed:	09-29-98
Preservative:	HgCl2 & Cool	Analysis Requested:	BTEX
Condition:	Cool & Intact		

Parameter	Concentration (ug/L)	Dilution Factor	Det. Limit (ug/L)
Benzene	**0.2**	**1**	**0.2**
Toluene	**ND**	**1**	**0.2**
Ethylbenzene	**ND**	**1**	**0.2**
p,m-Xylene	**0.3**	**1**	**0.2**
o-Xylene	**0.1**	**1**	**0.1**
Total BTEX	**0.6**		

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: **GCU #93.**

Analyst

Review

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CHAIN OF CUSTODY RECORD

6299

Client / Project Name	Project Location	ANALYSIS / PARAMETERS
BLAGG / AMOCO	GCU #93	
Sampler: NJV	Client No. 04034-10	

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	BTEX (8021)						Remarks
MW #5	9/26/98	1545	D992	WATER	2	✓						PRESERV. - COOL

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Nelson Velez	9/28/98	1605	Heather M Brown	9/28/98	16:05
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

Ref COC's 6298 - 6299

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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:	09-29-BTEX QA/QC	Date Reported:	09-29-98
Laboratory Number:	D992	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	09-29-98
Condition:	N/A	Analysis:	BTEX

Calibration and Detection Limits (ug/L)	I-Cal RF:	C-Cal RF:	%Diff. Accept. Range 0 - 15%	Blank Conc	Detect. Limit
Benzene	2.4349E-002	2.4428E-002	0.32%	ND	0.2
Toluene	1.1333E-002	1.1356E-002	0.20%	ND	0.2
Ethylbenzene	1.4295E-002	1.4355E-002	0.42%	ND	0.2
p,m-Xylene	1.1212E-002	1.1214E-002	0.02%	ND	0.2
o-Xylene	1.1772E-002	1.1807E-002	0.30%	ND	0.1

Duplicate Conc. (ug/L)	Sample	Duplicate	%Diff.	Accept Limit
Benzene	0.2	0.2	0.0%	0 - 30%
Toluene	ND	ND	0.0%	0 - 30%
Ethylbenzene	ND	ND	0.0%	0 - 30%
p,m-Xylene	0.3	0.3	0.0%	0 - 30%
o-Xylene	0.1	0.1	0.0%	0 - 30%

Spike Conc. (ug/L)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Limits
Benzene	0.2	50.0	50.2	100%	39 - 150
Toluene	ND	50.0	50.0	100%	46 - 148
Ethylbenzene	ND	50.0	50.1	100%	32 - 160
p,m-Xylene	0.3	100	100	100%	46 - 148
o-Xylene	0.1	50.0	50.1	100%	46 - 148

ND - Parameter not detected at the stated detection limit.

* - Administrative Limits 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 D988 - D992.**

Analyst

Review

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BLAGG ENGINEERING, INC.

MONITOR WELL SAMPLING DATA

CLIENT : AMOCO PRODUCTION CO.

CHAIN-OF-CUSTODY # : 6428

GCU # 93 - SEPARATOR & BLOW PITS
UNIT E, SEC. 36, T29N, R12W

LABORATORY (S) USED : ENVIROTECH, INC.

Date : December 17, 1998

Filename : 12-17-98.WK3

SAMPLER : N J V

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	102.69	88.59	14.10	18.00	-	-	-	-	-
2		-	-	17.00	-	-	-	-	-
3	101.74	86.35	15.39	20.00	-	-	-	-	-
4		-	-	18.00	-	-	-	-	-
5	101.95	88.02	13.93	18.00	1245	7.1	1,600	2.00	-

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".

Well # 1 = 1.25" well point. Collected BTEX samples for # 5 only.

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Blagg / AMOCO	Project #:	04034-10
Sample ID:	MW # 5	Date Reported:	12-18-98
Chain of Custody:	6428	Date Sampled:	12-17-98
Laboratory Number:	E377	Date Received:	12-17-98
Sample Matrix:	Water	Date Analyzed:	12-18-98
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	**0.4**	**1**	**0.2**
Ethylbenzene	**0.3**	**1**	**0.2**
p,m-Xylene	**2.6**	**1**	**0.2**
o-Xylene	**0.9**	**1**	**0.1**
Total BTEX	**4.2**		

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: **GCU # 93.**

Analyst

Review

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CHAIN OF CUSTODY RECORD

6428

Client / Project Name	Project Location	ANALYSIS / PARAMETERS
BLAGG / AMOCO	GCU #93	
Sampler: NJV	Client No. 04034-10	

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	BTEX (8021)					Remarks
MW #5	12/17/98	1245	6377	WATER	2	✓					PRESERV. - $HgCl_2$ & COOL

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	12/17/98	14:10	[signature]	12.17.98	14:10
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

Ref COC 6427-6429

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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:	12-18-BTEX QA/QC	Date Reported:	12-18-98
Laboratory Number:	E373	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	12-18-98
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	3.3006E-002	3.3112E-002	**0.32%**	**ND**	**0.2**
Toluene	1.3687E-002	1.3715E-002	**0.20%**	**ND**	**0.2**
Ethylbenzene	1.7638E-002	1.7712E-002	**0.42%**	**ND**	**0.2**
p,m-Xylene	1.5312E-002	1.5315E-002	**0.02%**	**ND**	**0.2**
o-Xylene	1.5548E-002	1.5595E-002	**0.30%**	**ND**	**0.1**

Duplicate Conc. (ug/L)	Sample	Duplicate	%Diff.	Accept Limit
Benzene	**13.2**	**13.2**	**0.0%**	**0 - 30%**
Toluene	**3.2**	**3.3**	**3.0%**	**0 - 30%**
Ethylbenzene	**2.4**	**2.4**	**0.0%**	**0 - 30%**
p,m-Xylene	**4.8**	**5.0**	**4.0%**	**0 - 30%**
o-Xylene	**5.2**	**5.2**	**0.0%**	**0 - 30%**

Spike Conc. (ug/L)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Limits
Benzene	**13.2**	**50.0**	**62.8**	**99%**	**39 - 150**
Toluene	**3.2**	**50.0**	**53.1**	**100%**	**46 - 148**
Ethylbenzene	**2.4**	**50.0**	**52.3**	**100%**	**32 - 160**
p,m-Xylene	**4.8**	**100.0**	**104.6**	**100%**	**46 - 148**
o-Xylene	**5.2**	**50.0**	**55.0**	**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 E373 - E379.**

Analyst

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BLAGG ENGINEERING, INC.

MONITOR WELL SAMPLING DATA

CLIENT : AMOCO PRODUCTION CO.

CHAIN-OF-CUSTODY # : 6613

GCU # 93 - SEPARATOR & BLOW PITS
UNIT E, SEC. 36, T29N, R12W

LABORATORY (S) USED : ENVIROTECH, INC.

Date : February 18, 1999

SAMPLER : N J V

Filename : 02-18-99.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	102.69	86.54	16.15	18.00	1405	6.5	2,100	0.40	-
2		-	-	17.00	-	-	-	-	-
3	101.74	86.20	15.54	20.00	-	-	-	-	-
4		-	-	18.00	-	-	-	-	-
5	101.95	87.57	14.38	18.00	1340	7.3	1,700	1.75	-

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 ".

Well # 1 = 1.25" well point . Collected BTEX samples for # 1 & # 5 .

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Blagg / AMOCO	Project #:	403410
Sample ID:	WP - 1	Date Reported:	02-19-99
Chain of Custody:	6613	Date Sampled:	02-18-99
Laboratory Number:	E674	Date Received:	02-18-99
Sample Matrix:	Water	Date Analyzed:	02-19-99
Preservative:	HgCl2 & Cool	Analysis Requested:	BTEX
Condition:	Cool & Intact		

Parameter	Concentration (ug/L)	Dilution Factor	Det. Limit (ug/L)
Benzene	**1.5**	**1**	**0.2**
Toluene	**1.5**	**1**	**0.2**
Ethylbenzene	**5.5**	**1**	**0.2**
p,m-Xylene	**45.7**	**1**	**0.2**
o-Xylene	**9.5**	**1**	**0.1**
Total BTEX	**63.7**		

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: **GCU # 93.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Blagg / AMOCO	Project #:	403410
Sample ID:	MW # 5	Date Reported:	02-19-99
Chain of Custody:	6613	Date Sampled:	02-18-99
Laboratory Number:	E675	Date Received:	02-18-99
Sample Matrix:	Water	Date Analyzed:	02-19-99
Preservative:	HgCl2 & Cool	Analysis Requested:	BTEX
Condition:	Cool & Intact		

Parameter	Concentration (ug/L)	Dilution Factor	Det. Limit (ug/L)
Benzene	**5.6**	**1**	**0.2**
Toluene	**6.5**	**1**	**0.2**
Ethylbenzene	**3.8**	**1**	**0.2**
p,m-Xylene	**8.0**	**1**	**0.2**
o-Xylene	**3.3**	**1**	**0.1**
Total BTEX	**27.2**		

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: **GCU # 93.**

Analyst

Review

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CHAIN OF CUSTODY RECORD

6613

Client / Project Name	Project Location	ANALYSIS / PARAMETERS
BLAGG / Amoco	GCU #93	
Sampler: NJV	Client No. 04034-10	

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	BTEX (8021)						Remarks
WP-1	2/18/99	1405	E674	WATER	2	✓						BOTH SAMPLES - PRESERV. - $HgCl_2$ & COOL
MW #5	2/18/99	1340	E675	WATER	2	✓						

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Nelson Velez	2/18/99	1435	Dawn L. Spencer	2.18.99	1435
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:	02-19-BTEX QA/QC	Date Reported:	02-19-99
Laboratory Number:	E674	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	02-19-99
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	7.9975E-002	8.0232E-002	**0.32%**	**ND**	**0.2**
Toluene	7.5726E-002	7.5741E-002	**0.02%**	**ND**	**0.2**
Ethylbenzene	5.3049E-002	5.3112E-002	**0.12%**	**ND**	**0.2**
p,m-Xylene	4.6305E-002	4.6314E-002	**0.02%**	**ND**	**0.2**
o-Xylene	4.6122E-002	4.6261E-002	**0.30%**	**ND**	**0.1**

Duplicate Conc. (ug/L)	Sample	Duplicate	%Diff.	Accept Limit
Benzene	**1.5**	**1.5**	**0.0%**	**0 - 30%**
Toluene	**1.5**	**1.4**	**6.7%**	**0 - 30%**
Ethylbenzene	**5.5**	**5.3**	**3.6%**	**0 - 30%**
p,m-Xylene	**45.7**	**45.8**	**0.2%**	**0 - 30%**
o-Xylene	**9.5**	**9.2**	**3.2%**	**0 - 30%**

Spike Conc. (ug/L)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Limits
Benzene	**1.5**	**50.0**	**51.5**	**100%**	**39 - 150**
Toluene	**1.5**	**50.0**	**51.4**	**100%**	**46 - 148**
Ethylbenzene	**5.5**	**50.0**	**55.3**	**100%**	**32 - 160**
p,m-Xylene	**45.7**	**100.0**	**143.6**	**99%**	**46 - 148**
o-Xylene	**9.5**	**50.0**	**59.0**	**99%**	**46 - 148**

ND - Parameter not detected at the stated detection limit.

* - Administrative Limits 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 E674 - E678.**

Analyst

Review

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BLAGG ENGINEERING, INC.

MONITOR WELL SAMPLING DATA

CLIENT : AMOCO PRODUCTION CO.

CHAIN-OF-CUSTODY # : 6995

GCU # 93 - SEPARATOR & BLOW PITS
UNIT E, SEC. 36, T29N, R12W

LABORATORY (S) USED : ENVIROTECH, INC.

Date : June 22, 1999

SAMPLER : R E P

Filename : 06-22-99.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	102.69	89.10	13.59	18.00	-	-	-	-	-
2	-	-	-	17.00	-	-	-	-	-
3	101.74	87.70	14.04	20.00	1050	7.2	2200	3.00	-
4	100.46	85.16	15.30	20.00	1030	6.9	1600	2.50	-
5	101.95	88.00	13.95	18.00	-	-	-	-	-

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 ".

Well # 1 = 1.25" well point . Collected BTEX samples for # 3 & # 4 . Replaced MW # 4 on June 21, 1999 - T.D. = 20 ft., TOC = 2.00 ft., 10 ft. screen interval .

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Blagg / AMOCO	Project #:	403410
Sample ID:	MW #3	Date Reported:	06-23-99
Chain of Custody:	6995	Date Sampled:	06-22-99
Laboratory Number:	F573	Date Received:	06-22-99
Sample Matrix:	Water	Date Analyzed:	06-22-99
Preservative:	HgCl2 & Cool	Analysis Requested:	BTEX
Condition:	Cool & Intact		

Parameter	Concentration (ug/L)	Dilution Factor	Det. Limit (ug/L)
Benzene	**266**	**1**	**0.2**
Toluene	**129**	**1**	**0.2**
Ethylbenzene	**54.5**	**1**	**0.2**
p,m-Xylene	**108**	**1**	**0.2**
o-Xylene	**34.9**	**1**	**0.1**
Total BTEX	**592**		

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: **GCU # 93.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Blagg / AMOCO	Project #:	403410
Sample ID:	MW #4	Date Reported:	06-23-99
Chain of Custody:	6995	Date Sampled:	06-22-99
Laboratory Number:	F574	Date Received:	06-22-99
Sample Matrix:	Water	Date Analyzed:	06-22-99
Preservative:	HgCl2 & Cool	Analysis Requested:	BTEX
Condition:	Cool & Intact		

Parameter	Concentration (ug/L)	Dilution Factor	Det. Limit (ug/L)
Benzene	**1.9**	**1**	**0.2**
Toluene	**3.2**	**1**	**0.2**
Ethylbenzene	**0.9**	**1**	**0.2**
p,m-Xylene	**7.4**	**1**	**0.2**
o-Xylene	**1.8**	**1**	**0.1**
Total BTEX	**15.2**		

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: **GCU # 93.**

Analyst

Review

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CHAIN OF CUSTODY RECORD

6995

Client / Project Name	Project Location	ANALYSIS / PARAMETERS
BLAGG/AMOCO	GCU # 93	

Sampler:	Client No.
REP	403410

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	BTEX (8021)						Remarks
MW# 3	6·22·99	1050	F573	WATER	2	✓						
MW# 4	6·22·99	1030	F574	WATER	2	✓						SAMPLES PRESERVED - Hg Cl2 + COOL

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	6·22·99	1130	[signature]	6·22·99	1130
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:	06-22-BTEX QA/QC	Date Reported:	06-23-99
Laboratory Number:	F567	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	06-22-99
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	5.1692E-003	5.1858E-003	0.32%	ND	0.2
Toluene	5.2087E-003	5.2097E-003	0.02%	ND	0.2
Ethylbenzene	3.4516E-003	3.4557E-003	0.12%	ND	0.2
p,m-Xylene	4.0509E-003	4.0517E-003	0.02%	ND	0.2
o-Xylene	3.9685E-003	3.9804E-003	0.30%	ND	0.1

Duplicate Conc. (ug/L)	Sample	Duplicate	%Diff.	Accept Limit
Benzene	2.8	2.8	0.0%	0 - 30%
Toluene	5.8	5.7	1.7%	0 - 30%
Ethylbenzene	3.7	3.6	2.7%	0 - 30%
p,m-Xylene	16.6	17.0	2.4%	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	2.8	50.0	52.9	100%	39 - 150
Toluene	5.8	50.0	56.0	100%	46 - 148
Ethylbenzene	3.7	50.0	53.8	100%	32 - 160
p,m-Xylene	16.6	100.0	117	100%	46 - 148
o-Xylene	3.3	50.0	53.4	100%	46 - 148

ND - Parameter not detected at the stated detection limit.

