3R0031

CLOSURE REPORT

02/11/2008

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

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3R0031
FEB 11 2008
Oil Conservation Division
Environmental Bureau

February 8, 2008

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

RE: REQUEST FOR PERMANENT CLOSURE
BP America Production Company (formerly Amoco Production Company)
Groundwater Monitoring Report
Jennapah GC A # 1, Unit H, Sec. 36, T28N, R9W, NMPM
San Juan County, New Mexico

NMOCD Administrative/Environmental Order #: 3RP-31-0

Dear Mr. von Gonten:

BP America Production Company (**BP**) has retained Blagg Engineering, Inc. (**BEI**) to conduct environmental monitoring of groundwater at the Jennapah GC A # 1.

BP has followed its NMOCD approved groundwater management plan and is requesting permanent closure for 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

Jennapah GC A 1 02-08-08 CVL.DOC

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FEB 11 2008

Oil Conservation Division
Environmental Bureau

BP AMERICA PRODUCTION CO.

GROUNDWATER REMEDIATION REPORT

JENNAPAH GC A # 1
(H) SECTION 36, T28N, R9W, NMPM
SAN JUAN COUNTY, NEW MEXICO

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

FEBRUARY 2008

PREPARED BY:
BLAGG ENGINEERING, INC.

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

BP AMERICA PRODUCTION COMPANY
Jennapah GC A #1
Se/4 Ne/4, Sec. 36, T28N, R9W

Site Assessment Dates:	**Oct. 1992 (Documentation Included)**
Pit Closure Dates:	**Aug 1994 (Documentation Included)**
Monitor Well Installation Dates:	**11/13/1992 (MW #1), 8/25/1994 (WP #1, WP #2, WP #3, WP #4), 11/2/2006 (MW #1A, MW #2A, MW #3A)**
Monitor Well Sampling Dates:	**1/13/93, 4/28/93, 9/2/93, 3/30/94, 6/22/94, 8/25/94, 12/27/94, 3/16/95, 6/15/95, 9/6/95, 12/6/95, 3/21/96, 6/17/96, 6/16/97, 6/23/98, 9/25/98, 11/28/06, 2/26/07, 5/21/07, 8/16/07**

Historical Information:

Environmental site activity was initiated in October, 1992. Two (2) earthen pits, namely a separator and production tank, were assessed within and adjacent to each perimeter utilizing a backhoe/extendahoe (Appendix A). Field screening instrumentation and laboratory analyses confirmed hydrocarbon impacted soil was present at both pit areas. In November, 1992, **BP** (formerly Amoco Production Company) contracted Envirotech, Inc. to conduct a groundwater assessment project at selected pits for fifteen (15) well sites within San Juan County, New Mexico. The document, titled "Amoco Preliminary Groundwater Assessment – Expanded Vulnerable Area Phase II" was completed and submitted to the New Mexico Oil Conservation Division (**NMOCD**) District III Aztec, New Mexico Office in May, 1993. It should be noted that the site assessment field report contained in the document is listed as the Jennapah #1 well site and is ***not*** the same site assessment document attached within this report. The Jennapah GC A #1 production tank pit was the actual pit chosen as part of the project and in November, 1992, a monitor well was installed after groundwater was encountered at a depth of approximately 24 feet below surface grade (MW #1). The boring location was noted approximately twenty (20) feet west of the pit perimeter, with no observed or confirmed hydrocarbon impact to either soil or groundwater. In September, 1993, condensate, also known as drip, was observed being discharged into the production tank pit during the developing and sampling of MW #1 (third sampling event). The laboratory results for benzene, toluene, ethylbenzene, and total xylenes (**BTEX**) per US EPA method 8020 revealed the constituents benzene, toluene, and total xylenes exceeding the New Mexico Water Quality Control Commission (**NMWQCC**) groundwater standards. The following three (3) sampling events (December, 1993 to June, 1994) showed those same constituents exceeding NMWQCC standards with fluctuating values. The summary of the laboratory results from MW #1 can be found within the table succeeding the text portion of this report. Additionally, all laboratory reports and field data sheets are included in Appendix E.

In August, 1994, BP opted to aggressively remediate both separator and production tank pits via excavation of the impacted soil media. The excavation perimeters were measured at approximately 27 X 36 X 27 feet depth and 65 X 47 X 27 feet depth respectively. A combined estimation of 3,925 cubic yards of soil was removed from both and composted on-site during this remedial effort. Afterwards, the exposed groundwater within the excavations was sampled and tested for BTEX. Subsequent sampling of the groundwater was conducted from both excavations. On August 25, 1994, Blagg Engineering, Inc. (**BEI**) installed four (4) drive points (WP #1 through #4) within the Blanco Wash area west of the excavation (see Figure 1 in Appendix C). The drive points consisted of a three (3) foot section of perforated galvanized steel attached with a coupler to a three (3) foot solid casing (see Typical Drive Point Schematic in Appendix B). On August 30, 1994, WP #3 was sampled for polynuclear aromatic hydrocarbons (**PAH**) per US EPA method 8100. The laboratory results revealed 13 parts per billion (**ppb**), well below NMWQCC standards of 30 ppb for groundwater. The pit closure data was submitted to the NMOCD with letter dated September 19, 1994. NMOCD responded with letter dated December 10, 1996 denying closure based on results exceeding the NMWQCC standards (attached in Appendix D).

The BTEX results of the groundwater sampling from the production tank pit excavation are as follows;

Sample ID	Date	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Total Xylenes (ppb)
PW1 @ GW (22')	08/24/94	**235**	**2,638**	38	**4,106**
PW2 @ GW (27')	08/30/94	**123**	**1,948**	54	**1,830**
Production Pit @ G.W.	09/07/94	**30.6**	6.3	50.6	**1,313**
NMWQCC regulatory Standards		**10**	**750**	**750**	**620**

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

The BTEX results of the groundwater sampling from the separator pit excavation are as follows;

Sample ID	Date	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Total Xylenes (ppb)
PW1 @ GW (27') – Sep Pit	08/26/94	**92**	**2,009**	30	**3,678**
Separator Pit @ G.W.	09/07/94	ND	6.0	2.3	58.8
NMWQCC regulatory Standards		**10**	**750**	**750**	**620**

Note: ppb = parts per billion, ND = Not Detectable at Stated Limit, NMWQCC = New Mexico Water Quality Control Commission.

In April, 1997, the on-site treatment of the impacted soil removed was tested for hydrocarbon content and appears to have met NMOCD closure standards (attached in Appendix D). One (1) five (5) point composite soil sample was collected during the investigation. The sample was tested by a qualified laboratory for total petroleum hydrocarbon (TPH) analysis per US EPA method 8015 modified. The following table summarizes the field screening and laboratory results of the soil sampling event;

SAMPLE ID	DATE	OVM (ppm)	TOTAL TPH (ppm)
CP-3	4/28/97	0.0	ND
NMOCD REGULATORY STANDARDS		**100**	**100**

Note: OVM = organic vapor meter or photoionization detector (PID), TPH = total petroleum hydrocarbons, ppm = parts per million, ND = Not Detectable at Stated Limit, NMOCD = New Mexico Oil Conservation Division.

Groundwater Investigation and Soil Lithology:

As noted earlier, four (4) drive points were installed in August, 1994. Quarterly sampling of all points continued through March, 1996. All BTEX samples were at non-detectable or very low levels below NMWQCC standards except WP #3. WP #3 contained elevated benzene and total xylenes levels throughout this timeframe and ultimately was placed on an annual sampling schedule. In June, 1998, WP #3 showed a dramatic decrease in all BTEX constituents below NMWQCC standards and was placed on a quarterly sampling schedule. In December, 1998, WP #3 was found buried due to heavy erosional deposition within that proximity of the wash. Between February, 1997 to the present, major erosion to the twenty (20) plus foot vertical steep embankment at the well site has become apparent as a result of seasonal/periodic runoff of

Blanco Wash (see Figure 1A in Appendix C).

An additional note is in reference to the straight line placement of these sampling points. Evidently, no flow direction data could be derived, but it's very apparent that groundwater flow would be dictated by the wash channel direction.

The most recent groundwater monitor wells were installed in November, 2006 to test groundwater quality from both source areas (see Figure 1A in Appendix C). Boring logs for all three (3) monitor wells along with well completion information are contained within this report (attached in Appendix B). There are no known receptors impacted by the previous discovery of impacted soil and/or groundwater.

Soil lithology at the site consists of primarily coarse grained sand, non cohesive, and firm. More detail information can be viewed in Bore Hole Reports within Appendix B.

Groundwater Monitor Well Sampling Procedures:

Groundwater samples were collected from site monitor wells following US EPA: SW-846 protocol. After well development, samples were collected with new disposable bailers, placed into laboratory supplied containers with appropriate preservative and stored in an ice chest for express delivery to a qualified laboratory for testing. Analytical testing included BTEX by US EPA Method 8021B and general water chemistry.

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

Groundwater Quality & Flow Direction Information:

Quarterly groundwater monitor well sampling was reinitiated in November, 2006. Summary of laboratory BTEX and general water chemistry analytical results are included in the tables on the following pages. The data indicates all BTEX constituents tested at non-detectable levels for four (4) consecutive sampling events within the source areas. There were no abnormalities revealed from the general water chemistry testing. All pertinent laboratory reports and field data sheets can be found in Appendix E.

Groundwater contour maps of relative water table elevations for the most recent sample events are included (Appendix C). The general groundwater flow direction has consistently been in a north direction toward the previous placement of WP #4.

Summary and Recommendations:

Hydrocarbon impacts from two (2) apparent source areas appear to have been remediated via excavation of impacted soils. All site wells tested at non-detectable levels for BTEX; therefore, meeting NMWQCC standards for groundwater. Permanent site closure is recommended. Following approval by the NMOCD, site monitor wells will be abandoned pursuant to the approved BP Ground Water Management Plan.

AMOCO GROUNDWATER MONITOR WELL LABORATORY RESULTS

SUBMITTED BY BLAGG ENGINEERING, INC.

JENNAPAH GC A # 1
UNIT H, SEC. 36, T28N, R9W

REVISED DATE: AUGUST 17, 2007
FILENAME: (JEN-3Q98.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 8020 (ppb) Benzene	Toluene	Ethyl Benzene	Total Xylene
13-Jan-93	MW #1	23.82		1,410	1,900	6.8		ND	ND	ND	ND
28-Apr-93		24.06	36.00		1,900	6.7		ND	0.4	0.9	ND
02-Sep-93								**1,080**	**1,450**	178	**1,257**
03-Dec-93		24.53			2,400	7.4		**550**	**820**	121	**778**
30-Mar-94		24.58			1,900	7.1		**750**	**2,400**	270	**2,500**
22-Jun-94		24.90			1,800	7.4		**276**	**878**	72	**1,568**
August 94	***WELL DESTROYED DURING PIT EXCAVATION***										
25-Aug-94	WP #1	3.57	6.00		2,300	7.5		ND	0.7	ND	ND
27-Dec-94		3.18			1,800	7.8		ND	ND	ND	ND
16-Mar-95		3.13			1,800	7.3		ND	ND	ND	0.4
15-Jun-95		3.38			2,000	7.4		ND	ND	ND	ND
06-Sep-95		3.28			2,100	7.3		ND	ND	ND	0.4
06-Dec-95		2.86			1,700	7.4		ND	ND	ND	ND
21-Mar-96		2.90			1,200	6.5		ND	ND	ND	ND
25-Aug-94	WP #2	3.66	6.00		2,000	7.4		ND	0.5	ND	ND
27-Dec-94		3.38			1,700	7.8		ND	ND	ND	ND
16-Mar-95		3.35			1,800	7.2		ND	ND	ND	0.3
15-Jun-95		3.55			1,900	7.4		ND	ND	ND	ND
06-Sep-95		3.57			2,000	7.4		0.6	ND	ND	2.5
06-Dec-95		3.25			2,000	7.3		ND	ND	0.28	ND
21-Mar-96		3.37			1,400	6.6		ND	ND	ND	ND
25-Aug-94	WP #3	3.71	6.00		2,000	7.1		**567**	**1,056**	53	**2,254**
27-Dec-94		3.54			1,900	7.5		**1,039**	**21**	429	**6,992**
16-Mar-95		3.55			1,500	7.1		**2,076**	**4.9**	183	**5,016**
15-Jun-95					1,700	7.1		**1,387**	**132.2**	119	**2,561**
06-Sep-95		3.89			1,900	7.3		**191**	**1.7**	22	**236**
06-Dec-95		3.56			2,000	7.2		**158**	**6.16**	68	**1,078**
21-Mar-96		3.58			1,400	6.8		**707**	**389**	262	**3,392**
17-Jun-96		3.59			1,700	7.2		**556**	**10.2**	184	**2,333**
16-Jun-97		3.77			1,600	7.2		**245**	**3.9**	55.6	**447.5**
23-Jun-98		3.65			1,500	7.3		**5.7**	**5.2**	9.9	**55.8**
25-Sep-98		3.66			2,000	7.2		**0.6**	**3.4**	1.8	**6.1**
25-Aug-94	WP #4	3.74	6.00		2,200			0.8	1.4	ND	1.1
27-Dec-94		3.44			2,000	7.6		0.8	ND	ND	1.9
16-Mar-95		3.49			2,300	7.3		0.7	ND	0.2	5.0
15-Jun-95		3.73			2,100	7.4		0.5	ND	ND	2.5
06-Sep-95		3.95			2,500	7.4		1.0	ND	ND	1.9
06-Dec-95		3.35			2,500	7.2		ND	ND	ND	0.52
21-Mar-96		3.41			1,600	6.6		ND	ND	ND	3.41
17-Jun-96		3.70			2,200	6.7		ND	1.12	ND	4.24
					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 PREVIOUS RESULT IN BOLD RED TYPE EXCEEDED .

BP AMERICA PROD. CO. GROUNDWATER LAB RESULTS

SUBMITTED BY BLAGG ENGINEERING, INC.

JENNAPAH GC A #1
UNIT H, SEC. 36, T28N, R9W

REVISED DATE: September 12, 2007

FILENAME: (JEN-3Q07.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
28-Nov-06	MW #1A	25.92	37.50		1,800	7.55		ND	ND	ND	ND
28-Nov-06	MW #2A	26.18	42.50		2,100	7.30		ND	ND	ND	ND
26-Feb-07		25.85			2,100	7.33		ND	ND	ND	ND
21-May-07		25.98			2,000	7.23		ND	ND	ND	ND
16-Aug-07		26.56			2,000	7.16		ND	ND	ND	ND
28-Nov-06	MW #3A	26.17	42.50		2,000	7.40		ND	ND	ND	ND
26-Feb-07		25.94			2,100	7.45		ND	ND	ND	ND
21-May-07		26.07			2,000	7.30		ND	ND	ND	ND
16-Aug-07		26.82			2,100	7.28		ND	ND	ND	ND
NMWQCC GROUNDWATER STANDARDS								10	750	750	620

GENERAL WATER QUALITY

BP AMERICA PRODUCTION COMPANY

JENNAPAH GC A # 1

Sample Date : November 28 , 2006

PARAMETERS	MW # 1	MW # 2	MW # 3	Units
LAB pH	7.90	8.07	8.19	s. u.
LAB CONDUCTIVITY @ 25 C	514	441	370	umhos / cm
TOTAL DISSOLVED SOLIDS @ 180 C	360	280	260	mg / L
TOTAL DISSOLVED SOLIDS (Calc)	390	300	290	mg / L
SODIUM ABSORPTION RATIO	2.0	1.3	1.8	ratio
TOTAL ALKALINITY AS CaCO3	270	170	180	mg / L
TOTAL HARDNESS AS CaCO3	189	160	144	mg / L
BICARBONATE as HCO3	270	170	180	mg / L
CARBONATE AS CO3	< 0.1	< 0.1	< 0.1	mg / L
HYDROXIDE AS OH	< 0.1	< 0.1	< 0.1	mg / L
NITRATE NITROGEN	0.1	0.1	0.2	mg / L
NITRITE NITROGEN	0.005	0.007	0.007	mg / L
CHLORIDE	18.0	18.0	54.0	mg / L
FLUORIDE	0.26	0.18	0.27	mg / L
PHOSPHATE	0.7	0.5	0.6	mg / L
SULFATE	75.0	75.0	25.0	mg / L
IRON	0.001	0.001	0.016	mg / L
CALCIUM	67.6	60.8	52.8	mg / L
MAGNESIUM	4.9	1.95	2.93	mg / L
POTASSIUM	2.09	0.96	0.46	mg / L
SODIUM	62.2	38.3	49.3	mg / L
CATION / ANION DIFFERENCE	0.00	0.05	0.03	

UCA 7939

TASK # 94596

ENVIROTECH Inc.

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

FIELD REPORT: SITE ASSESSMENT

JOB No: 92140
PAGE No: 1 of 1

PROJECT: PIT ASSESSMENTS & CLOSURE
CLIENT: AMOCO PRODUCTION COMPANY
CONTRACTOR: ENVIROTECH, INC.
EQUIPMENT USED: EXTENDAHOE: CASE 580K: #E37

Fed LSE# 14-20-603-782 NAVAJO TRIBE

DATE STARTED: 10-6-92
DATE FINISHED: 10-6-92
ENVIRO. SPCLT: FM
OPERATOR: GS
ASSISTANT: MD

LOCATION: LSE: JENNEPAH GAS COM A WELL: NO. 1 QD: SE 1/4 NE 1/4 (H)
SEC: 26 TWP: 28N RNG: 9W PM: NM CNTY: SJ ST: NM PIT: PROD.

LAND USE: BLM- OPEN RANGE
SURFACE CONDITIONS: EARTHEN PIT APPROX 3' IN DEPTH

FIELD NOTES & REMARKS: PIT IS LOCATED APPROX 150' NORTH AND 105' EAST OF WELL HEAD
TOP SOIL IS SILTY SAND UNTIL DEPTH OF APPROX. 4'.
FROM 4' TO TD @ 15' SOIL IS LIGHT TO MEDIUM BROWN, POORLY GRADED SAND.
CONTAMINATION ABOVE ACTION LEVEL EXTENDS TOWARDS ARROYO EDGE.
FURTHER INVESTIGATION ADVISED.

SAMPLE INVENTORY:

SMPL ID:	SMPL TYPE:	LABORATORY ANALYSIS:
T-1@5'	SOIL	TPH/BTEX
T-1@5'	SOIL	HEADSPACE (BTEX)
T-3@15'	SOIL	TPH

TEST HOLE LOGS:

TH#: 1

Depth	SOIL TYPE:	SMPL TYPE:	OVM/TPH
	PIT EXCAVATION		
2	SM		
3	(BASE)		
4	GRY SAND		
5	SP	SOIL	3390
6	(DAMP)		
7			
8			
9			
10	SP	SOIL	2019
12			
14			
15	SP	SOIL	1210
	TD @ 15' NO G.W.		

TH#: 2

Depth	SOIL TYPE:	SMPL TYPE:	OVM/TPH
	SM LT-MED BROWN		
4	SP		
5	SP	SOIL	35 NZ
10	SP	SOIL	88 x 10
15	SP	SOIL	88 NZ
	TD @ 15' NO G.W.		

TH#: 3

Depth	SOIL TYPE:	SMPL TYPE:	OVM/TPH
	SM LT-MED BROWN		
4	SP		
5	SP	SOIL	137 NZ
10	SP	SOIL	74 18
15	SP	SOIL	180 10
	TD @ 15' NO G.W.		

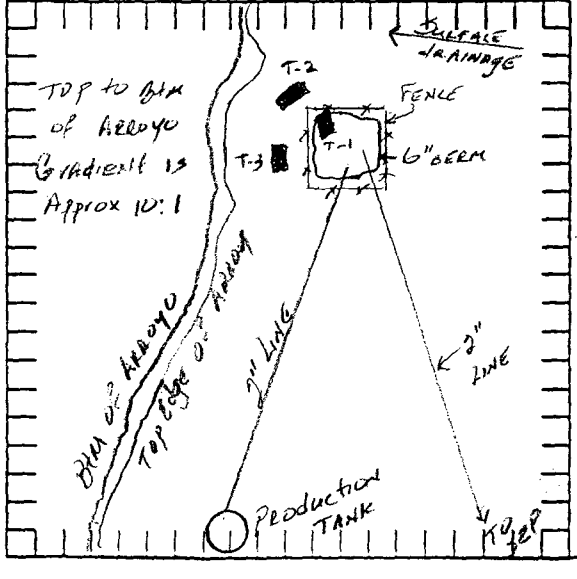
TH#: ____

Depth	SOIL TYPE:	SMPL TYPE:	OVM/TPH

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

SITE DIAGRAM

SCALE 0 20 FEET



ENVIROTECH Inc.

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

FIELD REPORT: CLOSURE VERIFICATION

JOB No: _____
PAGE No: ____ of ____

LOCATION: LEASE: WELL: QD:
SEC: TWP: RNG: BM: CNTY: ST: PIT:
CONTRACTOR:
EQUIPMENT USED:

DATE STARTED: _____
DATE FINISHED: _____

ENVIRONMENTAL SPECIALIST: _____

SOIL REMEDIATION: QUANTITY:
DISPOSAL FACILITY:
LAND USE:
SURFACE CONDITIONS:

FIELD NOTES & REMARKS:

SCALE
0 FEET
PIT PERIMETER

SAMPLE RESULTS

SMPL No.	ANALYTICAL RESULTS

SCALE
0 FEET
PIT PROFILE

TRAVEL NOTES: CALLOUT: _____ ONSITE: _____

ENVIROTECH LABS

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

EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

Client:	Amoco	Project #:	92140
Sample ID:	T1 @ 5'	Date Reported:	10-20-92
Laboratory Number:	3263	Date Sampled:	10-06-92
Sample Matrix:	Soil	Date Received:	10-06-92
Preservative:	Cool	Date Analyzed:	10-13-92
Condition:	Cool & Intact	Analysis Needed:	TPH

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	323	5.0

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

ND - Parameter not detected at the stated detection limit.

Comments: Jannepah GC Al Production Pit. 94596

CA Fuendel
Analyst

Morris D. Young
Review

ENVIROTECH LABS

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

EPA METHOD 8020
AROMATIC VOLATILE ORGANICS

Client:	Amoco	Project #:	92140
Sample ID:	T1 @ 5'	Date Reported:	11-05-92
Laboratory Number:	3263	Date Sampled:	10-06-92
Sample Matrix:	Soil	Date Received:	10-06-92
Preservative:	Cool	Date Extracted:	10-13-92
Condition:	Cool & Intact	Date Analyzed:	11-01-92
		Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	39.4
Toluene	2,580	49.2
Ethylbenzene	392	39.4
p,m-Xylene	15,700	69
o-Xylene	4,050	29.5

SURROGATE RECOVERIES:

Parameter	Percent Recovery
Trifluorotoluene	80 %
Bromfluorobenzene	110 %

Method: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

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

ND - Parameter not detected at the stated detection limit.

Comments: Jennapah GC A 1 Production Pit 94596

Analyst

Tony Trujillo
Review

ENVIROTECH LABS

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

EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

Client:	Amoco	Project #:	92140
Sample ID:	T3@15'	Date Reported:	10-23-92
Laboratory Number:	3265	Date Sampled:	10-06-92
Sample Matrix:	Soil	Date Received:	10-06-92
Preservative:	Cool	Date Analyzed:	10-14-92
Condition:	Cool & Intact	Analysis Needed:	TPH

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	ND	5.0

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

ND - Parameter not detected at the stated detection limit.

Comments: Jannepah GC A1---Production Pit---94596

CA Fenendel
Analyst

Morris D. Young
Review

ENVIROTECH LABS

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

EPA METHOD 8020
AROMATIC VOLATILE ORGANICS
HEADSPACE EXTRACTION

Client:	Amoco	Project #:	92140
Sample ID:	T1 @ 5'	Date Reported:	10-30-92
Laboratory Number:	3264	Date Sampled:	10-06-92
Sample Matrix:	Soil	Date Received:	10-06-92
Preservative:	Cool	Date Analyzed:	10-22-92
Condition:	Cool and Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/L)	Det. Limit (ug/L)
Benzene	6,900	1.6
Toluene	87,500	1.6
Ethylbenzene	8,000	16.8
p,m-Xylene	45,400	8.0
o-Xylene	14,100	1.6

Method: Method 3810, Headspace, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986

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

ND - Parameter not detected at the stated detection limit.

Comments: Jennepah Gas Com A #1---Production Pit---94596

Analyst

Review

1959

94596

CHAIN OF CUSTODY RECORD

Client/Project Name: Amoco #92140

Project Location: Production Pit, Jennegan Gas Com A #1

Sampler: (Signature) Frank M. Sandoval

Chain of Custody Tape No.

ANALYSIS/PARAMETERS

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	TPH	BTEX	HEADSPACE (BTEX)				Remarks
T-1 @ 5'	10-6-92	1135	3263	Soil	1	✓	✓					
T-1 @ 5'	10-6-92	1135	3264	Soil	1			✓				
T-3 @ 15'	10-6-92	1405	3265	Soil	1	✓						

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Frank M. Sandoval	10-6-92	1615	Linda Pander	10-6-92	1615
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

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

san juan repro Form 578-81

CC # 1958
TASK # 94595

ENVIROTECH Inc.

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

FIELD REPORT: SITE ASSESSMENT

JOB No: 92140
PAGE No: 1 of 1

PROJECT: PIT ASSESSMENTS & CLOSURE
CLIENT: AMOCO PRODUCTION COMPANY
CONTRACTOR: ENVIROTECH, INC.
EQUIPMENT USED: EXTENDAHOE: CASE 580K: # E37

Fed LSE # 14-20-603-782 NAVAJO TRIBE

DATE STARTED: 10-6-92
DATE FINISHED: 10-6-92
ENVIRO. SPCLT: FM
OPERATOR: GS
ASSISTANT: MD

LOCATION: LSE: JENNEDAH POOL COM A WELL: NO. 1 QD: SE¼ NE¼ (H)
SEC: 26 TWP: 28N RNG: 9W PM: NM CNTY: SJ ST: NM PIT: SEPARATOR
LAND USE: BLM - OPEN RANGE
SURFACE CONDITIONS: EARTHEN PIT: APPROX. 3' IN DEPTH

FIELD NOTES & REMARKS: PIT IS APPROX. 145' WEST OF WELL-HEAD
SOIL IS LIGHT TO MEDIUM BROWN, SILTY SAND GOING TO POORLY GRADED SAND @ APPROX 3'.
CONTAMINATION APPEARS LIMITED TO FENCED AREA.
TEST HOLE #2, TD @ 10', DUE TO LOOSE SAND.

SAMPLE INVENTORY:

SMPL ID:	SMPL TYPE:	LABORATORY ANALYSIS:
T-1 @ 5'	Soil	TPH/BTEX
T-1 @ 5'	Soil	Held (BTEX)
T-2 @ 10'	Soil	TPH

TEST HOLE LOGS:

TH#: 1

SOIL TYPE:	SMPL TYPE:	OVM/TPH
PIT EXCAVATION		
SM <Moist		
GRY - BLK STAIN		
SP	Soil	2401
SP	Soil	1429
SP	Soil	1848
TD @ 15' NO G.W.		

TH#: 2

SOIL TYPE:	SMPL TYPE:	OVM/TPH
SM BROWN	Lt-Med	
SP	Soil	3:10
<Moist		
SP	Soil	3:10
TD @ 10' NO G.W. LOOSE SAND		

TH#: ____ SOIL TYPE: SMPL TYPE: OVM/TPH

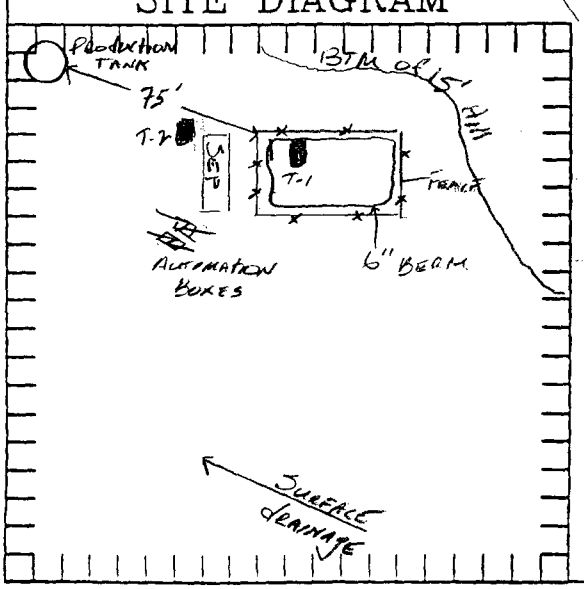
TH#: ____ SOIL TYPE: SMPL TYPE: OVM/TPH

Ground Surface

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

SCALE
0 20 FEET

SITE DIAGRAM



ENVIROTECH Inc.

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

FIELD REPORT: CLOSURE VERIFICATION

JOB No: _____
PAGE No: ____ of ____

LOCATION: LEASE: _____ WELL: _____ QD: _____
SEC: _____ TWP: _____ RNG: _____ BM: _____ CNTY: _____ ST: _____ PIT: _____
CONTRACTOR: _____
EQUIPMENT USED: _____

DATE STARTED: _____
DATE FINISHED: _____

ENVIRONMENTAL SPECIALIST: _____

SOIL REMEDIATION: QUANTITY: _____
DISPOSAL FACILITY: _____
LAND USE: _____
SURFACE CONDITIONS: _____

FIELD NOTES & REMARKS:

SCALE
0 FEET
PIT PERIMETER

SAMPLE RESULTS

SMPL No:	ANALYTICAL RESULTS

SCALE
0 FEET
PIT PROFILE

TRAVEL NOTES: CALLOUT: _____ ONSITE: _____

ENVIROTECH LABS

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

EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

Client:	Amoco	Project #:	92140
Sample ID:	T1 @ 5'	Date Reported:	10-20-92
Laboratory Number:	3255	Date Sampled:	10-06-92
Sample Matrix:	Soil	Date Received:	10-06-92
Preservative:	Cool	Date Analyzed:	10-13-92
Condition:	Cool & Intact	Analysis Needed:	TPH

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	1,640	5.0

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

ND - Parameter not detected at the stated detection limit.