* - Administrative Limits 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 F567 - F574.**

Analyst

Review

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BLAGG ENGINEERING, INC.

MONITOR WELL SAMPLING DATA

CLIENT : AMOCO PRODUCTION CO.

CHAIN-OF-CUSTODY # : 6705

GCU # 93 - SEPARATOR & BLOW PITS
UNIT E, SEC. 36, T29N, R12W

LABORATORY (S) USED : ENVIROTECH, INC.

Date : August 30, 1999

SAMPLER : N J V

Filename : 08-30-99.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	102.69	88.99	13.70	18.00	-	-	-	-	-
2	-	-	-	17.00	-	-	-	-	-
3	101.74	86.21	15.53	20.00	-	-	-	-	-
4R	100.46	86.47	13.99	20.00	1115	7.2	1500	3.00	-
5	101.95	88.16	13.79	18.00	-	-	-	-	-

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 ".

Well # 1 = 1.25" well point . Collected BTEX samples for MW # 4R only . Drilled MW # 4R (adjacent to MW # 4) on June 21, 1999 - T.D. = 20 ft., TOC = 2.00 ft., 10 ft. screen interval .

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Blagg / AMOCO	Project #:	403410
Sample ID:	MW # 4R	Date Reported:	09-01-99
Chain of Custody:	6705	Date Sampled:	08-30-99
Laboratory Number:	G034	Date Received:	08-31-99
Sample Matrix:	Water	Date Analyzed:	08-31-99
Preservative:	HgCl2 & Cool	Analysis Requested:	BTEX
Condition:	Cool & Intact		

Parameter	Concentration (ug/L)	Dilution Factor	Det. Limit (ug/L)
Benzene	**1.0**	**1**	**0.2**
Toluene	**0.8**	**1**	**0.2**
Ethylbenzene	**ND**	**1**	**0.2**
p,m-Xylene	**0.8**	**1**	**0.2**
o-Xylene	**0.1**	**1**	**0.1**
Total Xylene	**0.9**		
Total BTEX	**2.7**		

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: **GCU # 93.**

Analyst

Review

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CHAIN OF CUSTODY RECORD

6705

Client / Project Name	Project Location	ANALYSIS / PARAMETERS
BLAGG / Amoco	GCU #93	
Sampler: NJV	Client No. 403410	

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	BTEX (8021)						Remarks
MW # 4R	8/30/99	1115	6034	WATER	2	✓						PRESERV. - $HgCl_2$ & COOL

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Nelson Velez	8/31/99	1009	Glenn L. Spencer	8.31.99	1009
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

ENVIROTECH INC.

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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:	08-31-PM-BTEX QA/QC	Date Reported:	09-01-99
Laboratory Number:	G028	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	08-31-99
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	**2.4**	**2.3**	**4.2%**	**0 - 30%**
Toluene	**0.2**	**0.2**	**0.0%**	**0 - 30%**
Ethylbenzene	**0.2**	**0.2**	**0.0%**	**0 - 30%**
p,m-Xylene	**1.6**	**1.6**	**0.0%**	**0 - 30%**
o-Xylene	**1.1**	**1.1**	**0.0%**	**0 - 30%**

Spike Conc. (ug/L)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Limits
Benzene	**2.4**	**50.0**	**52.4**	**100%**	**39 - 150**
Toluene	**0.2**	**50.0**	**50.2**	**100%**	**46 - 148**
Ethylbenzene	**0.2**	**50.0**	**50.2**	**100%**	**32 - 160**
p,m-Xylene	**1.6**	**100.0**	**102**	**100%**	**46 - 148**
o-Xylene	**1.1**	**50.0**	**51.2**	**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 G028 - G035.**

Analyst

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BLAGG ENGINEERING, INC.

MONITOR WELL SAMPLING DATA

CLIENT : AMOCO PRODUCTION CO.

CHAIN-OF-CUSTODY # : 7450

GCU # 93 - SEPARATOR & BLOW PITS
UNIT E, SEC. 36, T29N, R12W

LABORATORY (S) USED : ENVIROTECH, INC.

Date : December 13, 1999

SAMPLER : N J V

Filename : 12-13-99.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	102.69	88.44	14.25	18.00	-	-	-	-	-
2	-	-	-	17.00	-	-	-	-	-
3	101.74	85.97	15.77	20.00	-	-	-	-	-
4R	100.46	86.03	14.43	20.00	1000	7.3	1,800	2.75	-
5	101.95	87.64	14.31	18.00	-	-	-	-	-

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 ".

Well # 1 = 1.25" well point . Collected BTEX samples for MW # 4R only . Drilled MW # 4R (adjacent to MW # 4) on June 21, 1999 - T.D. = 20 ft., TOC = 2.00 ft., 10 ft. screen interval .

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Blagg / Amoco	Project #:	403410
Sample ID:	MW # 4R	Date Reported:	12-14-99
Chain of Custody:	7450	Date Sampled:	12-13-99
Laboratory Number:	G584	Date Received:	12-13-99
Sample Matrix:	Water	Date Analyzed:	12-14-99
Preservative:	HgCl2 & Cool	Analysis Requested:	BTEX
Condition:	Cool & Intact		

Parameter	Concentration (ug/L)	Dilution Factor	Det. Limit (ug/L)
Benzene	**2.7**	**1**	**0.2**
Toluene	**6.6**	**1**	**0.2**
Ethylbenzene	**ND**	**1**	**0.2**
p,m-Xylene	**11.4**	**1**	**0.2**
o-Xylene	**2.3**	**1**	**0.1**
Total Xylene	**13.7**		
Total BTEX	**23.0**		

ND - Parameter not detected at the stated detection limit.

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

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

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

Comments: **GCU # 93.**

Analyst

Review

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CHAIN OF CUSTODY RECORD

7450

Client / Project Name	Project Location	ANALYSIS / PARAMETERS
BLAGG / Amoco	GCU #93	
Sampler: NJV	Client No. 403410	

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	BTEX (8021)						Remarks
MW #4R	12/13/99	1000	G584	WATER	2	✓						PRESERV. - $HgCl_2$ &

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Nelson Velez	12/13/99	1258	Glenn L. Spencer	12.13.99	1258
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:	12-14-BTEX QA/QC	Date Reported:	12-14-99
Laboratory Number:	G585	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	12-14-99
Condition:	N/A	Analysis:	BTEX

Calibration and Detection Limits (ug/L)	I-Cal RF:	C-Cal RF:	%Diff. Accept. Range 0 - 15%	Blank Conc	Detect. Limit
Benzene	2.3405E-001	2.3480E-001	**0.32%**	**ND**	**0.2**
Toluene	1.1660E-001	1.1663E-001	**0.02%**	**ND**	**0.2**
Ethylbenzene	1.1783E-001	1.1797E-001	**0.12%**	**ND**	**0.2**
p,m-Xylene	1.3259E-001	1.3262E-001	**0.02%**	**ND**	**0.2**
o-Xylene	1.0255E-001	1.0286E-001	**0.30%**	**ND**	**0.1**

Duplicate Conc. (ug/L)	Sample	Duplicate	%Diff.	Accept Limit
Benzene	**3.4**	**3.3**	**2.9%**	**0 - 30%**
Toluene	**14.8**	**15.0**	**1.4%**	**0 - 30%**
Ethylbenzene	**4.9**	**4.8**	**2.0%**	**0 - 30%**
p,m-Xylene	**16.2**	**16.1**	**0.6%**	**0 - 30%**
o-Xylene	**5.1**	**5.0**	**2.0%**	**0 - 30%**

Spike Conc. (ug/L)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Limits
Benzene	**3.4**	**50.0**	**53.4**	**100%**	**39 - 150**
Toluene	**14.8**	**50.0**	**65.2**	**101%**	**46 - 148**
Ethylbenzene	**4.9**	**50.0**	**55.0**	**100%**	**32 - 160**
p,m-Xylene	**16.2**	**100.0**	**116**	**100%**	**46 - 148**
o-Xylene	**5.1**	**50.0**	**55.2**	**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 G584 - G588.**

Analyst

Review

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BLAGG ENGINEERING, INC.

MONITOR WELL SAMPLING DATA

CLIENT : BP AMOCO

CHAIN-OF-CUSTODY # : 10363

GCU # 93 - SEPARATOR & BLOW PITS
UNIT E, SEC. 36, T29N, R12W

LABORATORY (S) USED : ON - SITE TECH.

Date : February 25, 2000

SAMPLER : N J V

Filename : 02-25-00.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	102.69	88.21	14.48	18.00	-	-	-	-	-
2	-	-	-	17.00	-	-	-	-	-
3	101.74	85.95	15.79	20.00	-	-	-	-	-
4R	100.46	85.90	14.56	20.00	1000	7.6	1,800	2.75	-
5	101.95	87.44	14.51	18.00	-	-	-	-	-

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 ".

Well # 1 = 1.25" well point . Good recovery and murky from fine sediment (brownish tinge) in MW # 4R . Collected BTEX samples for MW # 4R only . BEI reclamation system not operational since July, 1999 .

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *02-Mar-00*

Client:	Blagg Engineering	**Client Sample Info:**	GCU #93
Work Order:	0002058	**Client Sample ID:**	MW #4R
Lab ID:	0002058-01A **Matrix:** AQUEOUS	**Collection Date:**	2/25/2000 10:00:00 AM
Project:	BP Amoco - GCU #93	**COC Record:**	10363

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		**SW8021B**				Analyst: **DM**
Benzene	ND	0.5		µg/L	1	2/29/2000
Toluene	ND	0.5		µg/L	1	2/29/2000
Ethylbenzene	ND	0.5		µg/L	1	2/29/2000
m,p-Xylene	ND	1		µg/L	1	2/29/2000
o-Xylene	ND	0.5		µg/L	1	2/29/2000

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

10363

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: 2/25/00

Page: 1 of 1

Purchase Order No.:	Project No.		
SEND INVOICE TO Name	Nelson Velez	**REPORT RESULTS TO** Name	same / Title
Company	Blagg Engineering, Inc. / Dept.	Company	
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: BP Amoco - Gen #93

SAMPLER'S SIGNATURE: Nelson Velez

SAMPLE IDENTIFICATION	SAMPLE DATE	TIME	MATRIX	PRES.	Number of Containers	BTEX (8021)	LAB ID
MW #4R	2/25/00	1000	WATER	COOL & HCl	2	✓	0002058-01

ANALYSIS REQUESTED

Relinquished by: Nelson Velez	Date/Time 2/25/00 1343	Received by:	Date/Time 2/25/00 1343
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	3/3/00

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: *02-Mar-00*

CLIENT: Blagg Engineering
Work Order: 0002058
Project: BP Amoco - GCU #93

QC SUMMARY REPORT
Method Blank

Sample ID: **MB1** Batch ID: **GC-1_000229** Test Code: **SW8021B** Units: **µg/L** Analysis Date **2/29/2000** Prep Date:

Client ID: **0002058** Run ID: **GC-1_000229A** SeqNo: **24671**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	.0873	0.5									J
Ethylbenzene	.0742	0.5									J
m,p-Xylene	.2172	1									J
Methyl tert-Butyl Ether	ND	1									
o-Xylene	.0814	0.5									J
Toluene	.1879	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: *02-Mar-00*

CLIENT: Blagg Engineering
Work Order: 0002058
Project: BP Amoco - GCU #93

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: **0002054-01AMS** Batch ID: **GC-1_000229** Test Code: **SW8021B** Units: **µg/L** Analysis Date **2/29/2000** Prep Date:
Client ID: **0002058** Run ID: **GC-1_000229A** SeqNo: **24672**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	687	5	400	288.1	99.7%	73	126				
Ethylbenzene	531.7	5	400	134.6	99.3%	88	113				
m,p-Xylene	1964	10	800	1178	98.3%	83	112				
Methyl tert-Butyl Ether	402	10	400	0	100.5%	81	125				
o-Xylene	619.8	5	400	223.8	99.0%	93	110				
Toluene	1200	5	400	787	103.3%	76	126				

Sample ID: **0002054-01AMSD** Batch ID: **GC-1_000229** Test Code: **SW8021B** Units: **µg/L** Analysis Date **2/29/2000** Prep Date:
Client ID: **0002058** Run ID: **GC-1_000229A** SeqNo: **24673**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	661.9	5	400	288.1	93.4%	73	126	687	3.7%	6	
Ethylbenzene	513.1	5	400	134.6	94.6%	88	113	531.7	3.6%	5	
m,p-Xylene	1894	10	800	1178	89.5%	83	112	1964	3.6%	7	
Methyl tert-Butyl Ether	393.2	10	400	0	98.3%	81	125	402	2.2%	9	
o-Xylene	620.4	5	400	223.8	99.2%	93	110	619.8	0.1%	6	
Toluene	1156	5	400	787	92.3%	76	126	1200	3.8%	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: *02-Mar-00*

CLIENT: Blagg Engineering
Work Order: 0002058
Project: BP Amoco - GCU #93

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: **LCS WATER** Batch ID: **GC-1_000229** Test Code: **SW8021B** Units: **µg/L** Analysis Date **2/29/2000** Prep Date:

Client ID: **0002058** Run ID: **GC-1_000229A** SeqNo: **24670**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	39.59	0.5	40	0.0873	98.8%	89	112				
Ethylbenzene	40.28	0.5	40	0.0742	100.5%	93	112				
m,p-Xylene	76.5	1	80	0.2172	95.4%	88	108				
Methyl tert-Butyl Ether	39.41	1	40	0	98.5%	87	115				
o-Xylene	40.09	0.5	40	0.0814	100.0%	93	112				
Toluene	40.02	0.5	40	0.1879	99.6%	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: *02-Mar-00*

CLIENT: Blagg Engineering
Work Order: 0002058
Project: BP Amoco - GCU #93

QC SUMMARY REPORT
Continuing Calibration Verification Standard

Sample ID: **CCV1 BTEX_0001** Batch ID: **GC-1_000229** Test Code: **SW8021B** Units: **µg/L** Analysis Date **2/29/2000** Prep Date:
Client ID: **0002058** Run ID: **GC-1_000229A** SeqNo: **24665**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	19.78	0.5	20	0	98.9%	85	115				
Ethylbenzene	20.37	0.5	20	0	101.9%	85	115				
m,p-Xylene	38.43	1	40	0	96.1%	85	115				
Methyl tert-Butyl Ether	20.01	1	20	0	100.0%	85	115				
o-Xylene	20.25	0.5	20	0	101.2%	85	115				
Toluene	19.98	0.5	20	0	99.9%	85	115				
1,4-Difluorobenzene	89.73	0	100	0	89.7%	80	105				
4-Bromochlorobenzene	90.01	0	100	0	90.0%	78	108				
Fluorobenzene	88.26	0	100	0	88.3%	78	108				

Sample ID: **CCV2 BTEX_0001** Batch ID: **GC-1_000229** Test Code: **SW8021B** Units: **µg/L** Analysis Date **2/29/2000** Prep Date:
Client ID: **0002058** Run ID: **GC-1_000229A** SeqNo: **24666**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	19.1	0.5	20	0	95.5%	85	115				
Ethylbenzene	19.64	0.5	20	0	98.2%	85	115				
m,p-Xylene	36.94	1	40	0	92.3%	85	115				
Methyl tert-Butyl Ether	19.41	1	20	0	97.0%	85	115				
o-Xylene	19.59	0.5	20	0	98.0%	85	115				
Toluene	19.28	0.5	20	0	96.4%	85	115				
1,4-Difluorobenzene	89.93	0	100	0	89.9%	80	105				
4-Bromochlorobenzene	90.04	0	100	0	90.0%	78	108				
Fluorobenzene	88.09	0	100	0	88.1%	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

CLIENT: Blagg Engineering
Work Order: 0002058
Project: BP Amoco - GCU #93

QC SUMMARY REPORT
Continuing Calibration Verification Standard

Sample ID: **CCV3 BTEX_0001** Batch ID: **GC-1_000229** Test Code: **SW8021B** Units: **µg/L** Analysis Date **2/29/2000** Prep Date:
Client ID: **0002058** Run ID: **GC-1_000229A** SeqNo: **24667**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	38.44	0.5	40	0	96.1%	85	115				
Ethylbenzene	38.91	0.5	40	0	97.3%	85	115				
m,p-Xylene	73.62	1	80	0	92.0%	85	115				
Methyl tert-Butyl Ether	39.67	1	40	0	99.2%	85	115				
o-Xylene	38.98	0.5	40	0	97.5%	85	115				
Toluene	38.82	0.5	40	0	97.0%	85	115				
1,4-Difluorobenzene	89.07	0	100	0	89.1%	80	105				
4-Bromochlorobenzene	90.83	0	100	0	90.8%	78	108				
Fluorobenzene	87.69	0	100	0	87.7%	78	108				

Sample ID: **CCV4 BTEX_0001** Batch ID: **GC-1_000229** Test Code: **SW8021B** Units: **µg/L** Analysis Date **2/29/2000** Prep Date:
Client ID: **0002058** Run ID: **GC-1_000229A** SeqNo: **24668**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.78	0.5	20	0	103.9%	85	115				
Ethylbenzene	21.36	0.5	20	0	106.8%	85	115				
m,p-Xylene	40.26	1	40	0	100.6%	85	115				
Methyl tert-Butyl Ether	17.61	1	20	0	88.1%	85	115				
o-Xylene	21.27	0.5	20	0	106.3%	85	115				
Toluene	20.96	0.5	20	0	104.8%	85	115				
1,4-Difluorobenzene	88.96	0	100	0	89.0%	80	105				
4-Bromochlorobenzene	88	0	100	0	88.0%	78	108				
Fluorobenzene	88.46	0	100	0	88.5%	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: 0002058
Project: BP Amoco - GCU #93

QC SUMMARY REPORT
Continuing Calibration Verification Standard

Sample ID: **CCV5 BTEX_0001** Batch ID: **GC-1_000229** Test Code: **SW8021B** Units: **µg/L** Analysis Date **2/29/2000** Prep Date:

Client ID: **0002058** Run ID: **GC-1_000229A** SeqNo: **24669**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.23	0.5	20	0	101.2%	85	115				
Ethylbenzene	20.81	0.5	20	0	104.1%	85	115				
m,p-Xylene	39.26	1	40	0	98.2%	85	115				
Methyl tert-Butyl Ether	20.94	1	20	0	104.7%	85	115				
o-Xylene	20.83	0.5	20	0	104.2%	85	115				
Toluene	20.48	0.5	20	0	102.4%	85	115				
1,4-Difluorobenzene	90.04	0	100	0	90.0%	80	105				
4-Bromochlorobenzene	88.66	0	100	0	88.7%	78	108				
Fluorobenzene	88.26	0	100	0	88.3%	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

On Site Technologies, LTD.

Date: 02-Mar-00

CLIENT: Blagg Engineering
Work Order: 0002058
Project: BP Amoco - GCU #93
Test No: SW8021B

QC SUMMARY REPORT
SURROGATE RECOVERIES

Aromatic Volatiles by GC/PID

Sample ID	14FBZ	4BCBZ	FLBZ
0002054-01A	88	88.9	87.9
0002054-01AMS	88.3	89.1	87.2
0002054-01AMSD	87.8	88.6	86.2
0002054-02A	90.1	89.9	89.1
0002055-01A	91.1	89.6	90.4
0002055-02A	89.7	87.8	88.9
0002055-03A	89.7	89.7	89.5
0002055-04A	90	89.7	90.8
0002055-05A	90.8	89.7	89.1
0002055-06A	89.5	88.6	89.4
0002058-01A	89.8	89.4	89.7
0002059-01A	90	90.7	89
0002059-02A	89.5	90	88.8
0002059-03A	90.8	90.6	88.7
0002059-04A	89.4	89.2	88.6
0002059-05A	90.4	90.1	88.9
0002059-06A	90.1	90.4	89.1
0002063-01A	87.5	86.6	86.8
CCV1 BTEX_00010	89.7	90	88.2
CCV2 BTEX_00010	89.9	90	88.1
CCV3 BTEX_00010	89.1	90.8	87.7
CCV4 BTEX_00010	89	88	88.5
CCV5 BTEX_00010	90	88.7	88.2
LCS WATER	89.1	89.9	87.8
MB1	90	88.9	89.3

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 : BP AMOCO

CHAIN-OF-CUSTODY # : 10588

GCU # 93 - SEPARATOR & BLOW PITS
UNIT E, SEC. 36, T29N, R12W

LABORATORY (S) USED : ON - SITE TECH.

Date : May 24, 2000

SAMPLER : N J V

Filename : 05-24-00.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	102.69	88.66	14.03	18.00	-	-	-	-	-
2	-	-	-	17.00	-	-	-	-	-
3	101.74	86.27	15.47	20.00	0850	7.2	2,100	2.25	-
4R	100.46	86.18	14.28	20.00	-	-	-	-	-
5	101.95	87.72	14.23	18.00	-	-	-	-	-
6	100.09	86.50	13.59	20.00	0810	7.2	2,300	3.25	-

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 ".

Well # 1 = 1.25" well point .

Collected BTEX samples from MW # 3 & 6 only . BEI reclamation system not operational since July, 1999 . Poor recovery in MW # 3 .

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

ON SITE TECHNOLOGIES, LTD.

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

ANALYTICAL REPORT

Date: *31-May-00*

Client:	Blagg Engineering	**Client Sample Info:**	GCU #93
Work Order:	0005062	**Client Sample ID:**	MW #3
Lab ID:	0005062-01A **Matrix:** AQUEOUS	**Collection Date:**	5/24/2000 8:50:00 AM
Project:	BP Amoco - GCU #93	**COC Record:**	10588

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		**SW8021B**				Analyst: **DM**
Benzene	320	2.5		µg/L	5	5/30/2000
Toluene	72	2.5		µg/L	5	5/30/2000
Ethylbenzene	38	2.5		µg/L	5	5/30/2000
m,p-Xylene	41	5		µg/L	5	5/30/2000
o-Xylene	14	2.5		µg/L	5	5/30/2000

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: *31-May-00*

Client:	Blagg Engineering	**Client Sample Info:**	GCU #93
Work Order:	0005062	**Client Sample ID:**	MW #6
Lab ID:	0005062-02A **Matrix:** AQUEOUS	**Collection Date:**	5/24/2000 8:10:00 AM
Project:	BP Amoco - GCU #93	**COC Record:**	10588

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		**SW8021B**				Analyst: **DM**
Benzene	19	0.5		µg/L	1	5/30/2000
Toluene	26	0.5		µg/L	1	5/30/2000
Ethylbenzene	1.4	0.5		µg/L	1	5/30/2000
m,p-Xylene	13	1		µg/L	1	5/30/2000
o-Xylene	6.5	0.5		µg/L	1	5/30/2000

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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16586

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: 5/24/00

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.	Company	ONSITE
Dept.		Title	
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: BP AMOCO - GCU #93

SAMPLER'S SIGNATURE: Nelson Velez

SAMPLE IDENTIFICATION	SAMPLE DATE	TIME	MATRIX	PRES.	Number of Containers	BTEX (8021)	LAB ID
MW #3	5/24/00	0850	WATER	HCl & COOL	2	✓	005462-01A
MW #6	5/24/00	0810	WATER	HCl & COOL	2	✓	-02A

Relinquished by: Nelson Velez	Date/Time 5/24/00 1324	Received by: David D Martin	Date/Time 5/24/00 1325
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: *31-May-00*

CLIENT: Blagg Engineering
Work Order: 0005062
Project: BP Amoco - GCU #93

QC SUMMARY REPORT

Method Blank

Sample ID: **MB1** Batch ID: **GC-1_000530** Test Code: **SW8021B** Units: **µg/L** Analysis Date: **5/30/2000** Prep Date:

Client ID: **0005062** Run ID: **GC-1_000530A** SeqNo: **28214**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	.1373	0.5									J
Ethylbenzene	ND	0.5									
m,p-Xylene	ND	1									
Methyl tert-Butyl Ether	ND	1									
o-Xylene	.0429	0.5									J
Toluene	.1473	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: *31-May-00*

CLIENT: Blagg Engineering
Work Order: 0005062
Project: BP Amoco - GCU #93

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: **0005060-01AMS** Batch ID: **GC-1_000530** Test Code: **SW8021B** Units: **µg/L** Analysis Date: **5/30/2000** Prep Date:

Client ID: **0005062** Run ID: **GC-1_000530A** SeqNo: **28215**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	1056	5	400	641.6	103.5%	73	126				
Ethylbenzene	418.3	5	400	12.55	101.4%	88	113				
m,p-Xylene	781	10	800	14.48	95.8%	83	112				
Methyl tert-Butyl Ether	435.9	10	400	13.34	105.6%	81	125				
o-Xylene	407.4	5	400	2.036	101.4%	93	110				
Toluene	410.1	5	400	0.698	102.3%	76	126				

Sample ID: **0005060-01AMSD** Batch ID: **GC-1_000530** Test Code: **SW8021B** Units: **µg/L** Analysis Date: **5/30/2000** Prep Date:

Client ID: **0005062** Run ID: **GC-1_000530A** SeqNo: **28216**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	1049	5	400	641.6	101.7%	73	126	1056	0.7%	6	
Ethylbenzene	416.1	5	400	12.55	100.9%	88	113	418.3	0.5%	5	
m,p-Xylene	778.3	10	800	14.48	95.5%	83	112	781	0.4%	7	
Methyl tert-Butyl Ether	439.5	10	400	13.34	106.5%	81	125	435.9	0.8%	9	
o-Xylene	406.1	5	400	2.036	101.0%	93	110	407.4	0.3%	6	
Toluene	408.4	5	400	0.698	101.9%	76	126	410.1	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: *31-May-00*

CLIENT: Blagg Engineering
Work Order: 0005062
Project: BP Amoco - GCU #93

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: **LCS WATER** Batch ID: **GC-1_000530** Test Code: **SW8021B** Units: **µg/L** Analysis Date: **5/30/2000** Prep Date:

Client ID: **0005062** Run ID: **GC-1_000530A** SeqNo: **28213**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	41	0.5	40	0.1373	102.2%	89	112				
Ethylbenzene	40.88	0.5	40	0	102.2%	93	112				
m,p-Xylene	77.26	1	80	0	96.6%	88	108				
Methyl tert-Butyl Ether	41.6	1	40	0	104.0%	87	115				
o-Xylene	40.73	0.5	40	0.0429	101.7%	93	112				
Toluene	40.96	0.5	40	0.1473	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: *31-May-00*

CLIENT: Blagg Engineering
Work Order: 0005062
Project: BP Amoco - GCU #93

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: **CCV1 BTEX_0004** Batch ID: **GC-1_000530** Test Code: **SW8021B** Units: **µg/L** Analysis Date: **5/30/2000** Prep Date:
Client ID: **0005062** Run ID: **GC-1_000530A** SeqNo: **28210**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.32	0.5	20	0	106.6%	85	115				
Ethylbenzene	21.22	0.5	20	0	106.1%	85	115				
m,p-Xylene	39.95	1	40	0	99.9%	85	115				
Methyl tert-Butyl Ether	22.51	1	20	0	112.6%	85	115				
o-Xylene	21.16	0.5	20	0	105.8%	85	115				
Toluene	21	0.5	20	0	105.0%	85	115				
1,4-Difluorobenzene	89.19	0	100	0	89.2%	80	105				
4-Bromochlorobenzene	90.01	0	100	0	90.0%	78	108				
Fluorobenzene	88.33	0	100	0	88.3%	78	108				

Sample ID: **CCV2 BTEX_0004** Batch ID: **GC-1_000530** Test Code: **SW8021B** Units: **µg/L** Analysis Date: **5/30/2000** Prep Date:
Client ID: **0005062** Run ID: **GC-1_000530A** SeqNo: **28211**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.41	0.5	20	0	102.1%	85	115				
Ethylbenzene	20.14	0.5	20	0	100.7%	85	115				
m,p-Xylene	37.85	1	40	0	94.6%	85	115				
Methyl tert-Butyl Ether	22.62	1	20	0	113.1%	85	115				
o-Xylene	20.13	0.5	20	0	100.7%	85	115				
Toluene	20.04	0.5	20	0	100.2%	85	115				
1,4-Difluorobenzene	88.49	0	100	0	88.5%	80	105				
4-Bromochlorobenzene	89.4	0	100	0	89.4%	78	108				
Fluorobenzene	88.38	0	100	0	88.4%	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: 0005062
Project: BP Amoco - GCU #93

QC SUMMARY REPORT
Continuing Calibration Verification Standard

Sample ID: **CCV3 BTEX_0004** Batch ID: **GC-1_000530** Test Code: **SW8021B** Units: **µg/L** Analysis Date: **5/30/2000** Prep Date:

Client ID: **0005062** Run ID: **GC-1_000530A** SeqNo: **28212**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	40.46	0.5	40	0	101.1%	85	115				
Ethylbenzene	40.04	0.5	40	0	100.1%	85	115				
m,p-Xylene	75.78	1	80	0	94.7%	85	115				
Methyl tert-Butyl Ether	44.07	1	40	0	110.2%	85	115				
o-Xylene	40.03	0.5	40	0	100.1%	85	115				
Toluene	40.4	0.5	40	0	101.0%	85	115				
1,4-Difluorobenzene	88.78	0	100	0	88.8%	80	105				
4-Bromochlorobenzene	88.73	0	100	0	88.7%	78	108				
Fluorobenzene	87.55	0	100	0	87.5%	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: 31-May-00

CLIENT: Blagg Engineering
Work Order: 0005062
Project: BP Amoco - GCU #93
Test No: SW8021B

QC SUMMARY REPORT
SURROGATE RECOVERIES

Aromatic Volatiles by GC/PID

Sample ID	14FBZ	4BCBZ	FLBZ
0005059-01A	88.5	87.9	88.3
0005060-01A	87.9	90.6	86.8
0005060-01AMS	86.6	90.4	86.6
0005060-01AMSD	87.6	90.5	86.4
0005060-04A	88.4	88.6	86.3
0005060-06A	87.9	90.5	86.8
0005061-01D	85.8	85.2	85.5
0005061-02D	86.8	86.1	86.7
0005061-03A	88.7	90.2	88.6
0005062-01A	88.8	90.9	87.5
0005062-02A	89	90.5	87.5
0005063-01A	88.2	88.3	87.5
0005064-01A	88.4	89.2	87.7
0005066-01A	89.6	89	90.1
0005066-02A	89.6	89.2	89.3
0005066-03A	88.8	89.2	89.2
CCV1 BTEX_00040	89.2	90	88.3
CCV2 BTEX_00040	88.5	89.4	88.4
CCV3 BTEX_00040	88.8	88.7	87.5
LCS WATER	88.5	90.2	87.3
MB1	88.9	89.8	89.3

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 DEVELOPMENT & / OR SAMPLING DATA

CLIENT : BP AMER. PROD. CO.

CHAIN-OF-CUSTODY # : 12163

GCU # 93 - SEPARATOR & BLOW PITS
UNIT E, SEC. 36, T29N, R12W

LABORATORY (S) USED : ON - SITE TECH.