Comments: Jannepah GC Al Separator Pit. 94595

CA Finnendeh
Analyst

Morris D. Young
Review

ENVIROTECH LABS

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

EPA METHOD 8020
AROMATIC VOLATILE ORGANICS

Client:	Amoco	Project #:	92140
Sample ID:	T1 @ 5'	Date Reported:	11-04-92
Laboratory Number:	3255	Date Sampled:	10-06-92
Sample Matrix:	Soil	Date Received:	10-06-92
Preservative:	Cool	Date Extracted:	10-13-92
Condition:	Cool & Intact	Date Analyzed:	11-01-92
		Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	2,390	50
Toluene	48,700	50
Ethylbenzene	34,700	19.9
p,m-Xylene	28,800	70
o-Xylene	58,400	50

SURROGATE RECOVERIES:

Parameter	Percent Recovery
Trifluorotoluene	107 %
Bromfluorobenzene	103 %

Method: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

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

ND - Parameter not detected at the stated detection limit.

Comments: Jennapah GC A 1 Separator Pit 94595

Analyst

Review

ENVIROTECH LABS

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

EPA METHOD 8020
AROMATIC VOLATILE ORGANICS
HEADSPACE EXTRACTION

Client:	Amoco	Project #:	92140
Sample ID:	T1 @ 5'	Date Reported:	10-29-92
Laboratory Number:	3256	Date Sampled:	10-06-92
Sample Matrix:	Soil	Date Received:	10-06-92
Preservative:	Cool	Date Analyzed:	10-21-92
Condition:	Cool and Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/L)	Det. Limit (ug/L)
Benzene	2,830	1.6
Toluene	14,700	12.8
Ethylbenzene	1,810	7.2
p,m-Xylene	3,040	16.0
o-Xylene	1,330	8.8

Method: Method 3810, Headspace, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986

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

ND - Parameter not detected at the stated detection limit.

Comments: Jennepah Gas Com A #1---Separator Pit---94595

Analyst

Review

ENVIROTECH LABS

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

EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

Client:	Amoco	Project #:	92140
Sample ID:	T2@10'	Date Reported:	10-23-92
Laboratory Number:	3257	Date Sampled:	10-06-92
Sample Matrix:	Soil	Date Received:	10-06-92
Preservative:	Cool	Date Analyzed:	10-14-92
Condition:	Cool & Intact	Analysis Needed:	TPH

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	8.3	5.0

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

ND - Parameter not detected at the stated detection limit.

Comments: Jannepah GC A1---Separator Pit---94595

CA Ferendich
Analyst

Morris D. Young
Review

1958

94595

CHAIN OF CUSTODY RECORD

Client/Project Name: Amoco #92140

Project Location: Separator Pit, Jennedah Gas Com A #1

Sampler: (Signature) Frank M Sandell

Chain of Custody Tape No.

ANALYSIS/PARAMETERS

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	TPH	BTEX	Headspace (BTEX)				Remarks
T-1 @ 5'	10-6-92	1510	3255	Soil	1	✓	✓					
T-1 @ 5'	10-6-92	1510	3256	Soil	1			✓				
T-2 @ 10'	10-6-92	1520	3257	Soil	1	✓						
Trip Blank			3258	Soil	1			✓				
Trip Blank			3259	Water	1		✓					
Equip Blank			~~3260~~ ~~3560~~	Water	1		✓					

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Frank M Sandell	10-6-92	1610	Linda Pender	10-6-92	1610
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

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ENVIROTECH Inc.

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

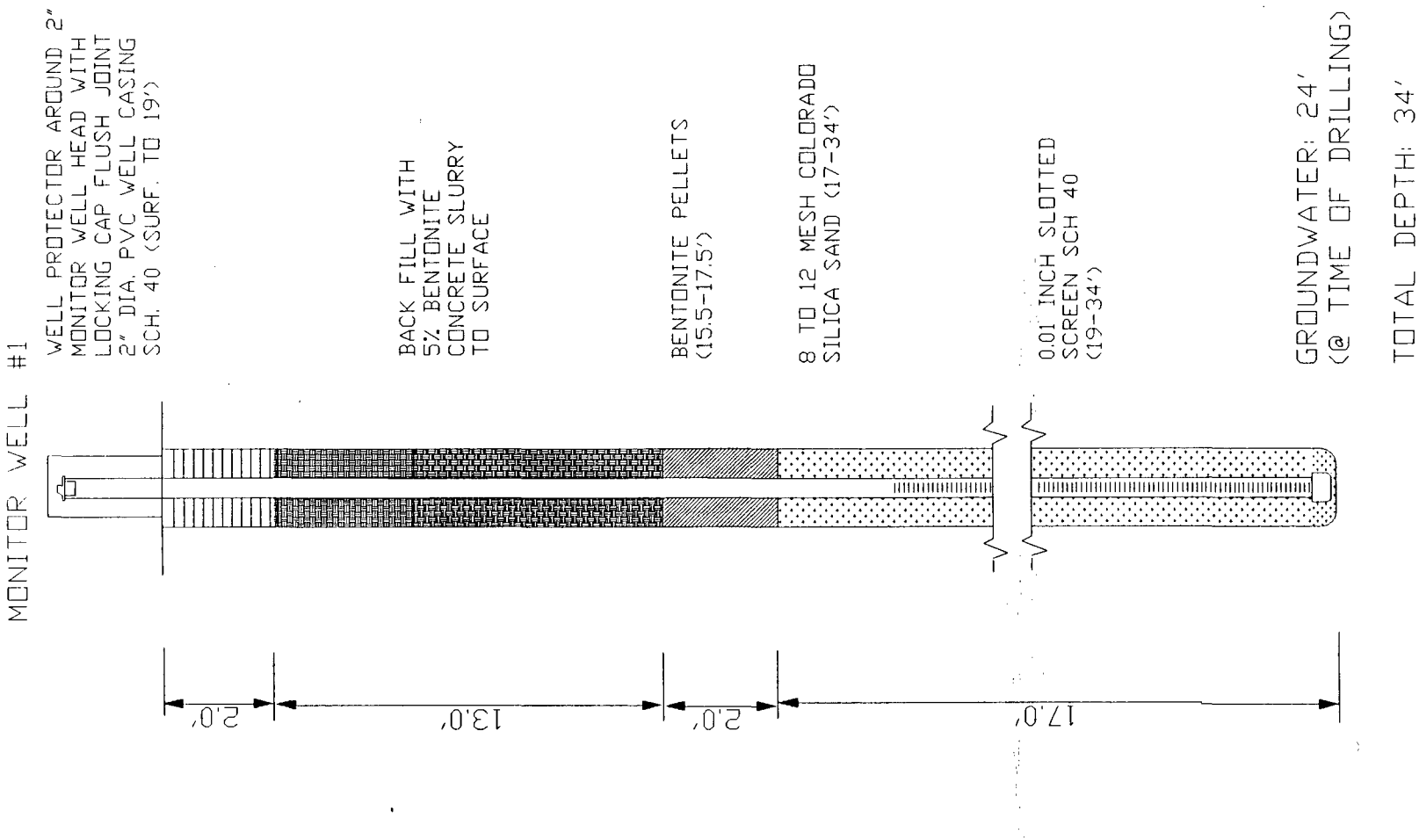
BORE HOLE REPORT

BORING No: BH -1
JOB No: 92140
PAGE No: 6
LOCATION: JENNAPAH #1
DATE START: 11/13/92
DATE FINISH: 11/13/92
OPERATOR: MD
PREPARED BY: NV

PROJECT: MONITOR WELL DRILLING PROJECT (EXPANDED VULNER. AREA)
CLIENT: AMOCO PRODUCTION COMPANY
CONTRACTOR: ENVIROTECH INC.
EQUIPMENT USED: DRILLING RIG (CME 55)

DEPTH FEET	USCS	OVM PPM	SAMPLE TYPE	BLOW/FOOT	FIELD CLASSIFICATION AND REMARKS
	SP				BROWN SAND, MOIST, LOOSE TO SLIGHTLY DENSE, NO APPARENT ODOR.
5	SP	14.2	CUT'G	NA	SAA.
10	SP	0.8	SPT	NA	SAA.
15	SP	1.4	CUT'G	NA	SAA.
20	SP	1.4	SPT	NA	SAA.
	▼	ND	WTR	NA	
25	SP	10.5	CUT'G	NA	SAA.
30					TOTAL DEPTH: 34 FEET GROUNDWATER DEPTH: 24 FEET @ 1144 (11/13/92)
35					COMPLETION: SEE SHEET #3 (MONITOR WELL DETAILS; MW - 1).
40					NOTES: SPT - SPLIT SPOON SAMPLE COLLECTED BY DRILL RIG. WTR - GROUNDWATER SAMPLE. ND - NONE DETECTED. SAA - SAME SOIL TYPE AS DESCRIBED ABOVE, EXCEPT AS NOTED.
45					OVM - SOIL SAMPLE COLLECTED DURING EXPLORATION, ANALYZED FOR HYDROCARBON VAPORS PER NMED HEADSPACE FIELD METHOD USING THERMO ENVIRONMENTAL INSTRUMENTS MODEL 580-B ORGANIC VAPOR METER (OVM).
50					

DRAWING: THRPT6
DATE: 02-08-93
DWN BY: NV

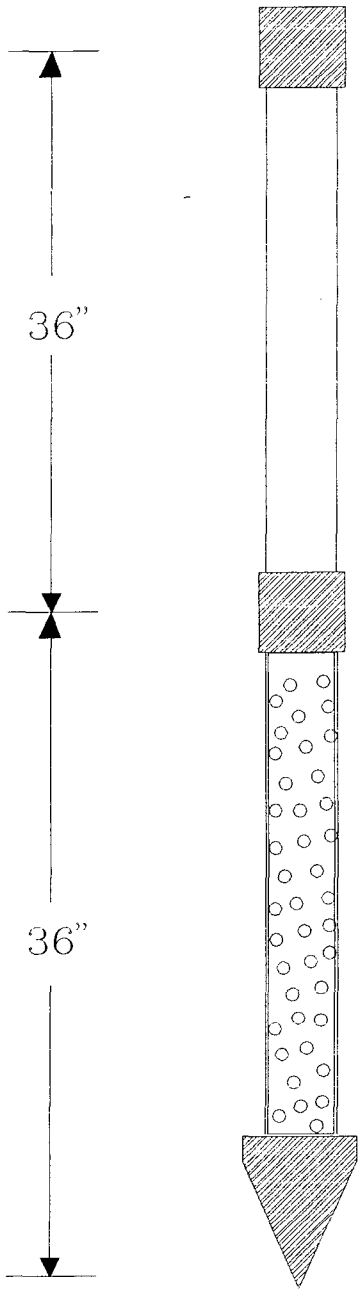


MONITOR WELL DETAILS
AMOCO PRODUCTION COMPANY
JENNAPAH #1
BLANCO WASH, NEW MEXICO

ENVIROTECH INC.
ENVIRONMENTAL SCIENTISTS
5796 U.S. HIGHWAY 64-3014
FARMINGTON, NEW MEXICO 87401
PHONE: (505) 632-0615

ENGINEER: N. VELEZ
DRAFTER: N. VELEZ
DATE: JANUARY 29, 1993
MONITOR WELLS # 1
SHEET: # 3

TYPICAL DRIVE POINT SCHEMATIC



1-1/4 Inch Galv. Coupling

1-1/4 Inch Galv. Riser
(Risers may be coupled as necessary to reach groundwater surface)

1-1/4 Inch Galv. Coupling

Drive Point Assembly
(Galv. Steel, drilled slots w/ SS mesh screen)
(Additional screens may be coupled as necessary)

Steel Drive Point

AMOCO PRODUCTION COMPANY
GROUNDWATER REMEDIATION PLAN
SIMPLISTIC DRIVE POINT
CONSTRUCTION & COMPLETION

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

PROJECT: JENNAPAH GC A #1
REVISED BY: NJV
DATE: AUG. '94
FILENAME: MW-TDPS

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

MW #1A

BORE / TEST HOLE REPORT

BORING #.....	BH - 1
MW #.....	1A
PAGE #.....	1
DATE STARTED	11/2/06
DATE FINISHED	11/2/06
OPERATOR.....	DP
PREPARED BY	NJV

CLIENT: BP AMERICA PRODUCTION CO.
LOCATION NAME: JENNAPAH GC A # 1 UNIT H, SEC. 36, T28N, R9W
CONTRACTOR: **BLAGG ENGINEERING, INC. / ENVIROTECH, INC.**
EQUIPMENT USED: **MOBILE DRILL RIG (CME 75)**
BORING LOCATION: 56.5 FEET, N46E FROM WELL HEAD.

DEPTH (FT.)	INTERVAL	LITHOLOGY INTERVAL	MW SCHEMATIC	FIELD CLASSIFICATION AND REMARKS
				GROUND SURFACE
				TOP OF CASING APPROX. 2.50 FEET ABOVE GRADE.
2, 4, 6, 8, 10, 12, 14, 16, 18, 20			TOS 20.00 ft.	DARK YELLOWISH ORANGE SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 23.0 FT. BELOW GRADE).
22				DEPTH TO WATER APPROX. 23.49 FT. FROM GROUND SURFACE MEASURED ON 11/15/06.
24, 26, 28, 30, 32, 34, 36			TD 35.00 ft.	MODERATE YELLOWISH BROWN TO OLIVE GRAY SAND, NON COHESIVE, MOIST TO SATURATED, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (23.0 - 35.0 FT. BELOW GRADE).
38, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60				

NOTES: - SAND.

TOS - Top of screen of monitor well.
TD - Total depth/bottom extent of monitor well.

Monitor well consist of 2 inch PVC piping - casing from 2.60 ft. above grade to 20.00 ft. below grade, 0.010 slotted screen between 20.00 to 35.00 ft. below grade, sand packed annular to 18.0 ft. below grade, bentonite grout between 15.0 to 18.00 ft. below grade, fill dirt between 3.0 to 18.0 ft. below grade, bentonite grout between 0.0 to 3.0 ft. below grade. Well protector encompassing above grade casing and secured with padlock.

DRAWING: JENNAPAH GC A 1 BH1-MW1A. SKF | DATE: 11/28/06 | DWN BY: NJV

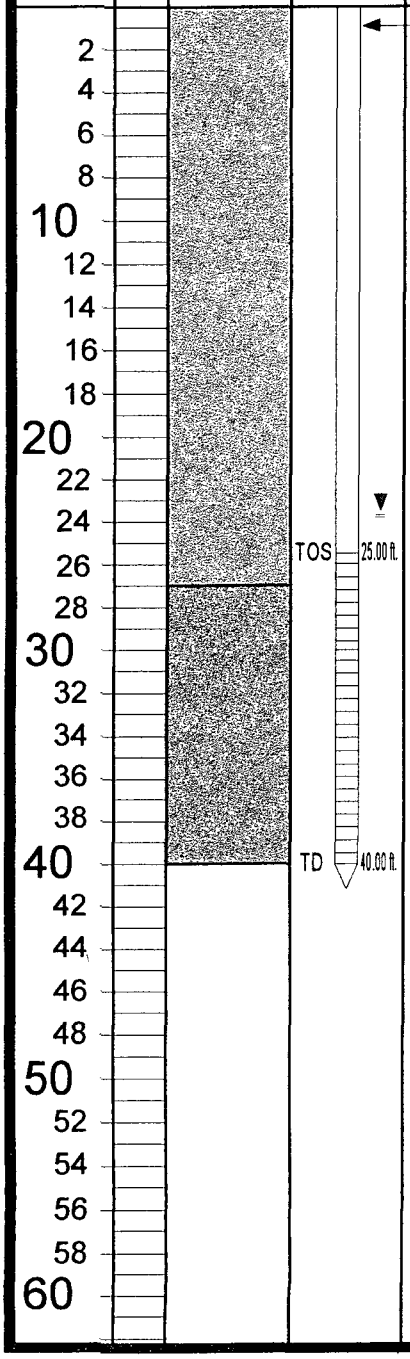
BLAGG ENGINEERING, Inc.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW #2A

BORE / TEST HOLE REPORT

BORING #.....	BH - 3
MW #.....	2A
PAGE #.....	2
DATE STARTED	11/2/06
DATE FINISHED	11/2/06
OPERATOR.....	DP
PREPARED BY	NJV

CLIENT: BP AMERICA PRODUCTION CO.
LOCATION NAME: JENNAPAH GC A # 1 UNIT H, SEC. 36, T28N, R9W
CONTRACTOR: **BLAGG ENGINEERING, INC. / ENVIROTECH, INC.**
EQUIPMENT USED: **MOBILE DRILL RIG (CME 75)**
BORING LOCATION: 153 FEET, N71.5E FROM WELL HEAD.