Date : March 19, 2003

SAMPLER : N J V

Filename : 03-19-03.WK4

PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	VOLUME PURGED (gal.)	FREE PRODUCT (ft)
1	101.31	86.83	14.48	18.00	-	-	-	-	-
2	-	-	-	17.00	-	-	-	-	-
3	100.40	84.70	15.70	20.00	1535	7.25	2,100	1.25	-
4R	99.10	84.58	14.52	20.00					
5	100.57	86.09	14.48	18.00					
6	99.20	84.82	14.38	20.00	1600	7.20	2,000	4.00	-

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 ".

Well # 1 = 1.25" well point .

Collected BTEX samples from MW # 3 & 6 only . BEI reclamation system not operational since July, 1999 . Poor recovery in MW # 3 .

Applied resurvey MW tops conducted on 8 / 18 / 03 .

612 E. Murray Drive
Farmington, NM 87401

Off: (505) 327-1072

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P.O. Box 2606
Farmington, NM 87499

Fax: (505) 327-1496

ANALYTICAL REPORT

Date: *26-Mar-03*

CLIENT:	Blagg Engineering	**Client Sample Info:**	BP - GCU #93
Work Order:	0303019	**Client Sample ID:**	MW#3
Project:	BP - GCU #93	**Collection Date:**	3/19/2003 3:35:00 PM
Lab ID:	0303019-001A	**Matrix:**	AQUEOUS

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		**SW8021B**				Analyst: **JEM**
Benzene	16	0.5		µg/L	1	3/24/2003
Ethylbenzene	19	0.5		µg/L	1	3/24/2003
m,p-Xylene	7.8	1.0		µg/L	1	3/24/2003
o-Xylene	1.8	0.5		µg/L	1	3/24/2003
Toluene	2.2	0.5		µg/L	1	3/24/2003

Qualifiers:

ND - Not Detected at the Practical Quantitation Limit
J - Analyte detected below Practical Quantitation Limit
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted precision limits
E - Value above Upper Quantitation Limit - UQL

612 E. Murray Drive
Farmington, NM 87401

Off: (505) 327-1072

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P.O. Box 2606
Farmington, NM 87499

Fax: (505) 327-1496

ANALYTICAL REPORT

Date: *26-Mar-03*

CLIENT:	Blagg Engineering	**Client Sample Info:**	BP - GCU #93
Work Order:	0303019	**Client Sample ID:**	MW#6
Project:	BP - GCU #93	**Collection Date:**	3/19/2003 4:00:00 PM
Lab ID:	0303019-002A	**Matrix:**	AQUEOUS

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		**SW8021B**				Analyst: **JEM**
Benzene	7.2	0.5		µg/L	1	3/24/2003
Ethylbenzene	ND	0.5		µg/L	1	3/24/2003
m,p-Xylene	1.8	1.0		µg/L	1	3/24/2003
o-Xylene	ND	0.5		µg/L	1	3/24/2003
Toluene	ND	0.5		µg/L	1	3/24/2003

Qualifiers:

ND - Not Detected at the Practical Quantitation Limit
J - Analyte detected below Practical Quantitation Limit
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted precision limits
E - Value above Upper Quantitation Limit - UQL

12163

ON SITE TECHNOLOGIES, LTD.

CHAIN OF CUSTODY RECORD

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

Date: 3/19/03
Page: 1 of 1

SEND INVOICE TO
- Purchase Order No.:
- Project No.:
- Name: JEFF BLAGG
- Company: BLAGG ENGR.
- Dept.:
- Address:
- City, State, Zip:

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

PROJECT LOCATION: BP - GCU # 93

SAMPLER'S SIGNATURE: Nelson Velez

ANALYSIS REQUESTED

SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	PRES.	Number of Containers	BTEX (8021B)									LAB ID
MW # 3	3/19/03	1535	WATER	HCl & COOL	2	✓									030319-001A
MW # 6	3/19/03	1600	WATER	HCl & COOL	2	✓									-002A

Relinquished by: Nelson Velez	Date/Time 3/20/03 1145	Received by: [signature]	Date/Time 3/20/03 1145
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: RECV'D ON ICE @ 11.0°C

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

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

iiná bá, Ltd.

Date: *26-Mar-03*

CLIENT: Blagg Engineering
Work Order: 0303019
Project: BP - GCU #93

ANALYTICAL QC SUMMARY REPORT

TestCode: BTEX_W

Sample ID	MB_030324	SampType:	MBLK	TestCode:	BTEX_W	Units:	µg/L	Prep Date:	3/24/2003	Run ID:	GC-1_030324B
Client ID:	ZZZZZ	Batch ID:	R4316	TestNo:	SW8021B			Analysis Date:	3/24/2003	SeqNo:	62966

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.50									
Ethylbenzene	ND	0.50									
m,p-Xylene	ND	1.0									
o-Xylene	ND	0.50									
Toluene	0.0889	0.50									J

Sample ID	LCS_030324	SampType:	LCS	TestCode:	BTEX_W	Units:	µg/L	Prep Date:	3/24/2003	Run ID:	GC-1_030324B
Client ID:	ZZZZZ	Batch ID:	R4316	TestNo:	SW8021B			Analysis Date:	3/24/2003	SeqNo:	62965

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	39.48	0.50	40	0	98.7	88	110	0	0		
Ethylbenzene	39.63	0.50	40	0	99.1	90	110	0	0		
m,p-Xylene	80.82	1.0	80	0	101	86	110	0	0		
o-Xylene	40.52	0.50	40	0	101	89	110	0	0		
Toluene	39.88	0.50	40	0.0889	99.5	87	110	0	0		

Sample ID	0303021-003AMS	SampType:	MS	TestCode:	BTEX_W	Units:	µg/L	Prep Date:	3/24/2003	Run ID:	GC-1_030324B
Client ID:	ZZZZZ	Batch ID:	R4316	TestNo:	SW8021B			Analysis Date:	3/24/2003	SeqNo:	62967

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	222.8	2.5	200	53.02	84.9	84	106	0	0		
Ethylbenzene	233.1	2.5	200	41.16	96	84	111	0	0		
m,p-Xylene	586.8	5.0	400	211.4	93.8	80	118	0	0		
o-Xylene	194.1	2.5	200	2.287	95.9	83	108	0	0		
Toluene	209.1	2.5	200	10.1	99.5	86	105	0	0		

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: 0303019
Project: BP - GCU #93

ANALYTICAL QC SUMMARY REPORT

TestCode: BTEX_W

Sample ID 0303021-003AMSD	SampType: MSD	TestCode: BTEX_W	Units: µg/L	Prep Date: 3/24/2003	Run ID: GC-1_030324B
Client ID: ZZZZZ	Batch ID: R4316	TestNo: SW8021B		Analysis Date: 3/24/2003	SeqNo: 62968

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	214.7	2.5	200	53.02	80.8	80	106	222.8	3.72	5	
Ethylbenzene	225.4	2.5	200	41.16	92.1	82	108	233.1	3.35	5	
m,p-Xylene	566.8	5.0	400	211.4	88.8	80	113	586.8	3.48	5	
o-Xylene	187.9	2.5	200	2.287	92.8	82	105	194.1	3.27	4	
Toluene	198.6	2.5	200	10.1	94.3	83	105	209.1	5.14	5	R

Sample ID CCV1_030324	SampType: CCV	TestCode: BTEX_W	Units: µg/L	Prep Date: 3/24/2003	Run ID: GC-1_030324B
Client ID: ZZZZZ	Batch ID: R4316	TestNo: SW8021B		Analysis Date: 3/24/2003	SeqNo: 62961

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.29	0.50	20	0	101	85	115	0	0		
Ethylbenzene	20.34	0.50	20	0	102	85	115	0	0		
m,p-Xylene	40.45	1.0	40	0	101	85	115	0	0		
o-Xylene	20.84	0.50	20	0	104	85	115	0	0		
Toluene	20.41	0.50	20	0	102	85	115	0	0		

Sample ID CCV2_030324	SampType: CCV	TestCode: BTEX_W	Units: µg/L	Prep Date: 3/24/2003	Run ID: GC-1_030324B
Client ID: ZZZZZ	Batch ID: R4316	TestNo: SW8021B		Analysis Date: 3/24/2003	SeqNo: 62962

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	37.25	0.50	40	0	93.1	85	115	0	0		
Ethylbenzene	37.48	0.50	40	0	93.7	85	115	0	0		
m,p-Xylene	76.61	1.0	80	0	95.8	85	115	0	0		
o-Xylene	38.75	0.50	40	0	96.9	85	115	0	0		
Toluene	37.97	0.50	40	0	94.9	85	115	0	0		

Sample ID CCV3_030324	SampType: CCV	TestCode: BTEX_W	Units: µg/L	Prep Date: 3/24/2003	Run ID: GC-1_030324B
Client ID: ZZZZZ	Batch ID: R4316	TestNo: SW8021B		Analysis Date: 3/24/2003	SeqNo: 62963

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	19.45	0.50	20	0	97.2	85	115	0	0		

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: 0303019
Project: BP - GCU #93

ANALYTICAL QC SUMMARY REPORT

TestCode: BTEX_W

Sample ID	CCV3_030324	SampType:	CCV	TestCode:	BTEX_W	Units:	µg/L	Prep Date:	3/24/2003	Run ID:	GC-1_030324B
Client ID:	ZZZZZ	Batch ID:	R4316	TestNo:	SW8021B			Analysis Date:	3/24/2003	SeqNo:	62963

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethylbenzene	21.03	0.50	20	0	105	85	115	0	0		
m,p-Xylene	39.79	1.0	40	0	99.5	85	115	0	0		
o-Xylene	20.06	0.50	20	0	100	85	115	0	0		
Toluene	19.71	0.50	20	0	98.5	85	115	0	0		

Sample ID	CCV4_030324	SampType:	CCV	TestCode:	BTEX_W	Units:	µg/L	Prep Date:	3/24/2003	Run ID:	GC-1_030324B
Client ID:	ZZZZZ	Batch ID:	R4316	TestNo:	SW8021B			Analysis Date:	3/24/2003	SeqNo:	62964

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	19.54	0.50	20	0	97.7	85	115	0	0		
Ethylbenzene	19.51	0.50	20	0	97.5	85	115	0	0		
m,p-Xylene	39.45	1.0	40	0	98.6	85	115	0	0		
o-Xylene	19.97	0.50	20	0	99.8	85	115	0	0		
Toluene	19.57	0.50	20	0	97.8	85	115	0	0		

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

iiná bá, Ltd.

Date: 26-Mar-03

CLIENT: Blagg Engineering
Work Order: 0303019
Project: BP - GCU #93
Test No: SW8021B **Matrix:** W

QC SUMMARY REPORT
SURROGATE RECOVERIES

Sample ID	14FBZ	4BCBZ	FLBZ
0303019-001A	105	105	101
0303019-002A	110	106	107
0303021-003AMS	97.9	110	97.9
0303021-003AMSD	99.9	109	97.2
CCV1_030324	107	112	103
CCV2_030324	105	106	103
CCV3_030324	108	105	104
CCV4_030324	107	109	104
LCS_030324	105	107	105
MB_030324	105	108	105

Acronym		Surrogate	QC Limits
14FBZ	=	1,4-Difluorobenzene	70-130
4BCBZ	=	4-Bromochlorobenzene	70-130
FLBZ	=	Fluorobenzene	70-130

*** Surrogate recovery outside acceptance limits**

iiná bá, Ltd.

Sample Receipt Checklist

Client Name: **BLA1002** Date and Time Received: **3/20/2003**

Work Order Number: **0303019** Received by: DWC

Checklist completed by: Signature 3/20/03 Date Reviewed by: Initials 3/21/03 Date

Matrix: Carrier name: Nelson Velez

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	RECV'D ONE ICE @ 11.0°C
Water - VOA vials have zero headspace?	No VOA vials submitted ☐	Yes ☑	No ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	

Adjusted? _____ Checked by: _____

Any No and/or NA (not applicable) response must be detailed in the comments section below.

Client contacted: _____ Date contacted: _____ Person contacted: _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action: _____

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY # : N / A

GCU # 93 - SEPARATOR & BLOW PITS
UNIT E, SEC. 36, T29N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : **August 19, 2003**

SAMPLER : N J V

Filename : **08-19-03.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)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	101.31	87.19	14.12	18.00	-	-	-	-	-
3	100.40	84.80	15.60	20.00	0915	6.93	2,400	19.7	1.25
4R	99.10	85.04	14.06	20.00	-	-	-	-	-
5	100.57	86.50	14.07	18.00	-	-	-	-	-
6	99.20	85.58	13.62	20.00	0900	6.89	2,500	19.6	3.25
					INSTRUMENT CALIBRATIONS =	7.00	2,800		
					DATE & TIME =	08/18/03	0815		

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:

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

Comments or note well diameter if not standard 2 ".

Well # 1 = 1.25" well point .
Collected BTEX samples from MW # 3 & 6 only . BEI reclamation system operational
@ time of sampling . Poor recovery in MW # 3 .
Resurveyed MW tops on 8 / 18 / 03 .

Hall Environmental Analysis Laboratory

Date: *28-Aug-03*

CLIENT: Blagg Engineering
Project: GCU Lease

Lab Order: 0308148

Lab ID: 0308148-05 **Collection Date:** 8/19/2003 9:00:00 AM
Client Sample ID: #93 - MW #6 **Matrix:** AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.50		µg/L	1	8/25/2003 4:10:27 PM
Toluene	ND	0.50		µg/L	1	8/25/2003 4:10:27 PM
Ethylbenzene	ND	0.50		µg/L	1	8/25/2003 4:10:27 PM
Xylenes, Total	ND	0.50		µg/L	1	8/25/2003 4:10:27 PM
Surr: 4-Bromofluorobenzene	97.4	74-118		%REC	1	8/25/2003 4:10:27 PM

Lab ID: 0308148-04 **Collection Date:** 8/19/2003 9:15:00 AM
Client Sample ID: #93 - MW #3 **Matrix:** AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	0.62	0.50		µg/L	1	8/26/2003 12:26:36 PM
Toluene	ND	0.50		µg/L	1	8/26/2003 12:26:36 PM
Ethylbenzene	0.81	0.50		µg/L	1	8/26/2003 12:26:36 PM
Xylenes, Total	ND	0.50		µg/L	1	8/26/2003 12:26:36 PM
Surr: 4-Bromofluorobenzene	101	74-118		%REC	1	8/26/2003 12:26:36 PM

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

CHAIN-OF-CUSTODY RECORD

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite A
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: BLAGG ENGR. / BP AMERICA PROD. CO.

Address: P.O. BOX 87
BLOOMFIELD, NM 87413

Phone #: (505) 632-1199

Fax #: (505) 632-3903

Project Name: GCU LEASE

Project #:

Project Manager: NELSON VELEZ

Sampler: NELSON VELEZ

Samples Cold?: ☒ Yes ☐ No 6.0°

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HCl	HEAL No.
8/18/03	0835	WATER	#194 - MW #2	2-40ml	✓		0308148-1
8/18/03	0920	WATER	#194-MW #3	2-40ml	✓		-2
8/18/03	1020	WATER	#188-MW #2	2-40ml	✓		-3
8/19/03	0915	WATER	#93-MW #3	2-40ml	✓		-4
8/19/03	0900	WATER	#93-MW #6	2-40ml	✓		-5

ANALYSIS REQUEST

(BTEX + MTBE + TMB's (8021B)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B MOD (Gas/Diesel)	TPH (Method 418.1)	Volatiles Full List (8021)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Cations (Na, K, Ca, Mg)	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260 (VOA)	8270 (Semi-VOA)			Air Bubbles or Headspace (Y or N)
✓																N
✓																N
✓																N
✓																N
✓																N

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	Remarks:
8/19/03	0935		8/20/03 0840	
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	

Hall Environmental Analysis Laboratory

Date: *28-Aug-03*

CLIENT: Blagg Engineering
Work Order: 0308148
Project: GCU Lease

QC SUMMARY REPORT
Method Blank

Sample ID **Reagent Blank 5m** Batch ID: **R9343** Test Code: **SW8021** Units: **µg/L** Analysis Date **8/25/2003 9:16:56 AM** Prep Date

Client ID: Run ID: **PIDFID_030825A** SeqNo: **210719**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.50									
Toluene	ND	0.50									
Ethylbenzene	ND	0.50									
Xylenes, Total	ND	0.50									
Surr: 4-Bromofluorobenzene	21.19	0	20	0	106	74	118	0			

Sample ID **Reagent Blank 5m** Batch ID: **R9362** Test Code: **SW8021** Units: **µg/L** Analysis Date **8/26/2003 9:30:49 AM** Prep Date

Client ID: Run ID: **PIDFID_030826A** SeqNo: **211096**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.50									
Toluene	ND	0.50									
Ethylbenzene	ND	0.50									
Xylenes, Total	ND	0.50									
Surr: 4-Bromofluorobenzene	19.81	0	20	0	99.1	74	118	0			

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

Hall Environmental Analysis Laboratory

Date: *28-Aug-03*

CLIENT: Blagg Engineering
Work Order: 0308148
Project: GCU Lease

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID **BTEX Std 100ng** Batch ID: **R9343** Test Code: **SW8021** Units: **µg/L** Analysis Date **8/25/2003 6:45:46 PM** Prep Date

Client ID: Run ID: **PIDFID_030825A** SeqNo: **210771**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.11	0.50	20	0	101	81.3	121	0			
Toluene	19.96	0.50	20	0	99.8	84.9	118	0			
Ethylbenzene	19.3	0.50	20	0	96.5	53.8	149	0			
Xylenes, Total	59.57	0.50	60	0	99.3	83.1	122	0			

Sample ID **BTEX Std 100ng** Batch ID: **R9343** Test Code: **SW8021** Units: **µg/L** Analysis Date **8/26/2003 1:53:40 AM** Prep Date

Client ID: Run ID: **PIDFID_030825A** SeqNo: **210773**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.82	0.50	20	0	104	81.3	121	20.11	3.47	27	
Toluene	20.92	0.50	20	0	105	84.9	118	19.96	4.70	19	
Ethylbenzene	20.17	0.50	20	0	101	53.8	149	19.3	4.38	10	
Xylenes, Total	61.91	0.50	60	0	103	83.1	122	59.57	3.85	13	

Sample ID **BTEX Std 100ng** Batch ID: **R9362** Test Code: **SW8021** Units: **µg/L** Analysis Date **8/26/2003 7:19:17 PM** Prep Date

Client ID: Run ID: **PIDFID_030826A** SeqNo: **211140**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.6	0.50	20	0	103	81.3	121	0			
Toluene	20.95	0.50	20	0	105	84.9	118	0			
Ethylbenzene	19.98	0.50	20	0	99.9	53.8	149	0			
Xylenes, Total	61.52	0.50	60	0	103	83.1	122	0			

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: 0308148
Project: GCU Lease

QC SUMMARY REPORT
Laboratory Control Spike Duplicate

Sample ID **BTEX Std 100ng** Batch ID: **R9362** Test Code: **SW8021** Units: **µg/L** Analysis Date **8/27/2003 3:35:46 AM** Prep Date

Client ID: Run ID: **PIDFID_030826A** SeqNo: **211141**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.6	0.50	20	0	108	81.3	121	20.6	4.74	27	
Toluene	21.2	0.50	20	0	106	84.9	118	20.95	1.15	19	
Ethylbenzene	20.39	0.50	20	0	102	53.8	149	19.98	2.02	10	
Xylenes, Total	61.32	0.50	60	0	102	83.1	122	61.52	0.332	13	

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

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name **BLAGG** Date and Time Receive **8/20/03**

Work Order Number **0308148** Received by AT

Checklist completed by _____ _____
Signature Date

Matrix: Carrier name: Greyhound

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Water - VOA vials have zero headspace?	No VOA vials submitted ☐	Yes ☑	No ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑

Container/Temp Blank temperature? **6°** *4° C ± 2 Acceptable*

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

Hall Environmental Analysis Laboratory **Date:** *28-Aug-03*

CLIENT: Blagg Engineering
Project: GCU Lease
Lab Order: 0308148

CASE NARRATIVE

Analytical Comments for METHOD 8021BTEX_W, SAMPLE 0308148-02a: Elevated surrogate due to matrix interference. Analytical Comments for METHOD 8021BTEX_W, SAMPLE 0308148-03a: Elevated surrogate due to matrix interference.

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY # : N / A

GCU # 93 - SEPARATOR & BLOW PITS
UNIT E, SEC. 36, T29N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : **November 19, 2003**

SAMPLER : N J V

Filename : **11-19-03.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)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	101.31	87.41	13.90	18.00	-	-	-	-	-
3	100.40	85.10	15.30	20.00	0900	7.02	2,600	11.7	1.00
4R	99.10	85.33	13.77	20.00	-	-	-	-	-
5	100.57	86.75	13.82	18.00	-	-	-	-	-
6	99.20	85.62	13.58	20.00	0845	7.08	2,500	11.1	3.25
					INSTRUMENT CALIBRATIONS =	7.00	2,800		
					DATE & TIME =	11/11/03	0730		

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

Comments or note well diameter if not standard 2 ".

Well # 1 = 1.25" well point.
Collected BTEX samples from MW # 3 & 6 only. BEI reclamation system operational
@ time of sampling. Poor recovery in MW # 3.
Resurveyed MW tops on 8 / 18 / 03.

Hall Environmental Analysis Laboratory

Date: *01-Dec-03*

CLIENT: Blagg Engineering
Project: GCU Lease

Lab Order: 0311145

Lab ID: 0311145-05 **Collection Date:** 11/19/2003 9:00:00 AM
Client Sample ID: GCU#93 MW#3 **Matrix:** AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.50		µg/L	1	11/30/2003 7:33:54 PM
Toluene	ND	0.50		µg/L	1	11/30/2003 7:33:54 PM
Ethylbenzene	1.2	0.50		µg/L	1	11/30/2003 7:33:54 PM
Xylenes, Total	ND	0.50		µg/L	1	11/30/2003 7:33:54 PM
Surr: 4-Bromofluorobenzene	103	74-118		%REC	1	11/30/2003 7:33:54 PM

Lab ID: 0311145-04 **Collection Date:** 11/19/2003 8:45:00 AM
Client Sample ID: GCU#93 MW#6 **Matrix:** AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	160	10		µg/L	20	11/30/2003 7:03:20 PM
Toluene	530	10		µg/L	20	11/30/2003 7:03:20 PM
Ethylbenzene	27	10		µg/L	20	11/30/2003 7:03:20 PM
Xylenes, Total	330	10		µg/L	20	11/30/2003 7:03:20 PM
Surr: 4-Bromofluorobenzene	97.5	74-118		%REC	20	11/30/2003 7:03:20 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

CHAIN-OF-CUSTODY RECORD

Accreditation Applied:
NELAC ☐ USACE ☐
Other: _____

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: BLAGG ENGR. / BP AMERICA
Address: P.O. BOX 87
BLOOMFIELD, NM 87413
Phone #: (505) 632-1199
Fax #: (505) 632-3903

Project Name: GCU LEASE
Project #:
Project Manager: NJV
Sampler: NJV
Sample Temperature: 3°

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative H_gCl_2	Preservative HNO_3	Preservative	HEAL No. 031145
11/18/03	0910	WATER	GCU #194 MW #2	2-40ml	✓			1
11/18/03	0940	WATER	GCU #194 MW #3	2-40ml	✓			2
11/18/03	1350	WATER	GCU #188 MW #2	2-40ml	✓			3
11/19/03	0845	WATER	GCU #93 MW #6	2-40ml	✓			4
11/19/03	0900	WATER	GCU #93 MW #3	2-40ml	✓			5

ANALYSIS REQUEST

HEAL No. 031145	BTEX + MTBE + TMB's (8021B)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B MOD (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Cations (Na, K, Ca, Mg)	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260 (VOA)	8270 (Semi-VOA)				Air Bubbles or Headspace (Y or N)
1	✓																
2	✓																
3	✓																
4	✓																
5	✓																

Date: 11/19/03 Time: 0930 Relinquished By: (Signature)
Date: Time: Relinquished By: (Signature)

Remarks: Gonzales 11/19/03 1702

Remarks:

CLIENT: Blagg Engineering
Project: GCU Lease
Lab Order: 0311145

CASE NARRATIVE

Analytical Comments for METHOD 8021BTEX_W, SAMPLE 0311145-03a: High surrogate due to matrix interference.

Hall Environmental Analysis Laboratory

Date: *01-Dec-03*

CLIENT: Blagg Engineering
Work Order: 0311145
Project: GCU Lease

QC SUMMARY REPORT
Method Blank

Sample ID **Reagent Blank 5m** Batch ID: **R10208** Test Code: **SW8021** Units: **µg/L** Analysis Date **11/30/2003 1:57:24 PM** Prep Date

Client ID: Run ID: **PIDFID_031130A** SeqNo: **229168**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.50									
Toluene	ND	0.50									
Ethylbenzene	ND	0.50									
Xylenes, Total	ND	0.50									
Surr: 4-Bromofluorobenzene	19.59	0	20	0	97.9	74	118	0			

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

/

Hall Environmental Analysis Laboratory

Date: *01-Dec-03*

CLIENT: Blagg Engineering
Work Order: 0311145
Project: GCU Lease

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID **BTEX Std 100ng** Batch ID: **R10208** Test Code: **SW8021** Units: **µg/L** Analysis Date **11/30/2003 2:58:49 PM** Prep Date

Client ID: Run ID: **PIDFID_031130A** SeqNo: **229186**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	22.23	0.50	20	0	111	81.3	121	0			
Toluene	21.34	0.50	20	0	107	84.9	118	0			
Ethylbenzene	20.48	0.50	20	0	102	53.8	149	0			
Xylenes, Total	62.37	0.50	60	0	104	83.1	122	0			

Sample ID **BTEX Std 100ng** Batch ID: **R10208** Test Code: **SW8021** Units: **µg/L** Analysis Date **12/1/2003 1:09:48 AM** Prep Date

Client ID: Run ID: **PIDFID_031130A** SeqNo: **229189**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.38	0.50	20	0	107	81.3	121	22.23	3.91	27	
Toluene	19.81	0.50	20	0	99.0	84.9	118	21.34	7.44	19	
Ethylbenzene	19.28	0.50	20	0	96.4	53.8	149	20.48	6.05	10	
Xylenes, Total	59.67	0.50	60	0	99.5	83.1	122	62.37	4.42	13	

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

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name BLAGG

Date and Time Received:

Work Order Number 0311145

Received by AMG

Checklist completed by A Gonzales 11/19/53
Signature Date

Matrix

Carrier name Greyhound

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐		
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☒	Not Shipped ☑	of
Custody seals intact on sample bottles?	Yes ☐	No ☐	N/A ☑		
Chain of custody present?	Yes ☑	No ☐			
Chain of custody signed when relinquished and received?	Yes ☑	No ☐			
Chain of custody agrees with sample labels?	Yes ☑	No ☐			
Samples in proper container/bottle?	Yes ☑	No ☐			
Sample containers intact?	Yes ☑	No ☐			
Sufficient sample volume for indicated test?	Yes ☑	No ☐			
All samples received within holding time?	Yes ☑	No ☐			
Water - VOA vials have zero headspace?	No VOA vials submitted ☑	Yes ☐	No ☐		
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑		

Container/Temp Blank temperature? 3°

4° C ± 2 Acceptable
If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY # : N / A

GCU # 93 - SEPARATOR & BLOW PITS
UNIT E, SEC. 36, T29N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : **March 29, 2004**

SAMPLER : N J V

Filename : **03-29-04.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)	TEMP. (celcius)	VOLUME PURGED (gal.)
1			14.29	18.00	-	-	-	-	-
3			15.65	20.00	1520	7.06	2,500	18.9	1.00
4R			14.12	20.00	-	-	-	-	-
5			14.18	18.00	-	-	-	-	-
6			13.87	20.00	1525	7.09	2,200	20.1	3.00
					INSTRUMENT CALIBRATIONS =	7.00	2,800		
					DATE & TIME =	03/27/04	0800		

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:

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

Comments or note well diameter if not standard 2 ".

Well # 1 = 1.25" well point.
Collected BTEX samples from MW # 3 & 6 only. BEI reclamation system operational @ time of sampling. Poor recovery in MW # 3.

Hall Environmental Analysis Laboratory

Date: *05-Apr-04*

CLIENT: Blagg Engineering
Project: GCU Lease
Lab Order: 0403245

Lab ID: 0403245-02 **Collection Date:** 3/29/2004 3:20:00 PM
Client Sample ID: MW #3 GCU #93 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	4.4	0.50		µg/L	1	3/31/2004 1:15:43 PM
Toluene	0.86	0.50		µg/L	1	3/31/2004 1:15:43 PM
Ethylbenzene	8.1	0.50		µg/L	1	3/31/2004 1:15:43 PM
Xylenes, Total	3.0	0.50		µg/L	1	3/31/2004 1:15:43 PM
Surr: 4-Bromofluorobenzene	101	74-118		%REC	1	3/31/2004 1:15:43 PM

Lab ID: 0403245-03 **Collection Date:** 3/29/2004 3:25:00 PM
Client Sample ID: MW #6 GCU #93 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	37	0.50		µg/L	1	4/1/2004 10:47:44 AM
Toluene	29	0.50		µg/L	1	4/1/2004 10:47:44 AM
Ethylbenzene	6.3	0.50		µg/L	1	4/1/2004 10:47:44 AM
Xylenes, Total	56	0.50		µg/L	1	4/1/2004 10:47:44 AM
Surr: 4-Bromofluorobenzene	103	74-118		%REC	1	4/1/2004 10:47:44 AM

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

CHAIN-OF-CUSTODY RECORD

Accreditation Applied:
NELAC ☐ USACE ☐
Other: _____

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: BLAGG ENGR. / BP AMERICA
Project Name: GCU LEASE
Address: P.O. BOX 87
BLOOMFIELD, NM 87413
Project #: NV
Project Manager: NJV
Phone #: 505-632-1199
Sampler: NJV
Fax #: 505-632-3903
Sample Temperature: 2°

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	HEAL No.
3/29/04	1340	WATER	MW #2 - GCU #188	2-40ml	✓		0403245-1
3/29/04	1520	WATER	MW #3 - GCU #93	2-40ml	✓		-2
3/29/04	1525	WATER	MW #6 - GCU #93	2-40ml	✓		-3

ANALYSIS REQUEST

BTEX + ~~MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles or Headspace (Y or N)
✓																
✓																
✓																

Date	Time	Relinquished By: (Signature)	Received By: (Signature)	Date	Time
3/30/04	0730		3/31/04		
			0859		

Remarks:

Hall Environmental Analysis Laboratory

Date: *05-Apr-04*

CLIENT: Blagg Engineering
Work Order: 0403245
Project: GCU Lease

QC SUMMARY REPORT
Method Blank

Sample ID **Reagent Blank 5m** Batch ID: **R11468** Test Code: **SW8021** Units: **µg/L** Analysis Date **3/31/2004 9:11:45 AM** Prep Date

Client ID: Run ID: **PIDFID_040331A** SeqNo: **262858**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.50									
Toluene	ND	0.50									
Ethylbenzene	ND	0.50									
Xylenes, Total	ND	0.50									
Surr: 4-Bromofluorobenzene	19.99	0	20	0	100	74	118	0			