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 2.50 FEET ABOVE GRADE.

DARK YELLOWISH ORANGE SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 27.0 FT. BELOW GRADE).

DEPTH TO WATER APPROX. 23.75 FT. FROM GROUND SURFACE MEASURED ON 11/15/06.

MODERATE YELLOWISH BROWN SAND, NON COHESIVE, MOIST TO SATURATED, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (27.0 - 40.0 FT. BELOW GRADE).

NOTES: - SAND.

TOS - Top of screen of monitor well.
TD - Total depth/bottom extent of monitor well.

Monitor well consist of 2 inch PVC piping - casing from 2.50 ft. above grade to 26.00 ft. below grade, 0.010 slotted screen between 26.00 to 40.00 ft. below grade, sand packed annular to 23.0 ft. below grade, bentonite grout between 20.0 to 23.00 ft. below grade, fill dirt between 3.0 to 23.0 ft. below grade, bentonite grout between 0.0 to 3.0 ft. below grade. Well protector encompassing above grade casing and secured with padlock.

DRAWING: JENNAPAH GC A 1 BH3-MW2A. SKF | DATE: 11/28/06 | DWN BY: NJV

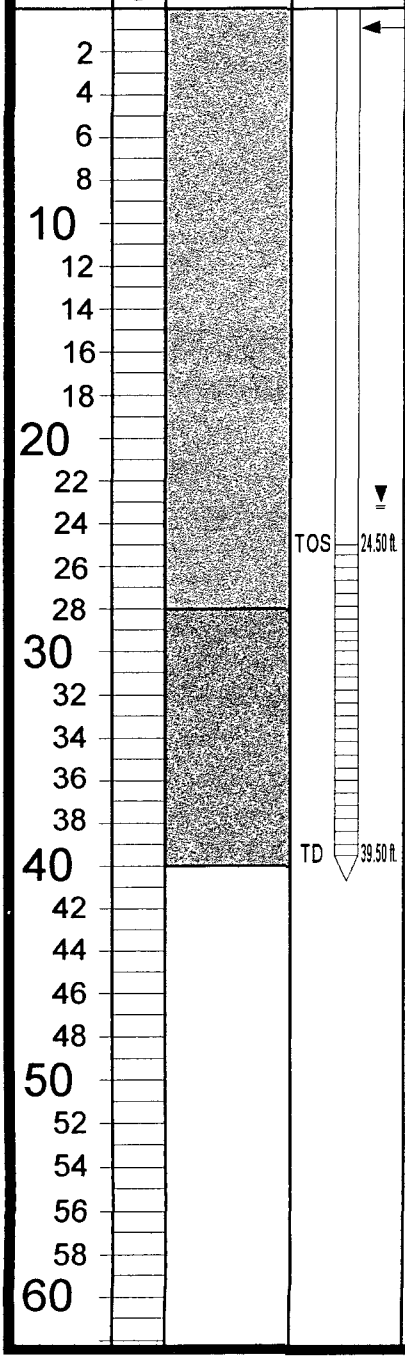
BLAGG ENGINEERING, Inc.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW #3A

BORE / TEST HOLE REPORT

BORING #.....	BH - 2
MW #.....	3A
PAGE #.....	3
DATE STARTED	11/2/06
DATE FINISHED	11/2/06
OPERATOR.....	DP
PREPARED BY	NJV

CLIENT: BP AMERICA PRODUCTION CO.
LOCATION NAME: JENNAPAH GC A # 1 UNIT H, SEC. 36, T28N, R9W
CONTRACTOR: **BLAGG ENGINEERING, INC. / ENVIROTECH, INC.**
EQUIPMENT USED: **MOBILE DRILL RIG (CME 75)**
BORING LOCATION: 207 FEET, N42E FROM WELL HEAD.



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 3.00 FEET ABOVE GRADE.

DARK YELLOWISH ORANGE SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 28.0 FT. BELOW GRADE).

DEPTH TO WATER APPROX. 23.25 FT. FROM GROUND SURFACE MEASURED ON 11/15/06.

MODERATE YELLOWISH BROWN SAND, NON COHESIVE, MOIST TO WET, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (28.0 - 40.0 FT. BELOW GRADE).

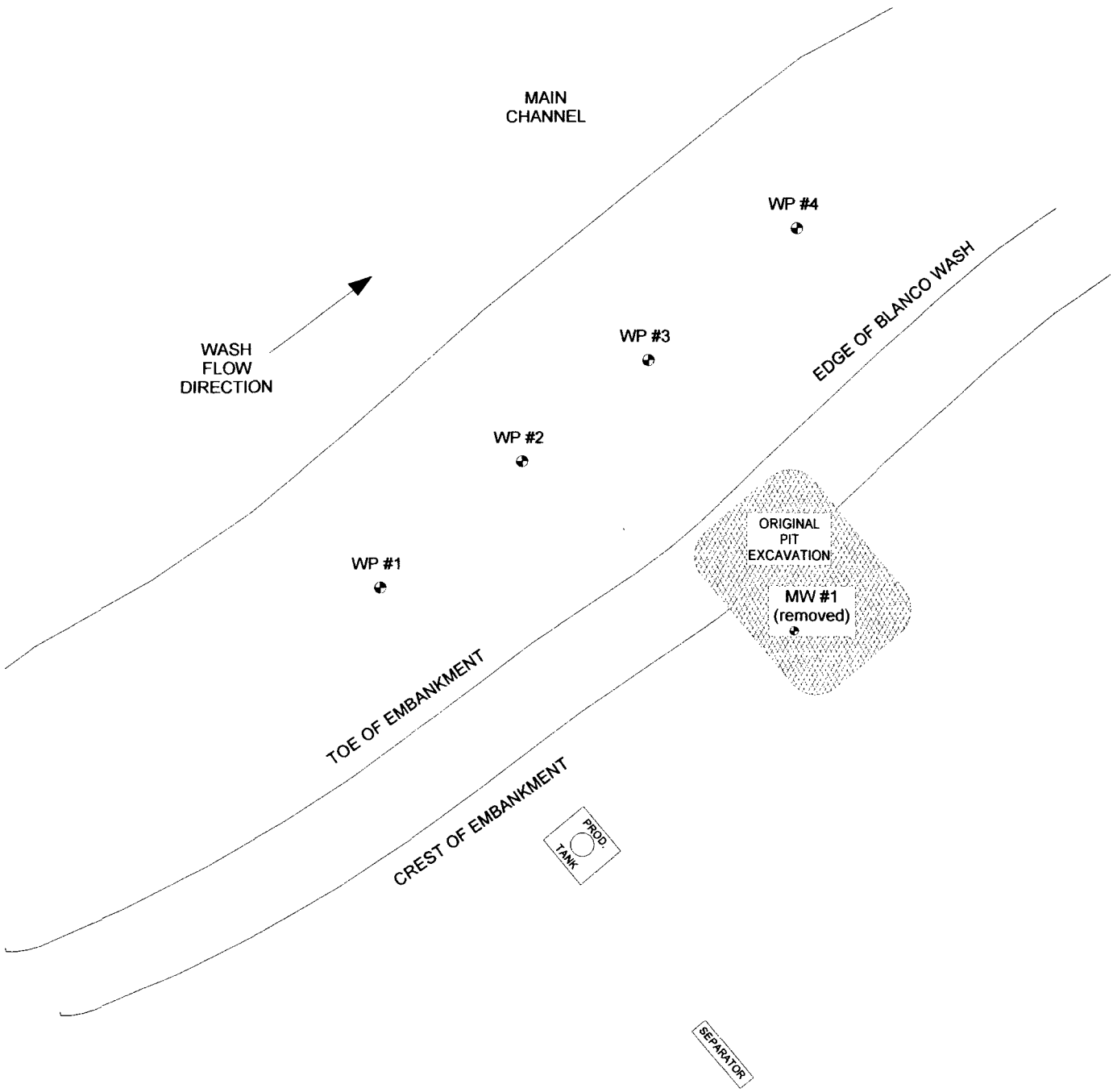
NOTES: - SAND.

TOS - Top of screen of monitor well.
TD - Total depth/bottom extent of monitor well.

Monitor well consist of 2 inch PVC piping - casing from 3.00 ft. above grade to 24.50 ft. below grade, 0.010 slotted screen between 24.50 to 39.50 ft. below grade, sand packed annular to 23.0 ft. below grade, bentonite grout between 20.0 to 23.00 ft. below grade, fill dirt between 3.0 to 23.0 ft. below grade, bentonite grout between 0.0 to 3.0 ft. below grade. Well protector encompassing above grade casing and secured with padlock.

DRAWING: JENNAPAH GC A 1 BH2-MW3A. SKF | DATE: 11/28/06 | DWN BY: NJV

FIGURE 1



1 INCH = 50 FEET

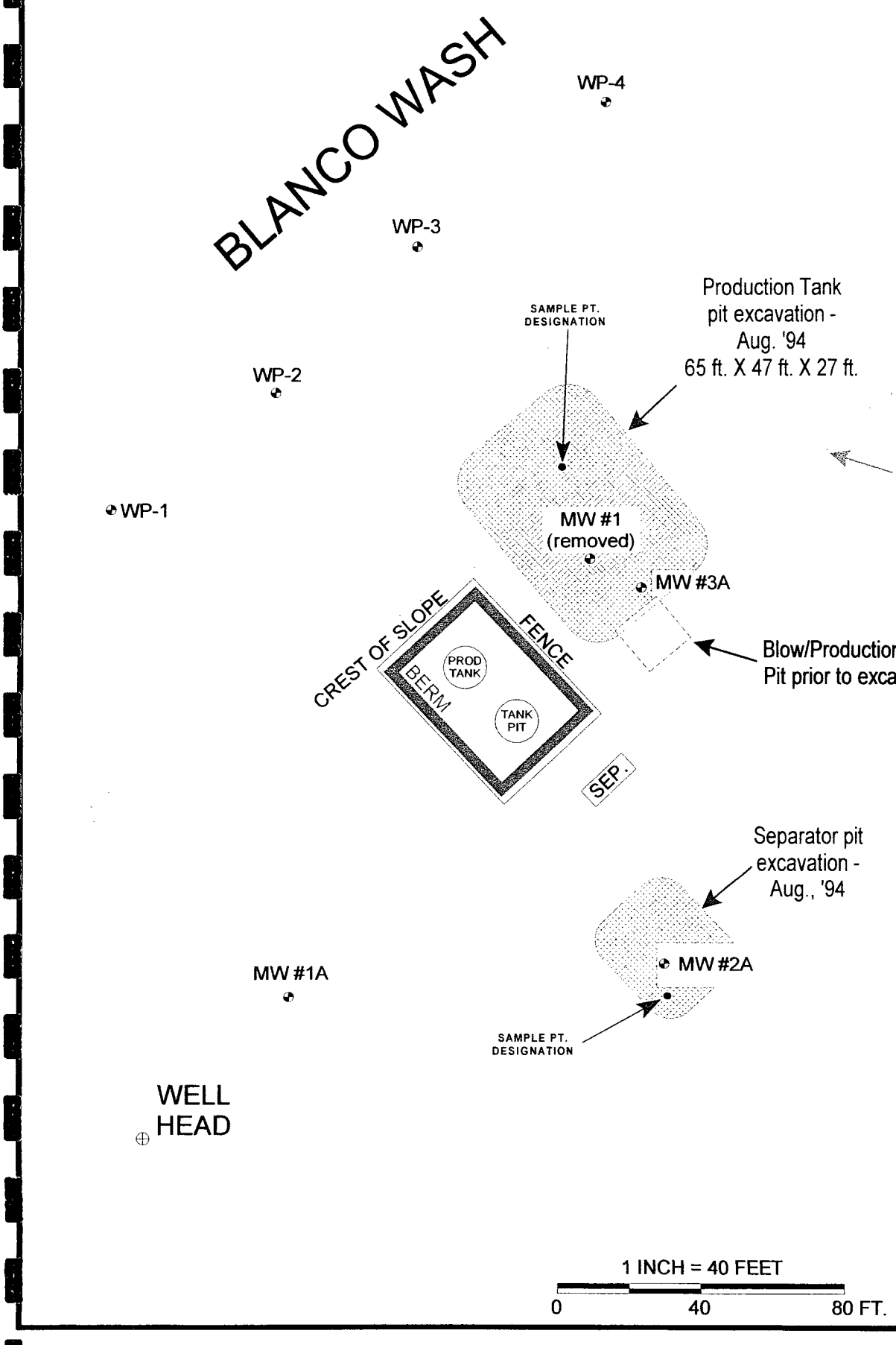
0 50 100 FT.

MONITOR WELL LOCATIONS ARE ONLY AS ACCURATE AS THE INSTRUMENTS USED IN OBTAINING THE FOOTAGE AND BEARING FROM THE WELL HEAD. ALL OTHER STRUCTURES DISPLAYED ON THE SITE MAP ARE SOLELY FOR REFERENCE AND MAY NOT BE TO SCALE.

AMOCO PRODUCTION COMPANY JENNAPAH GC A # 1 SE/4 NE/4 SEC. 36, T28N, R9W SAN JUAN COUNTY, NEW MEXICO	BLAGG ENGINEERING, INC. CONSULTING PETROLEUM / RECLAMATION SERVICES P.O. BOX 87 BLOOMFIELD, NEW MEXICO 87413 PHONE: (505) 632-1199	PROJECT: GROUNDWATER DRAWN BY: REO FILENAME: JENNAPAH GC A 1-SM-1997.SKF REVISED BY: NJV	SITE MAP 06/96

FIGURE 1A

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



SITE MAP

11/06

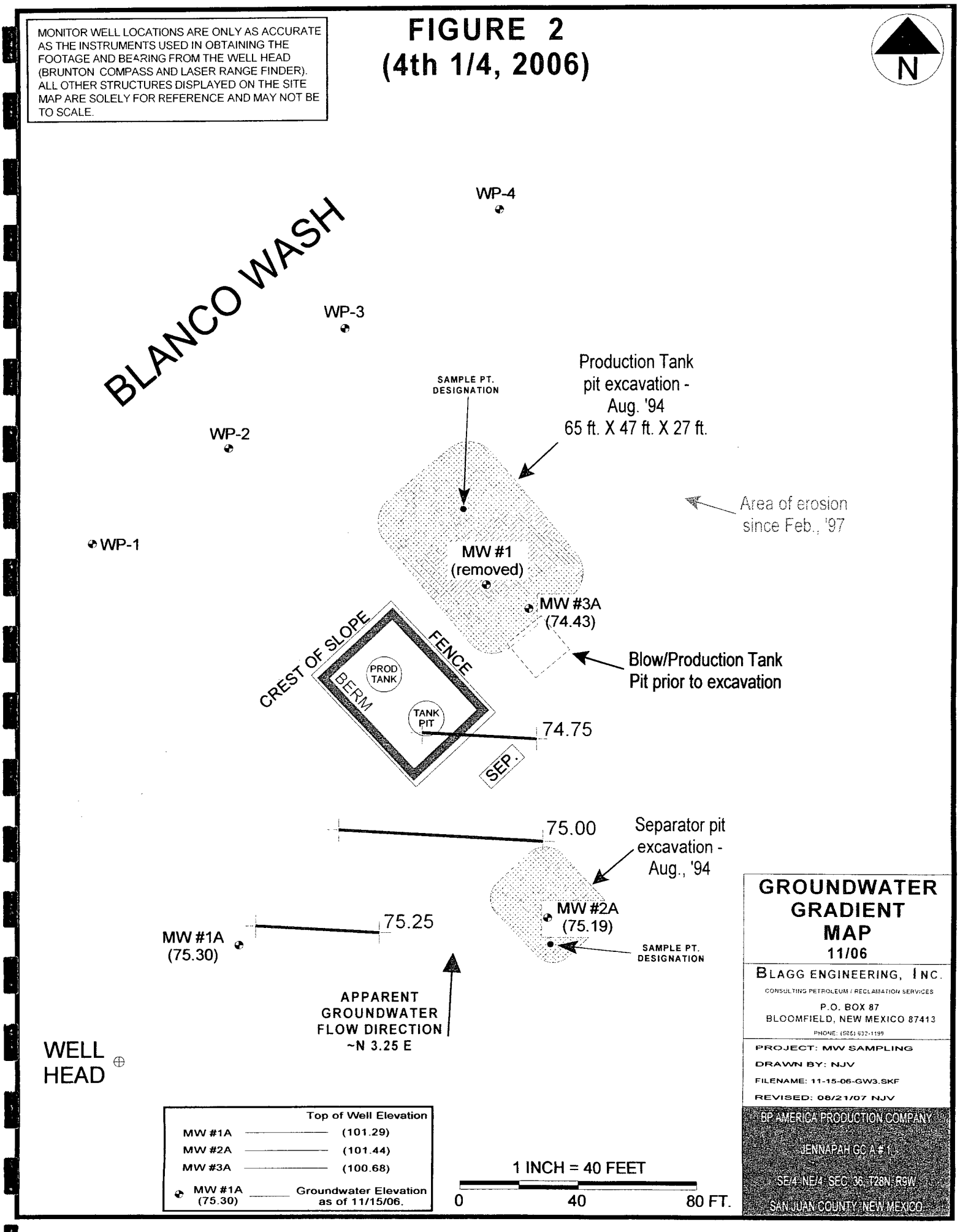
BLAGG ENGINEERING, INC.
CONSULTING PETROLEUM / RECLAMATION SERVICES
P.O. BOX 87
BLOOMFIELD, NEW MEXICO 87413
PHONE: (505) 632-1199

PROJECT: MW LOCATIONS
DRAWN BY: NJV
FILENAME: JENNAPAH GC A 1-SM3.SKF
REVISED: 08/21/07 NJV

BP AMERICA PRODUCTION COMPANY
JENNAPAH GC A #1
SE/4 NE/4 SEC. 36 T28N R9W
SAN JUAN COUNTY, NEW MEXICO

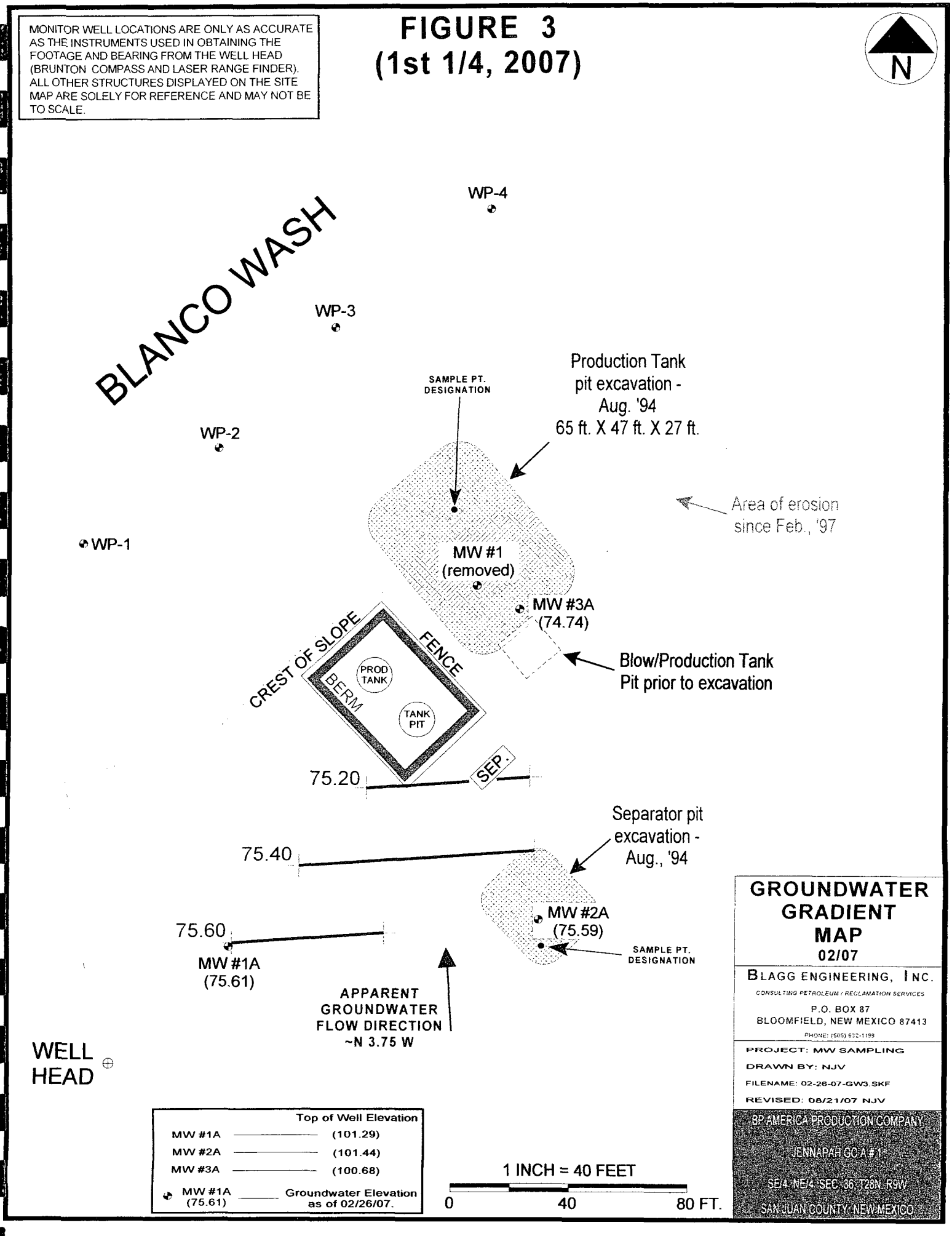
MONITOR WELL LOCATIONS ARE ONLY AS ACCURATE AS THE INSTRUMENTS USED IN OBTAINING THE FOOTAGE AND BEARING FROM THE WELL HEAD (BRUNTON COMPASS AND LASER RANGE FINDER). ALL OTHER STRUCTURES DISPLAYED ON THE SITE MAP ARE SOLELY FOR REFERENCE AND MAY NOT BE TO SCALE.

FIGURE 2
(4th 1/4, 2006)



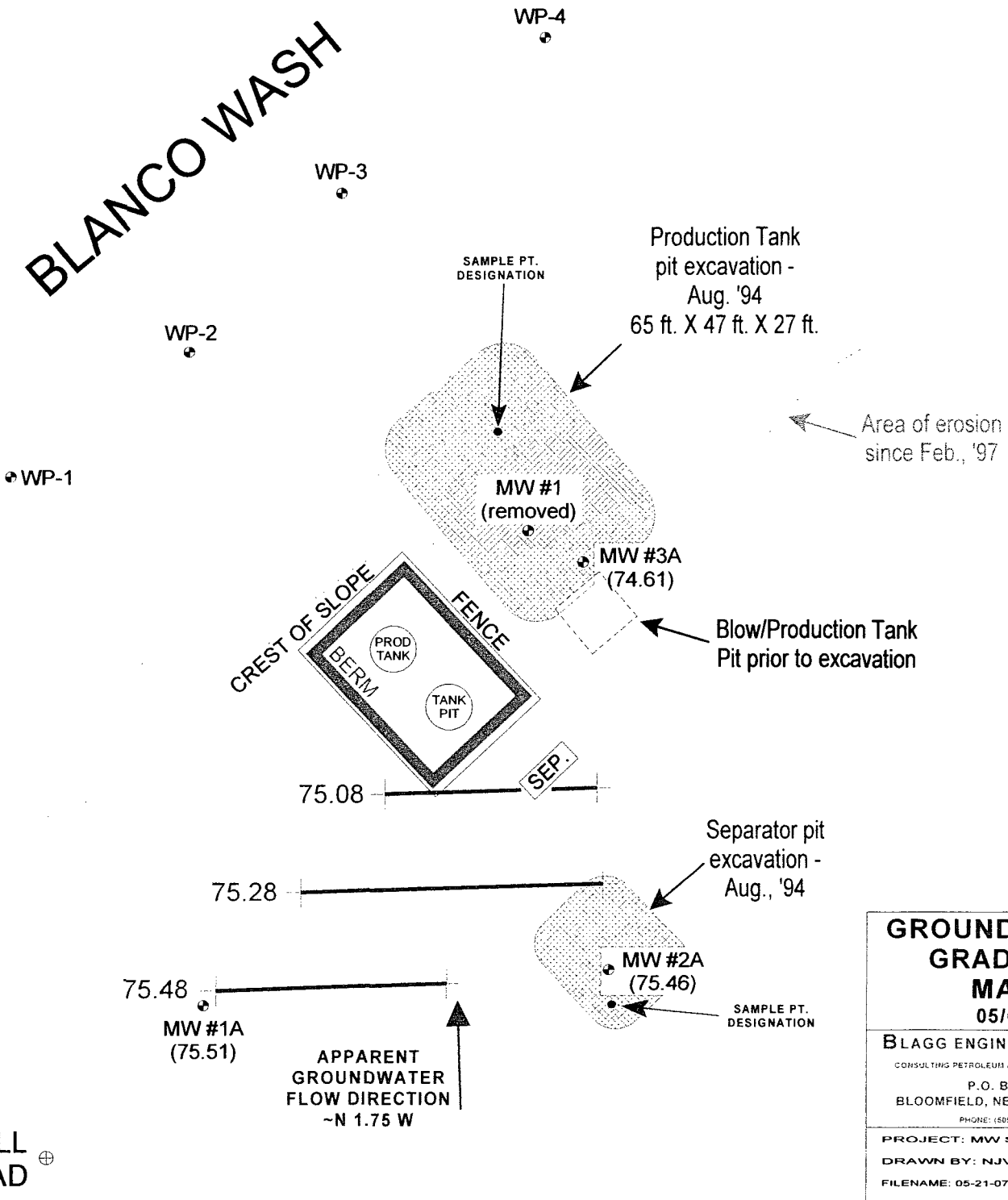
MONITOR WELL LOCATIONS ARE ONLY AS ACCURATE AS THE INSTRUMENTS USED IN OBTAINING THE FOOTAGE AND BEARING FROM THE WELL HEAD (BRUNTON COMPASS AND LASER RANGE FINDER). ALL OTHER STRUCTURES DISPLAYED ON THE SITE MAP ARE SOLELY FOR REFERENCE AND MAY NOT BE TO SCALE.

FIGURE 3
(1st 1/4, 2007)



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

FIGURE 4
(2nd 1/4, 2007)



	Top of Well Elevation
MW #1A	(101.29)
MW #2A	(101.44)
MW #3A	(100.68)
MW #1A (75.51)	Groundwater Elevation as of 05/21/07.

1 INCH = 40 FEET

0 40 80 FT.

GROUNDWATER GRADIENT MAP
05/07

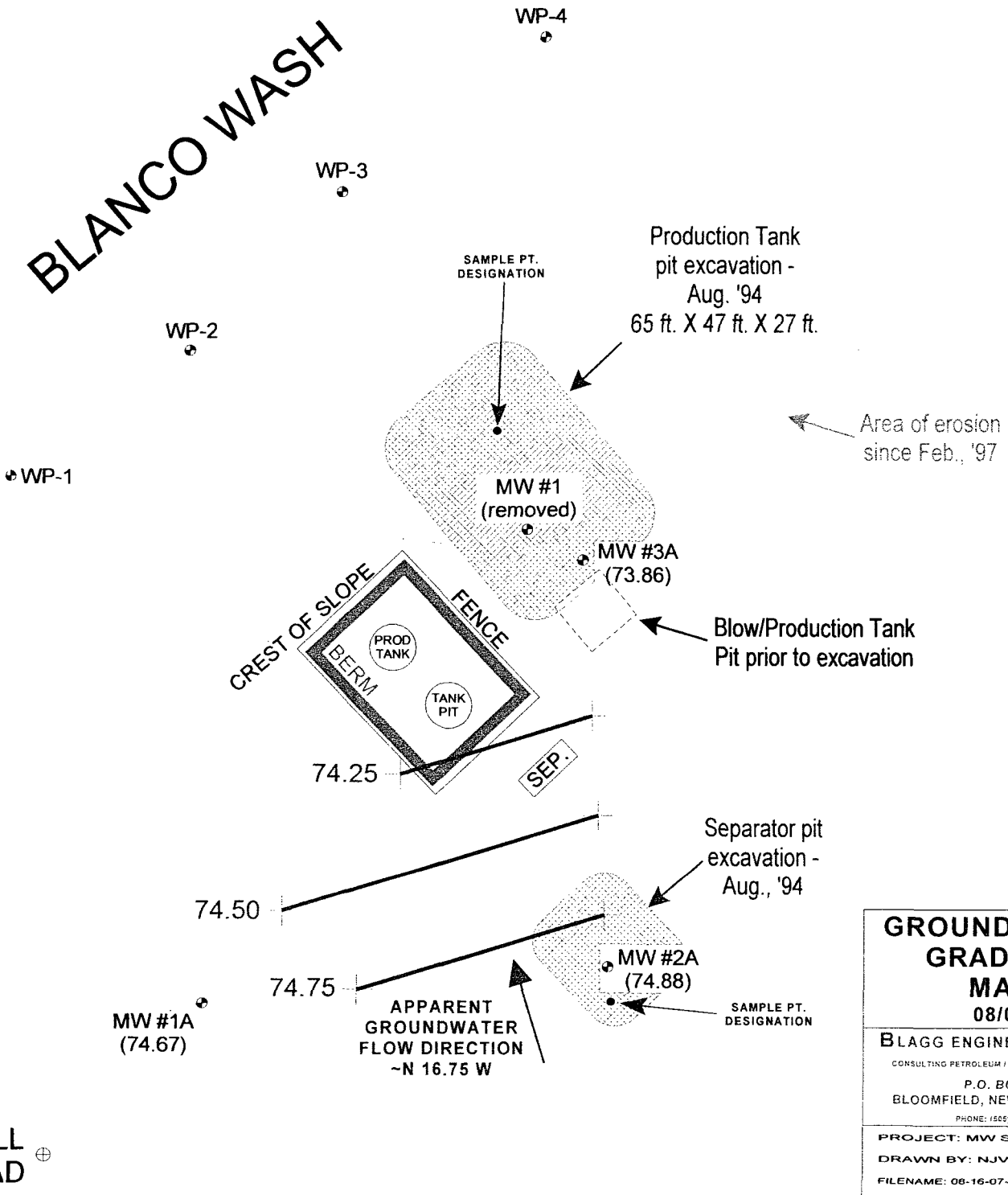
BLAGG ENGINEERING, INC.
CONSULTING PETROLEUM / RECLAMATION SERVICES
P.O. BOX 87
BLOOMFIELD, NEW MEXICO 87413
PHONE: (505) 632-1199

PROJECT: MW SAMPLING
DRAWN BY: NJV
FILENAME: 05-21-07-GW3.SKF
REVISED: 08/21/07 NJV

BP AMERICA PRODUCTION COMPANY
JENNAPAH GC A #1
SE/4 NE/4 SEC 36 T28N R9W
SAN JUAN COUNTY NEW MEXICO

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

FIGURE 5
(3rd 1/4, 2007)



	Top of Well Elevation
MW #1A	(101.29)
MW #2A	(101.44)
MW #3A	(100.68)
MW #1A (74.67)	Groundwater Elevation as of 08/16/07.