Sample ID **Reagent Blank 5m** Batch ID: **R11486** Test Code: **SW8021** Units: **µg/L** Analysis Date **4/1/2004 8:07:11 AM** Prep Date

Client ID: Run ID: **PIDFID_040401A** SeqNo: **263233**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.50									
Toluene	ND	0.50									
Ethylbenzene	ND	0.50									
Xylenes, Total	ND	0.50									
Surr: 4-Bromofluorobenzene	19.87	0	20	0	99.4	74	118	0			

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

Hall Environmental Analysis Laboratory

Date: *05-Apr-04*

CLIENT: *Blagg Engineering*
Work Order: 0403245
Project: GCU Lease

QC SUMMARY REPORT
Sample Matrix Spike

Sample ID **0403245-02aMS** Batch ID: **R11468** Test Code: **SW8021** Units: **µg/L** Analysis Date **3/31/2004 3:49:15 PM** Prep Date

Client ID: **MW #3 GCU #93** Run ID: **PIDFID_040331A** SeqNo: **262882**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	24.65	0.50	20	4.406	101	77	122	0			
Toluene	21.48	0.50	20	0.8648	103	81	115	0			
Ethylbenzene	28.14	0.50	20	8.107	100	84	117	0			
Xylenes, Total	65.74	0.50	60	2.973	105	84	116	0			

Sample ID **0403245-02aMSD** Batch ID: **R11468** Test Code: **SW8021** Units: **µg/L** Analysis Date **3/31/2004 4:19:44 PM** Prep Date

Client ID: **MW #3 GCU #93** Run ID: **PIDFID_040331A** SeqNo: **262890**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	24.82	0.50	20	4.406	102	77	122	24.65	0.685	27	
Toluene	21.76	0.50	20	0.8648	104	81	115	21.48	1.29	19	
Ethylbenzene	28.03	0.50	20	8.107	99.6	84	117	28.14	0.394	10	
Xylenes, Total	66.6	0.50	60	2.973	106	84	116	65.74	1.29	13	

3 / 5

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

1

Hall Environmental Analysis Laboratory

Date: *05-Apr-04*

CLIENT: Blagg Engineering
Work Order: 0403245
Project: GCU Lease

QC SUMMARY REPORT
Laboratory Control Spike - *generic*

Sample ID **BTEX STD 100ng** Batch ID: **R11468** Test Code: **SW8021** Units: **µg/L** Analysis Date **3/31/2004 5:50:52 PM** Prep Date
Client ID: Run ID: **PIDFID_040331A** SeqNo: **262902**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.26	0.50	20	0	106	81.3	121	0			
Toluene	21.15	0.50	20	0	106	84.9	118	0			
Ethylbenzene	20.82	0.50	20	0	104	53.8	149	0			
Xylenes, Total	64.37	0.50	60	0	107	83.1	122	0			

Sample ID **BTEX STD 100ng** Batch ID: **R11486** Test Code: **SW8021** Units: **µg/L** Analysis Date **4/1/2004 8:02:09 PM** Prep Date
Client ID: Run ID: **PIDFID_040401A** SeqNo: **263246**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.13	0.50	20	0	101	81.3	121	0			
Toluene	19.5	0.50	20	0	97.5	84.9	118	0			
Ethylbenzene	19.15	0.50	20	0	95.7	53.8	149	0			
Xylenes, Total	57.7	0.50	60	0	96.2	83.1	122	0			

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

1

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name BLAGG | Date and Time Received: 3/31/2004

Work Order Number 0403245 | Received by AT

Checklist completed by _____ 3/31/04
Signature | Date

Matrix | Carrier name Greyhound

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑	Not Shipped ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	N/A ☑	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace?	No VOA vials submitted ☐	Yes ☑	No ☐	
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑	

Container/Temp Blank temperature? **2°** *4° C ± 2 Acceptable* If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY # : N / A

GCU # 93 - SEPARATOR & BLOW PITS
UNIT E, SEC. 36, T29N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : **June 24, 2004**

SAMPLER : N J V

Filename : **06-24-04.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)	TEMP. (celcius)	VOLUME PURGED (gal.)
1			13.99	18.00	-	-	-	-	-
3			15.42	20.00	0920	6.96	2,600	19.4	1.00
4R			13.86	20.00	-	-	-	-	-
5			13.87	18.00	-	-	-	-	-
6			13.70	20.00	0930	6.98	2,500	18.1	3.00
					INSTRUMENT CALIBRATIONS =	7.00	2,800		
					DATE & TIME =	06/24/04	0810		

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

Comments or note well diameter if not standard 2 ".

Well # 1 = 1.25" well point.
Collected BTEX samples from MW #3 & 6 only. BEI reclamation system operational @ time of sampling. Poor recovery in MW #3.

Hall Environmental Analysis Laboratory

Date: *07-Jul-04*

CLIENT: Blagg Engineering
Project: GCU Lease
Lab Order: 0406258

Lab ID: 0406258-02 **Collection Date:** 6/24/2004 9:20:00 AM
Client Sample ID: MW#3-GCU#93 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	1.5	0.50		µg/L	1	7/3/2004 2:16:07 AM
Toluene	ND	0.50		µg/L	1	7/3/2004 2:16:07 AM
Ethylbenzene	5.0	0.50		µg/L	1	7/3/2004 2:16:07 AM
Xylenes, Total	1.4	0.50		µg/L	1	7/3/2004 2:16:07 AM
Surr: 4-Bromofluorobenzene	101	74-118		%REC	1	7/3/2004 2:16:07 AM

Lab ID: 0406258-03 **Collection Date:** 6/24/2004 9:30:00 AM
Client Sample ID: MW#6-GCU#93 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	7.5	0.50		µg/L	1	7/3/2004 2:46:09 AM
Toluene	1.4	0.50		µg/L	1	7/3/2004 2:46:09 AM
Ethylbenzene	1.9	0.50		µg/L	1	7/3/2004 2:46:09 AM
Xylenes, Total	7.3	0.50		µg/L	1	7/3/2004 2:46:09 AM
Surr: 4-Bromofluorobenzene	97.1	74-118		%REC	1	7/3/2004 2:46:09 AM

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

CHAIN-OF-CUSTODY RECORD

Accreditation Applied:
NELAC ☐ USACE ☐
Other: _____

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: BLAGG / BP AMERICA
Address: P.O. BOX 87 BLTD., NM 87413
Phone #: 505-632-1199
Fax #: 505-632-3903

Project Name: GCU LEASE
Project #: nr
Project Manager: NJV
Sampler: NJV
Sample Temperature: 3°

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative	HEAL No.
6/24/04	0820	~~WATER~~ ~~0820~~ nr	MW #3R - GCU #170	2-40ml	✓			04062581
6/24/04	0920	WATER	MW #3 - GCU #93	2-40ml	✓			-2
6/24/04	0930	WATER	MW #6 - GCU #93	2-40ml	✓			-3
6/25/04	0700	WATER	MW #2A - GCU #153E	2-40ml	✓			-4
6/25/04	0710	WATER	MW #3R - GCU #153E	2-40ml	✓			-5

ANALYSIS REQUEST

(BTEX) + ~~MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles or Headspace (Y or N)
✓												
✓												
✓												
✓												
✓												

Date	Time	Relinquished By: (Signature)	Received By: (Signature)	
6/25/04	0855			6/25/04 1721
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	

Remarks:

Hall Environmental Analysis Laboratory

Date: *07-Jul-04*

CLIENT: Blagg Engineering
Work Order: 0406258
Project: GCU Lease

QC SUMMARY REPORT
Method Blank

Sample ID **Reagent Blank 5m** Batch ID: **R12337** Test Code: **SW8021** Units: **µg/L** Analysis Date **7/2/2004 10:11:05 AM** Prep Date

Client ID: Run ID: **PIDFID_040702A** SeqNo: **283891**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.5									
Toluene	ND	0.5									
Ethylbenzene	ND	0.5									
Xylenes, Total	ND	0.5									
Surr: 4-Bromofluorobenzene	19.72	0	20	0	98.6	74	118	0			

Sample ID **Reagent Blank 5m** Batch ID: **R12361** Test Code: **SW8021** Units: **µg/L** Analysis Date **7/6/2004 8:15:07 AM** Prep Date

Client ID: Run ID: **PIDFID_040706A** SeqNo: **284457**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.5									
Toluene	ND	0.5									
Ethylbenzene	ND	0.5									
Xylenes, Total	ND	0.5									
Surr: 4-Bromofluorobenzene	19.14	0	20	0	95.7	74	118	0			

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

Hall Environmental Analysis Laboratory

Date: *07-Jul-04*

CLIENT: Blagg Engineering
Work Order: 0406258
Project: GCU Lease

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID **BTEX std 100ng** Batch ID: **R12337** Test Code: **SW8021** Units: **µg/L** Analysis Date **7/2/2004 11:11:40 AM** Prep Date

Client ID: Run ID: **PIDFID_040702A** SeqNo: **283917**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.22	0.5	20	0	101	81.3	121	0			
Toluene	19.3	0.5	20	0	96.5	84.9	118	0			
Ethylbenzene	18.75	0.5	20	0	93.8	53.8	149	0			
Xylenes, Total	55.59	0.5	60	0	92.7	83.1	122	0			

Sample ID **BTEX std 100ng** Batch ID: **R12361** Test Code: **SW8021** Units: **µg/L** Analysis Date **7/6/2004 3:28:52 PM** Prep Date

Client ID: Run ID: **PIDFID_040706A** SeqNo: **284461**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.76	0.5	20	0	104	81.3	121	0			
Toluene	20.87	0.5	20	0	104	84.9	118	0			
Ethylbenzene	21.37	0.5	20	0	107	53.8	149	0			
Xylenes, Total	63.32	0.5	60	0	106	83.1	122	0			

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

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name BLAGG | Date and Time Received: 6/25/2004

Work Order Number 0406258 | Received by AT

Checklist completed by [signature] Signature | 6/25/04 Date

Matrix | Carrier name Greyhound

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑	Not Shipped ☐
Custody seals intact on sample bottles?	Yes ☐	No ☑	N/A ☐	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace?	No VOA vials submitted ☐	Yes ☑	No ☐	
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑	
Container/Temp Blank temperature?	3°	*4° C ± 2 Acceptable* If given sufficient time to cool.		

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT: BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY # : N / A

GCU # 93 - SEPARATOR & BLOW PITS
UNIT E, SEC. 36, T29N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : **Dec. 22, 2004**

SAMPLER : N J V

Filename : **06-24-04.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)	TEMP. (celcius)	VOLUME PURGED (gal.)
1			-	18.00	-	-	-	-	-
3			15.33	20.00	1450	6.96	2,500	16.6	1.25
4R			-	20.00	-	-	-	-	-
5			-	18.00	-	-	-	-	-
6			13.61	20.00	1500	7.05	2,400	16.1	3.25
					INSTRUMENT CALIBRATIONS =	7.00	2,800		
					DATE & TIME =	12/22/04	1440		

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

Comments or note well diameter if not standard 2 ".

Well # 1 has been removed - approx. in Oct. 2004.
Collected BTEX samples from MW #3 & 6 only. BEI reclamation system not operational @ time of sampling. Poor recovery in MW #3.

Hall Environmental Analysis Laboratory

Date: *03-Jan-05*

CLIENT: Blagg Engineering
Project: GCU Lease

Lab Order: 0412231

Lab ID: 0412231-04
Client Sample ID: MW#3-GCU #93

Collection Date: 12/22/2004 2:50:00 PM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: KTM
Benzene	1.0	1.0		µg/L	1	12/28/2004
Toluene	ND	1.0		µg/L	1	12/28/2004
Ethylbenzene	2.8	1.0		µg/L	1	12/28/2004
Xylenes, Total	ND	1.0		µg/L	1	12/28/2004
Surr: 4-Bromofluorobenzene	94.7	76.2-122		%REC	1	12/28/2004

Lab ID: 0412231-05
Client Sample ID: MW#6-GCU #93

Collection Date: 12/22/2004 3:00:00 PM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: KTM
Benzene	6.2	1.0		µg/L	1	12/29/2004
Toluene	ND	1.0		µg/L	1	12/29/2004
Ethylbenzene	2.2	1.0		µg/L	1	12/29/2004
Xylenes, Total	1.1	1.0		µg/L	1	12/29/2004
Surr: 4-Bromofluorobenzene	96.7	76.2-122		%REC	1	12/29/2004

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

CHAIN-OF-CUSTODY RECORD

Accreditation Applied:
NELAC ☐ USACE ☐
Other: _____

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: BLAGG ENER. / BP AMERICA
Project Name: GCU LEASE
Address: P.O. BOX 87 BLFD., NM 87413
Project #:
Project Manager: NJV
Phone #: 505-632-1199
Sampler: NJV
Fax #: 505-632-3903
Sample Temperature: 4°

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	HEAL No.
12/22/04	0915	WATER	MW #2 - GCU #188	2 - 40ml	✓		0412231-1
12/22/04	1015	WATER	MW #2 - GCU #194	2 - 40ml	✓		-2
12/22/04	1400	WATER	MW #2A - GCU #153E	2 - 40ml	✓		-3
12/22/04	1450	WATER	MW #3 - GCU #93	2 - 40ml	✓		-4
12/22/04	1500	WATER	MW #6 - GCU #93	2 - 40ml	✓		-5

ANALYSIS REQUEST

(BTEX) + MTBE + TMB's (8021B)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles or Headspace (Y or N)
✓																
✓																
✓																
✓																
✓																

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	
12/23/04	0830			12/23/04
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	1630

Remarks:

Hall Environmental Analysis Laboratory

Date: *03-Jan-05*

CLIENT: Blagg Engineering
Work Order: 0412231
Project: GCU Lease

QC SUMMARY REPORT
Method Blank

Sample ID **5mL rb**	Batch ID: **R14158**	Test Code: **SW8260B**	Units: **µg/L**	Analysis Date **12/28/2004**	Prep Date
Client ID:		Run ID: **THOR_041228A**		SeqNo: **329216**	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	1									
Toluene	ND	1									
Ethylbenzene	ND	1									
Xylenes, Total	ND	1									
Surr: 4-Bromofluorobenzene	9.466	0	10	0	94.7	76.2	122	0			

Sample ID **5mL rb**	Batch ID: **R14177**	Test Code: **SW8260B**	Units: **µg/L**	Analysis Date **12/29/2004**	Prep Date
Client ID:		Run ID: **THOR_041229A**		SeqNo: **329660**	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	1									
Toluene	ND	1									
Ethylbenzene	ND	1									
Xylenes, Total	ND	1									
Surr: 4-Bromofluorobenzene	9.58	0	10	0	95.8	76.2	122	0			

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

Hall Environmental Analysis Laboratory

Date: *03-Jan-05*

CLIENT: Blagg Engineering
Work Order: 0412231
Project: GCU Lease

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID **100ng lcs** Batch ID: **R14158** Test Code: **SW8260B** Units: **µg/L** Analysis Date **12/28/2004** Prep Date

Client ID: Run ID: **THOR_041228A** SeqNo: **329219**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	23.06	1	20	0	115	76.6	123	0			
Toluene	21.54	1	20	0	108	77	121	0			

Sample ID **100ng lcs** Batch ID: **R14177** Test Code: **SW8260B** Units: **µg/L** Analysis Date **12/29/2004** Prep Date

Client ID: Run ID: **THOR_041229A** SeqNo: **329664**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	22.19	1	20	0	111	76.6	123	0			
Toluene	21.01	1	20	0	105	77	121	0			

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

1

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name BLAGG | Date and Time Received: 12/23/2004

Work Order Number 0412231 | Received by AT

Checklist completed by _____ 12/23/04
Signature | Date

Matrix | Carrier name Greyhound

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑	Not Shipped ☐
Custody seals intact on sample bottles?	Yes ☐	No ☑	N/A ☐	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace?	No VOA vials submitted ☐	Yes ☑	No ☐	
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑	
Container/Temp Blank temperature?	4°	*4° C ± 2 Acceptable* If given sufficient time to cool.		