1 INCH = 40 FEET

0 40 80 FT.

GROUNDWATER GRADIENT MAP
08/07

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

PROJECT: MW SAMPLING
DRAWN BY: NJV
FILENAME: 08-16-07-GW3.SKF
REVISED: 08/21/07 NJV

BP AMERICA PRODUCTION COMPANY
JENNAPAH GC A # 1
SE/4 NE/4 SEC. 36 T28N R9W
SAN JUAN COUNTY, NEW MEXICO

KRW

CLIENT: AMOCO	BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: 80060 C.O.C. NO:

FIELD REPORT: CLOSURE VERIFICATION

PAGE No: 1 of 1

LOCATION: NAME: JENNAPAH 6C WELL #: A1 PIT: PROD.

QUAD/UNIT: H SEC: 36 TWP: 28N RNG: 9W PM: NM CNTY: SJ STNM

QTR/FOOTAGE: SE/4 NE/4 CONTRACTOR: P. VELASQUEZ

DATE STARTED: 8/23/94

DATE FINISHED:

ENVIRONMENTAL SPECIALIST: NV

SOIL REMEDIATION: EXCAVATION APPROX. 65 FT. x 47 FT. x 27 FT. DEEP.

DISPOSAL FACILITY: LANDFARMED ON-SITE CUBIC YARDAGE: 3060

LAND USE: RANGE LEASE: 14-20-603-782 NAVAJO ALLOTTED

FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 225' FEET N35E FROM WELLHEAD.

DEPTH TO GROUNDWATER: <50' NEAREST WATER SOURCE: >1000' NEAREST SURFACE WATER: <200'

NMOCD RANKING SCORE: 40 NMOCD TPH CLOSURE STD: 100 PPM FORMATION: DK

SOIL AND EXCAVATION DESCRIPTION:

9/6/94 COLLECTED G.W. SAMPLE #2

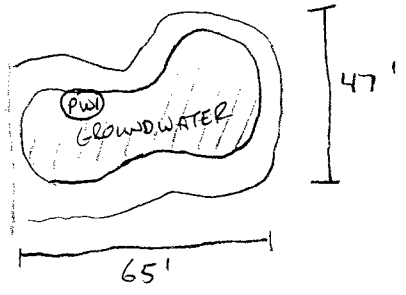
FIELD 418.1 CALCULATIONS

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

SCALE

0 FT

PIT PERIMETER



OVM RESULTS

SAMPLE ID	FIELD HEADSPACE PID (ppm)
1	
2	
3	
4	
5	
	LAB SAMPLES
PW1@GW(27')	BTEX (8020)
9/6/94	PW2 BTEX

PIT PROFILE

TRAVEL NOTES: CALLOUT: 8/23/94 ONSITE:

ON SITE TECHNOLOGIES, LTD.

AROMATIC VOLATILE ORGANICS

Attn:	*Nelson Velez*	Date:	8/24/94
Company:	*Blagg Engineering*	*Lab ID:*	*1835*
Address:	*P.O. Box 87*	*Sample ID:*	*2640*
City, State:	*Bloomfield, NM 87413*	*Job No.*	*2-1000*

Project Name:	***Jennapah A1***				
Project Location:	***PW 1 @ GW (22') - Production Pit***				
Sampled by:	NV	Date:	8/23/94	Time:	10:40
Analyzed by:	DLA	Date:	8/24/94		
Sample Matrix:	*Liquid*				

Aromatic Volatile Organics

Component	***Measured Concentration ug/L***	***Detection Limit Concentration ug/L***
Benzene	*235*	0.2
Toluene	*2,638*	0.2
Ethylbenzene	*38*	0.2
m,p-Xylene	*3,316*	0.2
o-Xylene	*790*	0.2
	TOTAL 7,017 ug/L	

ND - Not Detectable

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

Approved by: [signature]
Date: 8/24/94

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

CHAIN OF CUSTODY RECORD

№ 1835

ON SITE TECHNOLOGIES LIMITED

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

Date: 9/20/94

Page 1 of 1

B 0060

Purchase Order No.:	Reference No.:		
SEND INVOICE TO	Name		
	Company [illegible]	Dept.	
	Address P.O. Box 87		
	City, State, Zip [illegible] 87413		

REPORT RESULTS TO	Name [illegible]	Title [illegible]	
	Company [illegible]		
	Mailing Address [illegible]		
	City, State, Zip [illegible]		
	Telephone No. [illegible]-1199	Telefax No.	

Special Instructions: [illegible]

Sampler: [illegible]

ANALYSIS REQUESTED

SAMPLE IDENTIFICATION	DATE/TIME SAMPLED	COMPOSITE/ GRAB	PRESERVATIVES	Number of Containers	[illegible]			2640-1835							Remarks (matrix)
[illegible]	[illegible]	[illegible]	HCl	2	✓										

Relinquished by: [illegible]	Date/Time 9/20/94 1500	Received by: [illegible]	Date/Time [illegible]
Relinquished by:	Date/Time	Received by:	Date/Time
Relinquished by:	Date/Time	Received by:	Date/Time

Method of Shipment:	Rush	5 Working Days	10 Working Days	Sampling Location:

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

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

ON SITE TECHNOLOGIES, LTD.

AROMATIC VOLATILE ORGANICS

Attn:	*Nelson Velez*	Date:	8/30/94
Company:	*Blagg Engineering*	*Lab ID:*	*1842*
Address:	*P.O. Box 87*	*Sample ID:*	*2780*
City, State:	*Bloomfield, NM 87413*	*Job No.*	*2-1000*

Project Name:	***Jennapah A 1***				
Project Location:	***PW 2 @ GW (27') - Production Pit***				
Sampled by:	NV	Date:	8/29/94	Time:	12:20
Analyzed by:	DLA	Date:	8/30/94		
Sample Matrix:	*Liquid*				

Aromatic Volatile Organics

Component	***Measured Concentration ug/L***	***Detection Limit Concentration ug/L***
Benzene	*123*	*0.2*
Toluene	*1,948*	*0.2*
Ethylbenzene	*54*	*0.2*
m,p-Xylene	*1,467*	*0.2*
o-Xylene	*363*	*0.2*
	TOTAL 3,954 ug/L	

ND - Not Detectable

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

Approved by: DA H
Date: 8/30/94

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

ILFC Laboratory Report

Sample Date: 8/29/94 On Site Technologies Limited **2781-1842**

Registered Date/Time: 09/02/1994 09:16:38 AM Jennapah Al

Batch # **94746** Water **ILFC #** **13706**

EPA 8270

Analyte	MDL	Concentration	Date Analyzed	Analyst
Acenaphthene	1 ug/L	<1	'9/12/94	Dean Dupree
Acenaphthylene	1 ug/L	<1		
Benzo (a) anthracene	1 ug/L	<1		
Benzo (a) pyrene	1 ug/L	<1		
Pyrene	1 ug/L	<1		
Benzo(b)fluoranthene	1 ug/L	<1		
Benzo(ghi)perylene	1 ug/L	<1		
Benzo(k)fluoranthene	1 ug/L	<1		
Chrysene	1 ug/L	<1		
Dibenzo(a,h)anthrace	1 ug/L	<1		
Fluoranthene	1 ug/L	<1		
Fluorene	1 ug/L	<1		
Indeno(1,2,3-cd)pyre	1 ug/L	<1		
Naphthalene	1 ug/L	13.00		
Phenanthrene	1 ug/L	<1		

End of Analyses

CHAIN OF CUSTODY RECORD

№ 1842

ON SITE TECHNOLOGIES LIMITED

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

Date: [illegible]

Page 1 of 1

Purchase Order No.:	Reference No.:		
SEND INVOICE TO	Name		
	Company [illegible]	Dept.	
	Address [illegible]		
	City, State, Zip [illegible]		

REPORT RESULTS TO	Name [illegible]	Title [illegible]	
	Company [illegible]		
	Mailing Address [illegible]		
	City, State, Zip [illegible]		
	Telephone No. [illegible]	Telefax No.	

Special Instructions: [illegible]

Sampler: [illegible]

SAMPLE IDENTIFICATION	DATE/TIME SAMPLED	COMPOSITE/ GRAB	PRESERVATIVES	Number of Containers	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Remarks (matrix)
[illegible] - RAW. PT	[illegible] 1220	[illegible]	[illegible]	2	✓				27780	-	1842				WATER
WP-3 - PROD. PT	[illegible] 1230	[illegible]	[illegible]	1		✓			27781	-	1842				WATER

Relinquished by: [illegible]	Date/Time [illegible]	Received by: [illegible]	Date/Time [illegible]
Relinquished by:	Date/Time	Received by:	Date/Time
Relinquished by:	Date/Time	Received by:	Date/Time

Method of Shipment:	Rush	5 Working Days	10 Working Days	Sampling Location:

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

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

CHAIN OF CUSTODY RECORD

2030

ON SITE TECHNOLOGIES, LTD.

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

Date: 8/31/94

94174

Page 1 of 1

Purchase Order No.: 2030	Reference No.:		
SEND INVOICE TO		**REPORT RESULTS TO**	
Name: ACCOUNTS PAYABLE		Name: DAVID COX	Title:
Company: ON SITE	Dept.	Company: ON SITE TECHNOLOGIES	
Address: P.O. BOX 2606		Mailing Address: 657 W. MAPLE ST	
City, State, Zip: FARMINGTON, NM 87499		City, State, Zip: FARMINGTON, NM 87401	
		Telephone No.: 505-325-5667	Telefax No.: 505-325-6256

Special Instructions:
PLEASE FAX RESULTS w/ COMPLETE QA/QC WHEN ANALYSIS IS COMPLETED

Sampler:

ANALYSIS REQUESTED

SAMPLE IDENTIFICATION	DATE/TIME SAMPLED	COMPOSITE/ GRAB	PRESERVATIVES	Number of Containers	PAH 8100										Remarks (matrix)
JENNAPAH A1 - PROD. PIT	8/29/94 12:30	G	4°C	1	✓										H_2O
WP-3 ; 2781-1842															
TLFC # 94-13706															

Relinquished by: [signature]	Date/Time 8/31/94 1500	Received by: D. Dunn	Date/Time 9/1/94 3:00 PM
Relinquished by:	Date/Time	Received by:	Date/Time
Relinquished by:	Date/Time	Received by:	Date/Time

Method of Shipment:

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

Rush	5 Working Days	10 Working Days	Sampling Location:

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

International
Lubrication and
Fuel Consultants Inc.

P.O. Box 15212
Rio Rancho, NM 87174
(505) 892-1666 (800) 237-4532

Creating the standards for industry.

ILFC Laboratory Report

for

On Site Technologies Limited
657 West Maple
Farmington NM
(505) 325-5667

Project No:

Project Location:	Jennapah Al Prod. Pit WP-3	
Sampler:	Not Given	(505) 325-5667
Date Sampled:	8/29/94	
Date Received:	9/1/94	
Date Reported:	09/14/1994	
Report #:	94746	

Laboratory Manager Dean Dupree

Quality Control Summary PAH

Date: 9/13/94

Method Blank

Analytes in Blank	Amount
Acenaphthene	<1 ug/L
Acenaphthylene	<1 ug/L
Benzo (a) anthracene	<1 ug/L
Benzo (a) pyrene	<1 ug/L
Benzo (b) fluoranthene	<1 ug/L
Benzo (ghi) perylene	<1 ug/L
Benzo (k) fluoranthene	<1 ug/L
Chrysene	<1 ug/L
Dibenzo (a,h) anthrace	<1 ug/L
Fluoranthene	<1 ug/L
Fluorene	<1 ug/L
Indeno (1,2,3-cd) pyre	<1 ug/L
Naphthalene	<1 ug/L
Phenanthrene	<1 ug/L
Pyrene	<1 ug/L

Surrogate Recoveries

Sample #	S1	S2	S3
13706	45%	60%	82%

Calibration Check

Calibration Standards	% Diff.
Acenaphthene	11%
Acenaphthylene	15%
Benzo (a) anthracene	11%
Benzo (a) pyrene	7%
Benzo (b) fluoranthene	1%
Benzo (ghi) perylene	1%
Benzo (k) fluoranthene	9%
Chrysene	11%
Dibenzo (a,h) anthrace	3%
Fluoranthene	4%
Fluorene	17%
Indeno (1,2,3-cd) pyre	3%
Naphthalene	22%
Phenanthrene	12%
Pyrene	29%

Spike Recoveries

Analyte	Spike1	Spkie 2	RSD
	% Rec.	% Rec.	%
Acenaphthene	74%	68%	9%
Pyrene	110%	100%	10%

QCS001

ON SITE TECHNOLOGIES, LTD.

QUALITY ASSURANCE REPORT
for EPA Method 8020

Date Analyzed: 8/30/94

Internal QC No.: 0222-STD
Surrogate QC No.: 0223-STD
Reference Standard QC No.: 0300-STD

Method Blank

Analytes in Blank	Amount
Average Amount of All Analytes In Blank	<0.5 ppb

Calibration Check

Calibration Standards	Units of Measure	*True Value	Analyzed Value	% Diff	Limit
Benzene	ppb	20	21	6	15%
Toluene	ppb	20	19	3	15%
Ethylbenzene	ppb	20	19	5	15%
m,p-Xylene	ppb	40	37	7	15%
o-Xylene	ppb	20	19	6	15%

Spike Results

Analyte	1- Percent Recovered	2 - Percent Recovered	Limit	%RSD	Limit
Benzene	99	97	(39-150)	1	20%
Toluene	100	96	(46-148)	3	20%
Ethylbenzene	100	100	(32-160)	0	20%
m,p-Xylene	98	99	(35-145)	1	20%
o-Xylene	99	104	(35-145)	3	20%

Surrogate Recoveries

Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered	S3 Percent Recovered
Limits	(70-130)		
2780-1842	104		

S1: Flourobenzene

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

ON SITE TECHNOLOGIES, LTD.

AROMATIC VOLATILE ORGANICS

Attn:	*R. E. O'Neill*	Date:	9/7/94
Company:	*Blagg Engineering*	*Lab ID:*	*2060*
Address:	*P.O. Box 87*	*Sample ID:*	*2894*
City, State:	*Bloomfiled, NM 87413*	*Job No.*	*2-1000*

Project Name:	***Jennapah A #1***				
Project Location:	***Production Pit @ G.W.***				
Sampled by:	REO	Date:	9/6/94	Time:	11:45
Analyzed by:	DLA	Date:	9/7/94		
Sample Matrix:	*Liquid*				

Aromatic Volatile Organics

Component	***Measured Concentration ug/L***	***Detection Limit Concentration ug/L***
Benzene	*30.6*	*0.2*
Toluene	*6.3*	*0.2*
Ethylbenzene	*50.6*	*0.2*
m,p-Xylene	*1,082*	*0.2*
o-Xylene	*231*	*0.2*
	TOTAL 1,400 ug/L	

ND - Not Detectable

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

Approved by: [signature]
Date: 9/7/94

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

CHAIN OF CUSTODY RECORD

2060

ON SITE TECHNOLOGIES, LTD.

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

Date: 9-6-94

Page 1 of 1

B0060

Purchase Order No.:	Reference No.:		
SEND INVOICE TO — Name			
Company	BLAGG ENGINEERING, INC.	Dept.	
Address	P.O. BOX 87		
City, State, Zip	BLOOMFIELD, N.M. 87413		

REPORT RESULTS TO — Name	R. E. O'NEILL	Title	EE
Company	SAME		
Mailing Address	SAME		
City, State, Zip			
Telephone No.		Telefax No.	

Special Instructions: JEMAPAH A #1

Sampler: R. E. O'NEILL

ANALYSIS REQUESTED

SAMPLE IDENTIFICATION	DATE/TIME SAMPLED	COMPOSITE/ GRAB	PRESERVATIVES	Number of Containers	BTEX									Remarks (matrix)
PROD. PIT @ G.W. 9/6	1145	GRB	$HgCl_2$-cool	2	✓			2894 - 2060						WATER
SEP. PIT @ G.W. 9/6	1210	GRB	$HgCl_2$	2	✓			2895 - 2060						WATER

Relinquished by: R. E. O'Neill 9/6	Date/Time 1342	Received by: Tony Tristano 9/6/94	Date/Time 1342
Relinquished by:	Date/Time	Received by:	Date/Time
Relinquished by:	Date/Time	Received by:	Date/Time

Method of Shipment:

Authorized by: R. E. O'Neill Date 9/6/94
(Client Signature Must Accompany Request)

Rush	5 Working Days	10 Working Days	Sampling Location:

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

RESULTS TO BOB McCOY 9-8-94 REO

CLIENT: AMOCO	BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: B0060 C.O.C. NO:

FIELD REPORT: CLOSURE VERIFICATION

PAGE No: 1 of 1

LOCATION: NAME: JENNAPAH 6C WELL #: A1 PIT: SEP

QUAD/UNIT: H SEC: 36 TWP: 28 N RNG: 9W PM: NM CNTY: SJ ST: NM

QTR/FOOTAGE: SE/4 NE/4 CONTRACTOR: P. VELASQUEZ

DATE STARTED: 8/25/94

DATE FINISHED:

ENVIRONMENTAL SPECIALIST: NV/REO

SOIL REMEDIATION: EXCAVATION APPROX. 27 FT. x 36 FT. x 27 FT. DEEP.

DISPOSAL FACILITY: LANDFARMED ON-SITE CUBIC YARDAGE: 865

LAND USE: RANGE LEASE: 14-20-603-782 NAVAJO ALLOTTED

FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 155 FEET N70E FROM WELLHEAD.

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

NMOCD RANKING SCORE: 30 NMOCD TPH CLOSURE STD: 100 PPM FORMATION: DK

SOIL AND EXCAVATION DESCRIPTION:

REO 9-6-94 COLLECTED GROUNDWATER SAMPLE. POOL OF WATER ~ 5' x 4' x 1' DEEP. WATER OK

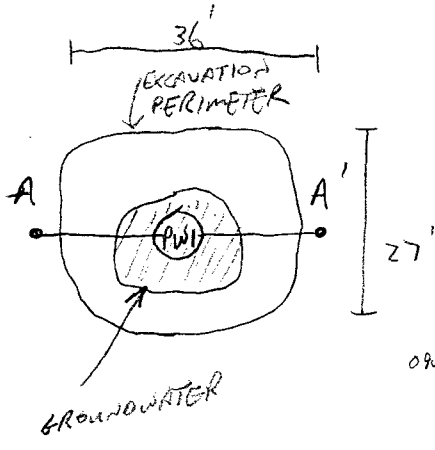
FIELD 418.1 CALCULATIONS

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

SCALE

0 FT

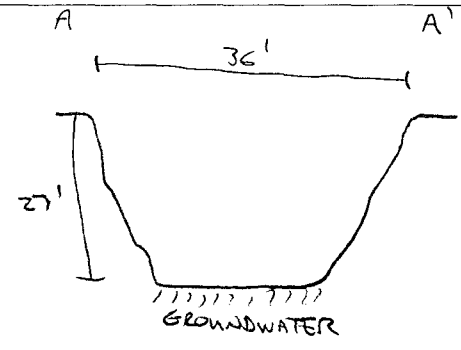
PIT PERIMETER



OVM RESULTS

SAMPLE ID	FIELD HEADSPACE PID (ppm)
1	
2	
3	
4	
5	
	LAB SAMPLES
0905 PW1 BGW (27')	BTEX (8020)
9/6/94 PW2	BTEX

PIT PROFILE



TRAVEL NOTES: CALLOUT: 8/24/94 ONSITE: 8/25/94

ON SITE TECHNOLOGIES, LTD.

AROMATIC VOLATILE ORGANICS

Attn:	*Nelson Velez*	Date:	8/26/94
Company:	*Blagg Engineering*	*Lab ID:*	*1838*
Address:	*P.O. Box 87*	*Sample ID:*	*2700*
City, State:	*Bloomfield, NM 87413*	*Job No.*	*2-1000*

Project Name:	***Jennapah A1***				
Project Location:	***PW 1 @ GW (27') - Sep Pit***				
Sampled by:	NV	Date:	8/25/94	Time:	9:05
Analyzed by:	DLA	Date:	8/26/94		
Sample Matrix:	*Liquid*				

Aromatic Volatile Organics

Component	*Measured Concentration ug/L*	*Detection Limit Concentration ug/L*
Benzene	*92*	0.2
Toluene	*2,009*	0.2
Ethylbenzene	*30*	0.2
m,p-Xylene	*2,870*	0.2
o-Xylene	*808*	0.2
	TOTAL 5,809 ug/L	

ND - Not Detectable

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

Approved by: [signature]
Date: 8/26/94

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

CHAIN OF CUSTODY RECORD

№ 1838

ON SITE TECHNOLOGIES LIMITED

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

Date: [illegible]

Page 1 of 1

B0060

Purchase Order No.:	Reference No.:		
SEND INVOICE TO Name		**REPORT RESULTS TO** Name [illegible]	Title [illegible]
Company [illegible] ENGINEERING	Dept.	Company [illegible]	
Address P.O. BOX 27		Mailing Address [illegible]	
City, State, Zip [illegible] NM 87413		City, State, Zip [illegible]	
		Telephone No. [illegible]	Telefax No.
Special Instructions: [illegible]		Number of Containers	ANALYSIS REQUESTED
Sampler: [illegible]			

SAMPLE IDENTIFICATION	DATE/TIME SAMPLED	COMPOSITE/ GRAB	PRESERVATIVES	Number of Containers	[illegible]										Remarks (matrix)
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	✓			8700	–	838					

Relinquished by: [illegible]	Date/Time [illegible]	Received by: [illegible]	Date/Time [illegible]
Relinquished by:	Date/Time	Received by:	Date/Time
Relinquished by:	Date/Time	Received by:	Date/Time

Method of Shipment:	Rush	5 Working Days	10 Working Days	Sampling Location:

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

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

ON SITE TECHNOLOGIES, LTD.

AROMATIC VOLATILE ORGANICS

Attn:	*R. E. O'Neill*	Date:	9/7/94
Company:	*Blagg Engineering*	*Lab ID:*	*2060*
Address:	*P.O. Box 87*	*Sample ID:*	*2895*
City, State:	*Bloomfiled, NM 87413*	*Job No.*	*2-1000*

Project Name:	***Jennapah A #1***				
Project Location:	***Separator Pit @ G.W.***				
Sampled by:	REO	Date:	9/6/94	Time:	12:10
Analyzed by:	DLA	Date:	9/7/94		
Sample Matrix:	*Liquid*				

Aromatic Volatile Organics

Component	***Measured Concentration ug/L***	***Detection Limit Concentration ug/L***
Benzene	*ND*	*0.2*
Toluene	*6.0*	*0.2*
Ethylbenzene	*2.3*	*0.2*
m,p-Xylene	*52.1*	*0.2*
o-Xylene	*6.7*	*0.2*
	TOTAL 67.1 ug/L	

ND - Not Detectable

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

Approved by: [signature]
Date: 9/7/94

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

Page 1 of 1

CHAIN OF CUSTODY RECORD

Date: 9-6-94

80060

ON SITE TECHNOLOGIES, LTD.

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

Purchase Order No.:

Reference No.:

Dept.

SEND INVOICE TO
Name
Company: BLAGG ENGINEERING, INC.
Address: PO BOX 87
City, State, Zip: BLOOMFIELD, N.M. 87413

REPORT RESULTS TO
Name: R.E. O'NEILL
Company: SAME
Mailing Address: SAME
City, State, Zip
Telephone No.:
Title: EE
Telefax No.

Special Instructions: JENKAPAH A #1

Sampler: R.E. O'NEILL

ANALYSIS REQUESTED

SAMPLE IDENTIFICATION	DATE/TIME SAMPLED	COMPOSITE/ GRAB	PRESERVATIVES	Number of Containers	BTEX								Remarks (matrix)
PROD. PIT @ G.W.	9/6 1145	GRB	$HgCl_2$-ice	2	✓			2894-2060					WATER
SEP. PIT @ G.W.	9/6 1210	GRB	$HgCl_2$	2	✓			2895-2060					WATER

Relinquished by: R. E. O'Neill 9/6 Date/Time 1342
Relinquished by: Date/Time
Relinquished by: Date/Time

Received by: Tony Tristano 9/6/94 Date/Time 1342
Received by: Date/Time
Received by: Date/Time

Method of Shipment: R. E. O'Neill Date 9/6/94

Rush | 5 Working Days | 10 Working Days | Sampling Location:

(Signature Must Accompany Request)

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

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION
2040 S. PACHECO
SANTA FE, NEW MEXICO 87505
(505) 827-7131

December 10, 1996

CERTIFIED MAIL
RETURN RECEIPT NO. P-269-269-225

Mr. B.D. Shaw
Amoco Production Company
200 Amoco Court
Farmington, New Mexico 87401

RE: FINAL SAN JUAN BASIN PIT CLOSURE REPORTS

Dear Mr. Shaw:

The New Mexico Oil Conservation Division (OCD) has completed a review of Amoco Production Company's (Amoco) September 19, 1994 "AMOCO PRODUCTION COMPANY PIT CLOSURE VERIFICATIONS" which were submitted on behalf of Amoco by their consultant Blagg Engineering, Inc. This document contains "PIT REMEDIATION AND CLOSURE REPORTS" for 37 unlined pits in the San Juan Basin of Northwestern New Mexico.

The OCD's review of the above referenced document is addressed below:

A. The pit closure/soil remediation activities conducted at the sites listed below are **approved**.

1.	Bolack B LS #5 (Separator pit)	Unit J, Sec. 33, T28N, R08W.
2.	Elliott GC A#1 (Blow pit I)	Unit D, Sec. 14, T29N, R09W.
3.	Federal F#1 (Separator pit)	Unit H, Sec. 16, T27N, R10W.
4.	Hancock GC #1 (Compressor pit)	Unit L, Sec. 15, T30N, R12W.
5.	Hancock GC #1 (Separator pit)	Unit L, Sec. 15, T30N, R12W.
6.	Hargrave A#3 (Blow pit)	Unit B, Sec. 16, T27N, R10W.
7.	Hargrave A#3 (Drip pit)	Unit B, Sec. 16, T27N, R10W.
8.	R.P. Hargrave K#1 (Blow pit)	Unit M, Sec. 16, T27N, R10W.
9.	R.P. Hargrave K#1 (Separator pit)	Unit M, Sec. 16, T27N, R10W.
10.	R.P. Hargrave K#1E (Blow pit)	Unit C, Sec. 16, T27N, R10W.
11.	R.P. Hargrave K#1E (Separator pit)	Unit C, Sec. 16, T27N, R10W.
12.	Jones #5E (Blow pit)	Unit I, Sec. 35, T29N, R08W.
13.	Jones A LS #1A (Separator pit)	Unit J, Sec. 10, T28N, R08W.
14.	P.O. Pipkin #3E (Blow pit)	Unit I, Sec. 17, T27N, R10W.
15.	P.O. Pipkin #4E (Blow pit)	Unit C, Sec. 17, T27N, R10W.
16.	P.O. Pipkin #4E (Separator pit)	Unit C, Sec. 17, T27N, R10W.

Please be advised that OCD approval does not relieve Amoco of liability if remaining contaminants are found to pose a future threat to surface water, ground water, human health or the environment. In addition, OCD approval does not relieve Amoco of responsibility for compliance with any other federal, state or local laws and/or regulations.

B. The pit remedial activities conducted at the sites listed below are satisfactory. However, according to the reports, onsite landfarming and/or composting actions are still continuing at the sites. Subsequently, the OCD cannot issue final closure approval at this time and approval of closure actions at these sites is **denied**. Please resubmit final closure reports for these sites upon completion of the landfarming and/or composting activities. The final reports will include the results of the soil remediation levels achieved, the laboratory analyses and associated quality assurance/quality control data and the disposition of the remediated soils.

1.	A.L. Elliott C#1 (Blow pit)	Unit B, Sec. 15, T29N, R09W.
2.	A.L. Elliott C#1 (Separator pit)	Unit B, Sec. 15, T29N, R09W.
3.	A.L. Elliott D#9 (Blow pit)	Unit N, Sec. 11, T29N, R09W.
4.	A.L. Elliott E#1 (Blow pit)	Unit D, Sec. 14, T29N, R09W.
5.	Elliott GC A#1 (Blow pit)	Unit D, Sec. 14, T29N, R09W.
6.	R.P. Hargrave F#3 (Blow pit)	Unit E, Sec. 16, T27N, R10W.
7.	Schwerdtfeger A#3E (Blow pit)	Unit L, Sec. 06, T27N, R08W.
8.	Schwerdtfeger A#3E (Production pit)	Unit L, Sec. 06, T27N, R08W.
9.	Schwerdtfeger A#3E (Separator pit)	Unit L, Sec. 06, T27N, R08W.
10.	Schwerdtfeger A#3E (Dehy pit)	Unit L, Sec. 06, T27N, R08W.
11.	Schwerdtfeger A LS #22 (Separator)	Unit D, Sec. 06, T27N, R08W.
12.	Schwerdtfeger A LS #10 (Separator)	Unit M, Sec. 31, T28N, R08W.