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY # : N / A

GCU # 93 - SEPARATOR & BLOW PITS
UNIT E, SEC. 36, T29N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : **Mar. 29, 2005**

SAMPLER : N J V

Filename : **03-29-05.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)	TEMP. (celcius)	VOLUME PURGED (gal.)
3			15.39	20.00	-	-	-	-	-
4R			13.88	20.00	-	-	-	-	-
5			13.87	18.00	-	-	-	-	-
6			13.72	20.00	0900	7.02	2,400	17.5	3.25
					INSTRUMENT CALIBRATIONS =	7.00	2,800		
					DATE & TIME =	03/28/05	0720		

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:

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

Comments or note well diameter if not standard 2 ".

Well # 1 has been removed - approx. in Oct. 2004 .
Collected BTEX samples from MW # 6 only . BEI reclamation system not operational
@ time of sampling .

Hall Environmental Analysis Laboratory

Date: *04-Apr-05*

CLIENT: Blagg Engineering
Project: GCU Lease

Lab Order: 0503265

Lab ID: 0503265-04
Client Sample ID: MW#6 GCU #93

Collection Date: 3/29/2005 9:00:00 AM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	6.9	0.50		µg/L	1	4/1/2005 12:41:42 PM
Toluene	1.8	0.50		µg/L	1	4/1/2005 12:41:42 PM
Ethylbenzene	3.1	0.50		µg/L	1	4/1/2005 12:41:42 PM
Xylenes, Total	14	0.50		µg/L	1	4/1/2005 12:41:42 PM
Surr: 4-Bromofluorobenzene	105	83.3-121		%REC	1	4/1/2005 12:41:42 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

CHAIN-OF-CUSTODY RECORD

Accreditation Applied:
NELAC ☐ USACE ☐
Other: _____

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: BLAGG ENGR. / BP AMERICA
Project Name: GCU LEASE
Address: P.O. BOX 87 BLFD., NM 87413
Project #: nv
Project Manager: NJV
Phone #: 505-632-1199
Sampler: NJV
Fax #: 505-632-3903
Sample Temperature: 5°C

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative	HEAL No.
3/28/05	1600	WATER	MW #2 - GCU #188	2-40ml	✓			0503265-1
3/28/05	1715	WATER	MW #2 - GCU #194	2-40ml	✓			-2
3/29/05	0730	WATER	MW #2A - GCU #153E	2-40ml	✓			-3
3/29/05	0900	WATER	MW #6 - GCU #93	2-40ml	✓			-4

ANALYSIS REQUEST

(BTEX) + MTBE + TMB's (8021B)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles or Headspace (Y or N)
✓																
✓																
✓																
✓																

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
3/29/05	0915		3/29/05 1715
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks:

Hall Environmental Analysis Laboratory

Date: *04-Apr-05*

CLIENT: Blagg Engineering
Work Order: 0503265
Project: GCU Lease

QC SUMMARY REPORT
Method Blank

Sample ID **Reagent Blank 5m** Batch ID: **R14984** Test Code: **SW8021** Units: **µg/L** Analysis Date **4/1/2005 9:03:48 AM** Prep Date

Client ID: Run ID: **PIDFID_050401A** SeqNo: **348595**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.5									
Toluene	ND	0.5									
Ethylbenzene	ND	0.5									
Xylenes, Total	ND	0.5									
Surr: 4-Bromofluorobenzene	19.49	0	20	0	97.5	83.3	121	0			

2 / 5

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

1

Hall Environmental Analysis Laboratory

Date: *04-Apr-05*

CLIENT: Blagg Engineering
Work Order: 0503265
Project: GCU Lease

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID **0503265-02a ms** Batch ID: **R14984** Test Code: **SW8021** Units: **µg/L** Analysis Date **4/1/2005 5:45:26 PM** Prep Date

Client ID: **MW#2 GCU #194** Run ID: **PIDFID_050401A** SeqNo: **348625**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.18	0.5	20	0.4414	104	88.7	114	0			
Toluene	20.37	0.5	20	0.2268	101	89.3	112	0			
Ethylbenzene	23.46	0.5	20	1.487	110	88.6	113	0			
Xylenes, Total	64.53	0.5	60	2.118	104	89.4	112	0			
Surr: 4-Bromofluorobenzene	24.97	0	24	0	104	83.3	121	0			

Sample ID **0503265-02a msd** Batch ID: **R14984** Test Code: **SW8021** Units: **µg/L** Analysis Date **4/1/2005 6:15:44 PM** Prep Date

Client ID: **MW#2 GCU #194** Run ID: **PIDFID_050401A** SeqNo: **348631**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.65	0.5	20	0.4414	101	88.7	114	21.18	2.56	27	
Toluene	20.75	0.5	20	0.2268	103	89.3	112	20.37	1.84	19	
Ethylbenzene	23.19	0.5	20	1.487	109	88.6	113	23.46	1.17	10	
Xylenes, Total	61.73	0.5	60	2.118	99.3	89.4	112	64.53	4.44	13	
Surr: 4-Bromofluorobenzene	25.22	0	24	0	105	83.3	121	24.97	0.989	0	

3 / 5

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

1

Hall Environmental Analysis Laboratory

Date: *04-Apr-05*

CLIENT: Blagg Engineering
Work Order: 0503265
Project: GCU Lease

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID **BTEX lcs 100ng** Batch ID: **R14984** Test Code: **SW8021** Units: **µg/L** Analysis Date **4/1/2005 5:15:08 PM** Prep Date

Client ID: Run ID: **PIDFID_050401A** SeqNo: **348644**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	19.81	0.5	20	0	99.0	88.7	114	0			
Toluene	20.39	0.5	20	0	102	89.3	112	0			
Ethylbenzene	20.77	0.5	20	0	104	88.6	113	0			
Xylenes, Total	59.76	0.5	60	0	99.6	89.4	112	0			

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

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name BLAGG | Date and Time Received: 3/29/2005

Work Order Number 0503265 | Received by AT

Checklist completed by _____ 3/29/05
Signature | Date

Matrix | Carrier name Greyhound

Shipping container/cooler in good condition?	Yes	☑	No	☐	Not Present	☐	
Custody seals intact on shipping container/cooler?	Yes	☐	No	☐	Not Present	☑	Not Shipped ☐
Custody seals intact on sample bottles?	Yes	☐	No	☑	N/A	☐	
Chain of custody present?	Yes	☑	No	☐			
Chain of custody signed when relinquished and received?	Yes	☑	No	☐			
Chain of custody agrees with sample labels?	Yes	☑	No	☐			
Samples in proper container/bottle?	Yes	☑	No	☐			
Sample containers intact?	Yes	☑	No	☐			
Sufficient sample volume for indicated test?	Yes	☑	No	☐			
All samples received within holding time?	Yes	☑	No	☐			
Water - VOA vials have zero headspace?	No VOA vials submitted	☐	Yes	☑	No	☐	
Water - pH acceptable upon receipt?	Yes	☐	No	☐	N/A	☑	

Container/Temp Blank temperature? **5°** *4° C ± 2 Acceptable*
If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY # : N / A

GCU # 93 - SEPARATOR & BLOW PITS
UNIT E, SEC. 36, T29N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : June 27, 2005

SAMPLER : N J V

Filename : 06-27-05.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)	TEMP. (celcius)	VOLUME PURGED (gal.)
3			15.41	20.00	-	-	-	-	-
4R			13.84	20.00	-	-	-	-	-
5			13.65	18.00	-	-	-	-	-
6			13.68	20.00	0800	7.07	2,300	15.7	3.25
					INSTRUMENT CALIBRATIONS =	7.00	2,800		
					DATE & TIME =	06/27/05	0630		

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

Comments or note well diameter if not standard 2 ".

Well # 1 has been removed - approx. in Oct. 2004.
Collected BTEX samples from MW #6 only. BEI reclamation system not operational
@ time of sampling.

Hall Environmental Analysis Laboratory

Date: *05-Jul-05*

CLIENT: Blagg Engineering
Project: GCU LEASE
Lab Order: 0506255

Lab ID: 0506255-02
Client Sample ID: MW-6 GCU#93
Collection Date: 6/27/2005 8:00:00 AM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: KTM
Benzene	12	0.50		µg/L	1	6/29/2005 11:01:05 PM
Toluene	2.0	0.50		µg/L	1	6/29/2005 11:01:05 PM
Ethylbenzene	4.3	0.50		µg/L	1	6/29/2005 11:01:05 PM
Xylenes, Total	30	0.50		µg/L	1	6/29/2005 11:01:05 PM
Surr: 4-Bromofluorobenzene	100	83.3-121		%REC	1	6/29/2005 11:01:05 PM

Qualifiers:

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quantitation limits
- B - Analyte detected in the associated Method Blank
- * - Value exceeds Maximum Contaminant Level
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range

CHAIN-OF-CUSTODY RECORD

Accreditation Applied:
NELAC ☐ USACE ☐
Other: _____

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: BLAGG ENGR. / BP AMERICA

Address: P.O. BOX 87
BLFD., NM 87413

Phone #: (505) 632-1199

Fax #: (505) 632-3903

Project Name: GCU LEASE

Project #: NV

Project Manager: NV

Sampler: NV

Sample Temperature: 26

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative	HEAL No. 050625
6/27/05	0705	WATER	MW #3R - GCU #170	2-40ml	✓			-1
6/27/05	0800	WATER	MW #6 - GCU #93	2-40ml	✓			-2
6/27/05	0830	WATER	MW #3R - GCU #153E	2-40ml	✓			-3

ANALYSIS REQUEST

(BTEX) + MTBE + TMB's (8021B)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles or Headspace (Y or N)
✓																
✓																
✓																

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
6/27/05	0835	Nelson Velez	Natasha Martinez 6/27/05 1605
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks:

Hall Environmental Analysis Laboratory

Date: *05-Jul-05*

CLIENT: Blagg Engineering
Work Order: 0506255
Project: GCU LEASE

QC SUMMARY REPORT
Method Blank

Sample ID **Reagent Blank 5m** Batch ID: **R15847** Test Code: **SW8021** Units: **µg/L** Analysis Date **6/29/2005 10:41:34 AM** Prep Date
Client ID: Run ID: **PIDFID_050629A** SeqNo: **375749**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.5									
Toluene	ND	0.5									
Ethylbenzene	ND	0.5									
Xylenes, Total	ND	0.5									
Surr: 4-Bromofluorobenzene	18.31	0	20	0	91.6	83.3	121	0			

Sample ID **Reagent Blank 5m** Batch ID: **R15863** Test Code: **SW8021** Units: **µg/L** Analysis Date **6/30/2005 10:30:22 AM** Prep Date
Client ID: Run ID: **PIDFID_050630A** SeqNo: **376231**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.5									
Toluene	ND	0.5									
Ethylbenzene	ND	0.5									
Xylenes, Total	ND	0.5									
Surr: 4-Bromofluorobenzene	17.44	0	20	0	87.2	83.3	121	0			

2 / 4

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: 0506255
Project: GCU LEASE

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID **BTEX LCS 100ng** Batch ID: **R15847** Test Code: **SW8021** Units: **µg/L** Analysis Date **6/29/2005 1:30:53 PM** Prep Date

Client ID: Run ID: **PIDFID_050629A** SeqNo: **375788**

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	88.7	114	0			
Toluene	19.77	0.5	20	0	98.9	89.3	112	0			
Ethylbenzene	19.48	0.5	20	0	97.4	88.6	113	0			
Xylenes, Total	59.2	0.5	60	0	98.7	89.4	112	0			

Sample ID **BTEX LCS 100ng** Batch ID: **R15863** Test Code: **SW8021** Units: **µg/L** Analysis Date **6/30/2005 12:03:37 PM** Prep Date

Client ID: Run ID: **PIDFID_050630A** SeqNo: **376239**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	18.58	0.5	20	0	92.9	88.7	114	0			
Toluene	18.93	0.5	20	0	94.6	89.3	112	0			
Ethylbenzene	18.79	0.5	20	0	93.9	88.6	113	0			
Xylenes, Total	57.41	0.5	60	0	95.7	89.4	112	0			

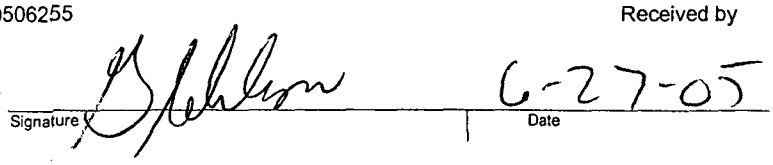
Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name BLAGG | Date and Time Received: 6/27/2005

Work Order Number 0506255 | Received by NMP

Checklist completed by  6-27-05
Signature | Date

Matrix | Carrier name Greyhound

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑	Not Shipped ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	N/A ☑	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace?	No VOA vials submitted ☐	Yes ☑	No ☐	
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑	

Container/Temp Blank temperature? **2°** *4° C ± 2 Acceptable* If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY # : N / A

GCU # 93 - SEPARATOR & BLOW PITS
UNIT E, SEC. 36, T29N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : **Sept. 27, 2005**

SAMPLER : N J V

Filename : **09-27-05.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)	TEMP. (celcius)	VOLUME PURGED (gal.)
3			-	20.00	-	-	-	-	-
4R			-	20.00	-	-	-	-	-
5			-	18.00	-	-	-	-	-
6			13.01	20.00	0900	6.95	2,500	18.0	3.50
					INSTRUMENT CALIBRATIONS =	7.00	2,800		
					DATE & TIME =	09/27/04	0855		

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

Comments or note well diameter if not standard 2 ".

Well # 1 has been removed - approx. in Oct. 2004.
Collected BTEX samples from MW #6 only. BEI reclamation system not operational
@ time of sampling.

Hall Environmental Analysis Laboratory

Date: *30-Sep-05*

CLIENT: Blagg Engineering
Client Sample ID: MW#6
Lab Order: 0509299
Collection Date: 9/27/2005 9:00:00 AM
Project: GCU #93
Lab ID: 0509299-01
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	9/29/2005 2:57:05 PM
Benzene	9.1	0.50		µg/L	1	9/29/2005 2:57:05 PM
Toluene	ND	0.50		µg/L	1	9/29/2005 2:57:05 PM
Ethylbenzene	2.5	0.50		µg/L	1	9/29/2005 2:57:05 PM
1,2,4-Trimethylbenzene	1.7	0.50		µg/L	1	9/29/2005 2:57:05 PM
1,3,5-Trimethylbenzene	ND	0.50		µg/L	1	9/29/2005 2:57:05 PM
Xylenes, Total	11	0.50		µg/L	1	9/29/2005 2:57:05 PM
Surr: 4-Bromofluorobenzene	101	82.2-119		%REC	1	9/29/2005 2:57:05 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

CHAIN-OF-CUSTODY RECORD

Accreditation Applied:
NELAC ☐ USACE ☐
Other: _____

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: BLAGG ENGR. / BP AMERICA / ~~MARKER~~ NV

Project Name: GCU #93

Address: P.O. BOX 87
BLFD., NM 87413

Project #: NV

Project Manager: NV

Phone #: 632-1199

Sampler: NV

Fax #:

Sample Temperature: 5°

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative	HEAL No.
9/27/05	0900	WATER	MW #6	2-40ml	✓			0509299 - 1

ANALYSIS REQUEST

BTEX + MTBE + TMB's (8021B)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles or Headspace (Y or N)
✓																

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
9/28/05	1000		
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
			9/28/05 17:02

Remarks:

Hall Environmental Analysis Laboratory

Date: *30-Sep-05*

CLIENT: Blagg Engineering
Work Order: 0509299
Project: GCU #93

QC SUMMARY REPORT

Method Blank

Sample ID **Reagent Blank 5m** Batch ID: **R16817** Test Code: **SW8021** Units: **µg/L** Analysis Date **9/29/2005 7:36:03 AM** Prep Date

Client ID: Run ID: **PIDFID_050929A** SeqNo: **405547**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	2.5									
Benzene	ND	0.5									
Toluene	ND	0.5									
Ethylbenzene	ND	0.5									
1,2,4-Trimethylbenzene	ND	0.5									
1,3,5-Trimethylbenzene	ND	0.5									
Xylenes, Total	ND	0.5									
Surr: 4-Bromofluorobenzene	19.04	0	20	0	95.2	82.2	119	0			

2 / 4

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

Hall Environmental Analysis Laboratory

Date: *30-Sep-05*

CLIENT: Blagg Engineering
Work Order: 0509299
Project: GCU #93

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID **BTEX lcs 100ng** Batch ID: **R16817** Test Code: **SW8021** Units: **µg/L** Analysis Date **9/29/2005 8:39:01 PM** Prep Date

Client ID: Run ID: **PIDFID_050929A** SeqNo: **405548**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	16.69	2.5	20	0	83.5	64.5	133	0			
Benzene	20.15	0.5	20	0	101	88.5	114	0			
Toluene	19.97	0.5	20	0	99.8	87.2	114	0			
Ethylbenzene	19.94	0.5	20	0	99.7	88.6	113	0			
1,2,4-Trimethylbenzene	19.2	0.5	20	0	96.0	83.8	114	0			
1,3,5-Trimethylbenzene	19.39	0.5	20	0	97.0	82.8	114	0			
Xylenes, Total	41.15	0.5	40	0	103	83.3	114	0			

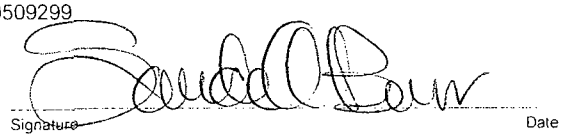
Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name BLAGG | Date and Time Received: 9/28/2005

Work Order Number 0509299 | Received by SSB

Checklist completed by  Signature | 9/28/05 Date

Matrix | Carrier name Greyhound

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐	Not Shipped ☐
Custody seals intact on sample bottles?	Yes ☑	No ☐	N/A ☐	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace?	No VOA vials submitted ☐	Yes ☑	No ☐	
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑	
Container/Temp Blank temperature?	5°	*4° C ± 2 Acceptable* If given sufficient time to cool.		

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY # : N / A

GCU # 93 - SEPARATOR & BLOW PITS
UNIT E, SEC. 36, T29N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : June 29, 2006

SAMPLER : N J V

Filename : 06-29-06.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)	TEMP. (celcius)	VOLUME PURGED (gal.)
3		removed		20.00	-	-	-	-	-
4R		removed		20.00	-	-	-	-	-
5		removed		18.00	-	-	-	-	-
6	-	-	13.38	20.00	1355	7.09	2,200	25.0	3.25
					INSTRUMENT CALIBRATIONS =	7.00	2,800		
					DATE & TIME =	06/26/06	0630		

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:

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

Comments or note well diameter if not standard 2 ".

Excellent recovery in MW # 6 . All other MW 's on the site have removed at landowner ' s request .
Collected BTEX samples from MW # 6 only . BEI reclamation system not operational
@ time of sampling .

Hall Environmental Analysis Laboratory, Inc.

Date: *12-Jul-06*

CLIENT:	Blagg Engineering	**Client Sample ID:**	MW #6
Lab Order:	0606374	**Collection Date:**	6/29/2006 1:55:00 PM
Project:	GCU #93	**Date Received:**	6/30/2006
Lab ID:	0606374-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	1.5	1.0		µg/L	1	7/11/2006 12:48:35 PM
Toluene	ND	1.0		µg/L	1	7/11/2006 12:48:35 PM
Ethylbenzene	1.1	1.0		µg/L	1	7/11/2006 12:48:35 PM
Xylenes, Total	6.0	3.0		µg/L	1	7/11/2006 12:48:35 PM
Surr: 4-Bromofluorobenzene	97.0	72.2-125		%REC	1	7/11/2006 12:48:35 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits		

CHAIN-OF-CUSTODY RECORD

Accreditation Applied:
NELAC ☐ USACE ☐
Other: _____

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: BLAGG ENGR. / BP AMERICA

Project Name: GCU #93

Address: P.O. BOX 87
BLFD, NM 87413

Project #: NV

Project Manager: NV

Phone #: 632-1199

Sampler: NV

Fax #:

Sample Temperature: 6°

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative	HEAL No.
6/29/06	1355	WATER	MW #6	2-40 ml	✓			606374-1

ANALYSIS REQUEST

(BTEX) + MTBE + TMB's (8021B)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles or Headspace (Y or N)
✓																

Date	Time	Relinquished By: (Signature)	Received By: (Signature)	
6/30/06		Melissa Vaj	D Schlegel	6-30-06 1655
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	

Remarks:

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: GCU #93 **Work Order:** 0606374

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8021									
Sample ID: 5ML RB		*MBLK*			Batch ID:	**R19846**	Analysis Date:		7/10/2006 8:44:37 AM
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	3.0						
Sample ID: 5ML RB		*MBLK*			Batch ID:	**R19868**	Analysis Date:		7/11/2006 8:11:30 AM
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	3.0						
Sample ID: 100NG BTEX LCS		*LCS*			Batch ID:	**R19846**	Analysis Date:		7/10/2006 1:14:32 PM
Benzene	19.16	µg/L	1.0	95.8	85	115			
Toluene	18.37	µg/L	1.0	90.3	85	118			
Ethylbenzene	19.10	µg/L	1.0	95.5	85	116			
Xylenes, Total	59.24	µg/L	3.0	96.2	85	119			
Sample ID: 100NG BTEX LCS		*LCS*			Batch ID:	**R19868**	Analysis Date:		7/11/2006 7:20:12 PM
Benzene	18.97	µg/L	1.0	94.8	85	115			
Toluene	17.83	µg/L	1.0	89.1	85	118			
Ethylbenzene	18.23	µg/L	1.0	91.1	85	116			
Xylenes, Total	56.77	µg/L	3.0	93.1	85	119			
Sample ID: 100NG BTEX LCSD		*LCSD*			Batch ID:	**R19846**	Analysis Date:		7/10/2006 6:40:10 PM
Benzene	19.17	µg/L	1.0	95.9	85	115	0.0730	27	
Toluene	17.96	µg/L	1.0	88.2	85	118	2.27	19	
Ethylbenzene	18.63	µg/L	1.0	93.2	85	116	2.46	10	
Xylenes, Total	59.62	µg/L	3.0	96.8	85	119	0.643	13	
Sample ID: 100NG BTEX LCSD		*LCSD*			Batch ID:	**R19868**	Analysis Date:		7/11/2006 7:49:12 PM
Benzene	19.72	µg/L	1.0	98.6	85	115	3.88	27	
Toluene	19.09	µg/L	1.0	95.4	85	118	6.84	19	
Ethylbenzene	19.91	µg/L	1.0	99.6	85	116	8.83	10	
Xylenes, Total	61.88	µg/L	3.0	102	85	119	8.61	13	

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name BLAGG | Date and Time Received: 6/30/2006

Work Order Number 0606374 | Received by AT

Checklist completed by _____ Signature _____ Date 6/30/06

Matrix | Carrier name Greyhound

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐	Not Shipped ☐
Custody seals intact on sample bottles?	Yes ☐	No ☑	N/A ☐	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace?	No VOA vials submitted ☐	Yes ☑	No ☐	
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑	

Container/Temp Blank temperature? **6°** *4° C ± 2 Acceptable* If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY # : N / A

GCU # 93 - SEPARATOR & BLOW PITS
UNIT E, SEC. 36, T29N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : October 30, 2006

SAMPLER : N J V

Filename : 10-30-06.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)	TEMP. (celcius)	VOLUME PURGED (gal.)
3		**removed**		20.00	-	-	-	-	-
4R		**removed**		20.00	-	-	-	-	-
5		**removed**		18.00	-	-	-	-	-
6	-	-	12.91	20.00	1355	7.05	2,400	19.9	3.50
					INSTRUMENT CALIBRATIONS =	7.00	2,800		
					DATE & TIME =	10/27/06	0845		

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

Comments or note well diameter if not standard 2 ".

Excellent recovery in MW # 6. All other MW 's on the site have removed at landowner ' s request.
Collected BTEX samples from MW # 6 only. BEI reclamation system not operational
@ time of sampling.

Hall Environmental Analysis Laboratory, Inc.

Date: *03-Nov-06*

CLIENT:	Blagg Engineering	**Client Sample ID:**	MW#6
Lab Order:	0611003	**Collection Date:**	10/30/2006 12:55:00 PM
Project:	GCU #93	**Date Received:**	11/1/2006
Lab ID:	0611003-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	4.8	1.0		µg/L	1	11/2/2006 3:12:25 PM
Toluene	ND	1.0		µg/L	1	11/2/2006 3:12:25 PM
Ethylbenzene	2.1	1.0		µg/L	1	11/2/2006 3:12:25 PM
Xylenes, Total	9.9	3.0		µg/L	1	11/2/2006 3:12:25 PM
Surr: 4-Bromofluorobenzene	88.7	72.2-125		%REC	1	11/2/2006 3:12:25 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

CHAIN-OF-CUSTODY RECORD

QA / QC Package:
Std ☐ Level 4 ☐
Other:

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: BLAGG ENGR. / BP AMERICA
Address: P.O. BOX 87
BLFD, NM 87413
Phone #: 632-1199
Fax #:

Project Name: GCU #93
Project #:
Project Manager: NV
Sampler: NV
Sample Temperature: 3°

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative	HEAL No.
								0611003
10/30/06	1255	WATER	MW #6	2-40ml	✓			-1

BTEX + ~~MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles or Headspace (Y or N)
✓																

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	
10/31/06	1700			11-1-06
				10:00
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	

Remarks:

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: GCU #93 **Work Order:** 0611003

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8021									
Sample ID: 5ML RB		*MBLK*			Batch ID:	**R21272**	Analysis Date:	11/2/2006 8:24:59 AM	
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	3.0						
Sample ID: 100NG BTEX LCS		*LCS*			Batch ID:	**R21272**	Analysis Date:	11/2/2006 5:13:35 PM	
Benzene	18.71	µg/L	1.0	93.6	85	115			
Toluene	18.92	µg/L	1.0	94.6	85	118			
Ethylbenzene	18.78	µg/L	1.0	91.3	85	116			
Xylenes, Total	37.98	µg/L	3.0	91.3	85	119			
Sample ID: 100NG BTEX LCSD		*LCSD*			Batch ID:	**R21272**	Analysis Date:	11/2/2006 5:43:34 PM	
Benzene	18.94	µg/L	1.0	94.7	85	115	1.18	27	
Toluene	19.35	µg/L	1.0	96.7	85	118	2.23	19	
Ethylbenzene	19.05	µg/L	1.0	92.6	85	116	1.45	10	
Xylenes, Total	39.18	µg/L	3.0	94.3	85	119	3.11	13	

Qualifiers:

- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name BLAGG | Date and Time Received: 11/1/2006

Work Order Number 0611003 | Received by GLS

Checklist completed by G Schlyppe (Signature) 11-1-06 (Date)

Matrix | Carrier name Greyhound

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐	Not Shipped ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	N/A ☑	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace?	No VOA vials submitted ☐	Yes ☑	No ☐	
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑	
Container/Temp Blank temperature?	3°	*4° C ± 2 Acceptable* If given sufficient time to cool.		

COMMENTS:

Client contacted | Date contacted: | Person contacted

Contacted by: | Regarding

Comments:

Corrective Action

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY # : N / A

GCU # 93 - SEPARATOR & BLOW PITS
UNIT E, SEC. 36, T29N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : **January 24, 2007**

SAMPLER : N J V

Filename : **01-24-07.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)	TEMP. (celcius)	VOLUME PURGED (gal.)
3	**removed**			20.00	-	-	-	-	-
4R	**removed**			20.00	-	-	-	-	-
5	**removed**			18.00	-	-	-	-	-
6	-	-	13.13	20.00	1230	7.07	2,500	13.1	3.50

INSTRUMENT CALIBRATIONS =	7.00	2,800
DATE & TIME =	01/22/07	1115

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

Comments or note well diameter if not standard 2 ".

Excellent recovery in MW # 6 . All other MW 's on the site have removed at landowner ' s request .
Collected BTEX samples from MW # 6 only . BEI reclamation system not operational
@ time of sampling .

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Jan-07*

CLIENT:	Blagg Engineering	**Client Sample ID:**	MW#6
Lab Order:	0701314	**Collection Date:**	1/24/2007 12:30:00 PM
Project:	GCU #93	**Date Received:**	1/26/2007
Lab ID:	0701314-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **LMM**
Benzene	5.2	1.0		µg/L	1	1/27/2007 2:23:05 AM
Toluene	ND	1.0		µg/L	1	1/27/2007 2:23:05 AM
Ethylbenzene	3.0	1.0		µg/L	1	1/27/2007 2:23:05 AM
Xylenes, Total	17	3.0		µg/L	1	1/27/2007 2:23:05 AM
Surr: 4-Bromofluorobenzene	85.6	70.2-105		%REC	1	1/27/2007 2:23:05 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

CHAIN-OF-CUSTODY RECORD

QA / QC Package:
Std ☐ Level 4 ☐
Other:

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

Client: BLAGG ENER. / BP AMERICA
Project Name: Gcu #93
Address: P.O. BOX 87 BLFD., NM 87413
Project #:
Project Manager: NV
Phone #: 632-1199
Sampler: NV
Fax #:
Sample Temperature: 3°

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative	HEAL No.
1/24/07	1230	WATER	MW #6	2-40ml	✓			0701314 -1

ANALYSIS REQUEST

(BTEX + ~~MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles or Headspace (Y or N)
✓																

Date	Time	Relinquished By: (Signature)	Received By: (Signature)	
1/25/07	1110			1/26/07
				933
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	

Remarks:

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: GCU #93 **Work Order:** 0701314

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8021									
Sample ID: 5ML RB		*MBLK*			Batch ID:	**R22287**	Analysis Date:	1/26/2007 10:39:39 AM	
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	3.0						
Sample ID: 100NG BTEX LCS		*LCS*			Batch ID:	**R22287**	Analysis Date:	1/26/2007 12:10:12 PM	
Benzene	17.99	µg/L	1.0	90.0	85.9	113			
Toluene	18.70	µg/L	1.0	93.5	86.4	113			
Ethylbenzene	18.92	µg/L	1.0	94.6	83.5	118			
Xylenes, Total	56.87	µg/L	3.0	94.8	83.4	122			

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name BLAGG | Date and Time Received: 1/26/2007

Work Order Number 0701314 | Received by TLS

Checklist completed by D Schlupp 1-26-07
Signature | Date

Matrix | Carrier name Greyhound

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐	Not Shipped ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	N/A ☑	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace? No VOA vials submitted ☐		Yes ☑	No ☐	
Water - Preservation labels on bottle and cap match?	Yes ☐	No ☐	N/A ☑	
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑	
Container/Temp Blank temperature?	3°	*4° C ± 2 Acceptable* If given sufficient time to cool.		

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____