C. The final pit remedial contaminant levels at the sites listed below are in excess of the OCD's recommended remediation levels. Consequently, the OCD cannot issue final closure approval and approval of closure actions at these sites is **denied**. The OCD requests that Amoco address the extent of the remaining contamination at these sites. The OCD will reconsider issuing closure approval upon resubmission of pit closure forms which address the remaining extent of contamination at the sites. The resubmitted forms should include the completed form and all pertinent information elated to the extent of contamination, the results of the soil remediation levels achieved, the results of the soil remediation levels achieved, the laboratory analyses and associated quality assurance/quality control data and the disposition of the remediated soils.

1.	A.L. Elliott C#4 (Separator pit)	Unit A, Sec. 15, T29N, R09W.
2.	Jones #5E (Tank pit)	Unit I, Sec. 35, T29N, R08W.
3.	P.O. Pipkin #3 (Blow pit)	Unit A, Sec. 17, T27N, R10W.
4.	P.O. Pipkin #3 (Separator pit)	Unit A, Sec. 17, T27N, R10W.
5.	P.O. Pipkin #3E (Dehy pit)	Unit I, Sec. 17, T27N, R10W.
6.	P.O. Pipkin #3E (Separator pit)	Unit I, Sec. 17, T27N, R10W.

D. Ground water at the sites listed below is contaminated with petroleum related constituents in excess of New Mexico Water Quality Control Commission ground water standards and the extent of ground water contamination at the sites has not been determined. Therefore, approval of these pit closure forms is **denied**. The OCD requests that Amoco investigate the extent of contamination and, if necessary, remediate contaminated ground water pursuant to Amoco's November 21, 1995 ground water investigation/remediation work plan which was approved by the OCD on November 29, 1995.

1.	Jennapah GC A#1 (Separator pit)	Unit H, Sec. 36, T28N, R09W.
2.	Jennapah GC A#1 (Tank pit)	Unit H, Sec. 36, T28N, R09W.
3.	Price #3 (Separator pit)	Unit A, Sec. 15, T28N, R08W.

To simplify the approval process for both Amoco and OCD, the OCD requests that Amoco submit all future pit closure reports only upon completion of all closure activities including onsite landfarming or composting of contaminated soils. The reports should include the completed form and all pertinent information related to the extent of contamination, the results of the soil remediation levels in the pits and landfarms, all laboratory analyses and associated quality assurance/quality control data and the disposition of all remediated soils.

If you have any questions, please call me at (505) 827-7154.

Sincerely,

William C. Olson
Hydrogeologist
Environmental Bureau

xc: OCD Aztec District Office
Bill Liess, BLM Farmington District Office
Nelson Velez, Blagg Engineering, Inc.
Charmaine Tso, Navajo Nation EPA

CLIENT: AMOCO	BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: B0060 C.O.C. NO: 5089

FIELD REPORT: LANDFARM/COMPOST PILE CLOSURE VERIFICATION

LOCATION: NAME: JENNAPAH GC WELL #: A1 PITS:
QUAD/UNIT: H SEC: 36 TWP: 28N RNG: 9W PM: NM CNTY: SJ ST: NM
QTR/FOOTAGE: SE/4 NE/4 CONTRACTOR: P. VELASQUEZ

DATE STARTED: 4/28/97
DATE FINISHED:
ENVIRONMENTAL SPECIALIST: NV

SOIL REMEDIATION:

REMEDIATION SYSTEM: COMPOSTED APPROX. CUBIC YARDAGE: 3400

LAND USE: RANGE - NAVAJO ALLOTTED LIFT DEPTH (ft): NA

FIELD NOTES & REMARKS:

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

NMOCD RANKING SCORE: 30 NMOCD TPH CLOSURE STD: 100 PPM

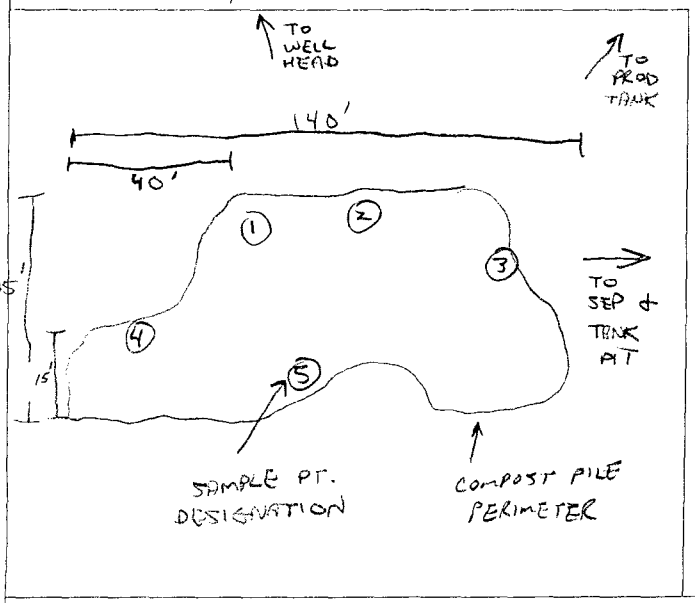
SOILS CONSIST MOSTLY OF DK. YELL. BROWN SAND MIXED W/ LIVESTOCK MANURE, NON COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT HC ODOR DETECTED IN ANY OF THE SAMPLING POINTS, SOIL TEMPATURE APPEARS RELATIVE STABLE FOR SUBSURFACE CONDITIONS. 5 PT. COMPOSITE SAMPLE COLLECTED FOR LAB TPH (8015). OVM SAMPLE RETAINED FROM COMPOSITE SOILS, NO APPARENT HC ODOR.

CLOSED

FIELD 418.1 CALCULATIONS

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

SKETCH/SAMPLE LOCATIONS



OVM RESULTS

SAMPLE ID	FIELD HEADSPACE PID (ppm)
CP-3	0.0

LAB SAMPLES

SAMPLE ID	ANALYSIS	TIME	RESULTS
CP-3	8015	1245	ND

SCALE
0 FT

TRAVEL NOTES: CALLOUT: NA ONSITE: 4/28/97 AFTER.

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Client:	Blagg / Amoco	Project #:	04034
Sample ID:	CP - 3	Date Reported:	04-29-97
Laboratory Number:	B180	Date Sampled:	04-28-97
Chain of Custody No:	5089	Date Received:	04-28-97
Sample Matrix:	Soil	Date Extracted:	04-29-97
Preservative:	Cool	Date Analyzed:	04-29-97
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	**ND**	**0.2**
Diesel Range (C10 - C28)	**ND**	**0.1**
Total Petroleum Hydrocarbons	**ND**	**0.2**

ND - Parameter not detected at the stated detection limit.

References: Method 8015, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Comments: **Jennapah GC A1 Compost Pile.**

Analyst

Review

5796 U.S. Highway 64-3014 • Farmington, NM 87401 • Tel 505 • 632 • 0615 • Fax 505 • 632 • 1865

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	Laboratory Blank	Date Reported:	04-29-97
Laboratory Number:	04-29-TPH.BLANK	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	04-29-97
Condition:	N/A	Analysis Requested:	TPH

Parameter	Concentration (mg/L)	Det. Limit (mg/L)
Gasoline Range C5 - C10	**ND**	**0.2**
Diesel Range C10 - C28	**ND**	**0.1**
Total Petroleum Hydrocarbons	**ND**	**0.2**

ND - Parameter not detected at the stated detection limit.

References: Method 8015, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Comments: **QA/QC for sample B180.**

Analyst

Review

5796 U.S. Highway 64-3014 • Farmington, NM 87401 • Tel 505 • 632 • 0615 • Fax 505 • 632 • 1865

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location	ANALYSIS/PARAMETERS
CLAGG / AMOCO	COMPOST PILE JENNAPAH GC A1	
Sampler: (Signature) Nelson Vely	Chain of Custody Tape No. 04034	

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	TPH (8015)						Remarks
												5 PT. COMPOSITE
CP-3	4/28/97	1245	B180	SOIL	1	✓						PRESERV. - COOL

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Nelson Vely	4/28/97	1417	[illegible]	4-28-97	1417
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

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons
Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	Matrix Duplicate	Date Reported:	04-29-97
Laboratory Number:	B180	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	Cool	Date Analyzed:	04-29-97
Condition:	Cool and Intact	Analysis Requested:	TPH

Parameter	Sample Result (mg/Kg)	Duplicate Result (mg/Kg)	Percent Difference
Gasoline Range (C5 - C10)	**ND**	**ND**	**0.0%**
Diesel Range (C10 - C28)	**ND**	**ND**	**0.0%**
Total Petroleum Hydrocarbons	**ND**	**ND**	**0.0%**

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria:	Parameter	Max Difference
	Petroleum Hydrocarbons	**30%**

References: Method 8015, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Comments: **QA/QC for sample B180.**

Analyst

Review

5796 U.S. Highway 64-3014 • Farmington, NM 87401 • Tel 505 • 632 • 0615 • Fax 505 • 632 • 1865

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified
Nonhalogenated Volatile Hydrocarbons
Total Petroleum Hydrocarbons
Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	Matrix Spike	Date Reported:	04-29-97
Laboratory Number:	B180	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Analysis Requested:	TPH	Date Analyzed:	04-29-97
Condition:	N/A		

Parameter	Sample Result (mg/kg)	Spike Added (mg/kg)	Spiked Sample Result (mg/kg)	Det. Limit (mg/kg)	Percent Recovery
Gasoline Range (C5 - C10)	**ND**	**250**	**249**	**0.2**	**100%**
Diesel Range (C10 - C28)	**ND**	**250**	**250**	**0.1**	**100%**
Total Petroleum Hydrocarbons	**ND**	**500**	**499**	**0.2**	**100%**

ND - Parameter not detected at the stated detection limit.

QA/QC Acceptance Criteria:	Parameter	Acceptance Range
	Petroleum Hydrocarbons	**75 - 125%**

References: Method 8015, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Comments: **QA/QC for sample B180.**

Analyst

Review

5796 U.S. Highway 64-3014 • Farmington, NM 87401 • Tel 505 • 632 • 0615 • Fax 505 • 632 • 1865

AMOCO CORPORATION: GROUNDWATER MANAGEMENT SECTION

ANALYTICAL RESULTS FOR DISSOLVED HYDROCARBONS

Location: Jennapah Well#1, San Juan county, NM., Farmington, NM

Lab#: 93W0049 Method: Amoco Modified 8015

Date sampled: 01/13/93 Date received: 01/15/93

Sample ID	Benz	Tolu	EtBz	Xyls	BTEX TOTAL
Trip blank	ND	ND	ND	ND	ND
MW-1	ND	ND	ND	ND	ND

NOTES
1. Unit of data is mg/L.
2. ND = not detected at or above reporting limit.
3. Benz = benzene, Tolu = toluene, EtBz = ethylbenzene, Xyls = xylenes,
4. Reporting limit for benzene, toluene, ethylbenzene, and each xylene is 0.001 mg/L.

Comments: No duplicate received with samples.

Sampled by: APC - T. C.

Date analyzed: 01/18/93 Checked by: T. G. Miller

AMOCO CORPORATION: GROUNDWATER MANAGEMENT SECTION

ANALYTICAL RESULTS FOR TOTAL PETROLEUM HYDROCARBONS

Location: Jennapah Well#1, San Juan county, NM., Farmington, NM

Lab#: 93W0049 Method: Amoco Modified 8015

Date sampled: 01/13/93 Date received: 01/15/93

Sample ID	Volatiles	Semi-Volatiles
Trip blank	ND	ND
MW-1	ND	ND

NOTES
1. Unit of data is mg/L.
2. ND = Not Detected at or above reporting limit.
3. The reporting limit for TPH by GC is 1 mg/L for volatiles and 1 mg/L for semi-volatiles.

Comments:

Date analyzed: 01/18/93 Checked by: T. G. Miller

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Client:	**Envirotech**		
Sample ID:	4464	Date Reported:	02/03/93
Laboratory ID:	1614	Date Sampled:	01/13/93
Sample Matrix:	Water	Time Sampled:	N.A.
Condition:	Cool/Intact	Date Received:	01/15/93

Parameter	Analytical Result	Units		Units
Lab pH	8.0	s.u.		
Lab Conductivity @ 25° C	1,980	umhos/cm		
Total Dissolved Solids @ 180°C	1,420	mg/L		
Total Dissolved Solids (Calc)	1,410	mg/L		
Sodium Absorption Ratio	8.42			
Total Alkalinity as CaCO3	388	mg/L		
Total Hardness as CaCO3	333	mg/L		
Bicarbonate as HCO3	470	mg/L	7.76	meq/L
Carbonate as CO3	0	mg/L	0.00	meq/L
Hydroxide as OH	0	mg/L	0.00	meq/L
Chloride	9.9	mg/L	0.28	meq/L
Sulfate	690	mg/L	14.33	meq/L
Calcium	110	mg/L	5.73	meq/L
Magnesium	11	mg/L	0.92	meq/L
Potassium	3.5	mg/L	0.09	meq/L
Sodium	350	mg/L	15.35	meq/L
Cations			22.09	meq/L
Anions			22.37	meq/L
Cation/Anion Difference			0.63	%

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", 17th ed., 1989.

Reviewed by SG

2365

CHAIN OF CUSTODY RECORD

Client/Project Name: Amoco 92140

Project Location: Monitor Well No 1 Jewnapah G.C.A No 1

Sampler: (Signature) Tommy Coddy

Chain of Custody Tape No.

ANALYSIS/PARAMETERS

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	Major Anions Cations						Remarks
Well No. 1	1-13-93	1436	4464	WATER	1	✓						

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Tommy Coddy	1-13-93	1534	Wally Sechrade	1-13-93	1534
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

GROUNDWATER MANAGEMENT SECTION

AMOCO CORPORATION - ENVIRONMENTAL AFFAIRS AND SAFETY

CHAIN OF CUSTODY RECORD

PAGE 1 OF 1

AMOCO

W0049

LOCATION SAMPLED: (Use AMOCO Facility Numbers When Known)

FACILITY NAME JENNAPAH WELL # 1 AMOCO FACILITY #

ADDRESS STREET SAN JUAN COUNTY NM CITY FARMINGTON STATE NM

SAMPLER T. C. AFFILIATION

SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	SAMPLE TYPE (SOIL, WATER, PRODUCT)	PRESERVATION METHOD (FREON, ICE PACK, NONE)	SAMPLE CONTAINER DESCRIPTION	NUMBER OF VIALS	ANALYSES REQUESTED
MW # 1 B	1/13/93	1436	WATER	FREON	VOA (40 mL)	1	BTEX, 8015
TRIP BLANK A	1/13/93	–	FREON		(2 mL)	1	

REMARKS: No Duplicate received

1. RELINQUISHED BY:	1. DATE	1. RECEIVED BY:	3. RELINQUISHED BY:	3. DATE	3. RECEIVED BY:
Nelson Velez	1/13/93 1554			1-15-93	A. Komark
2. RELINQUISHED BY:	2. DATE	2. RECEIVED BY:	4. RELINQUISHED BY:	4. DATE	4. RECEIVED BY:

OCT 01 '93 10:57AM AMOCO EMS TULSA

AMOCO CORPORATION: GROUNDWATER MANAGEMENT SECTION

ANALYTICAL RESULTS FOR DISSOLVED HYDROCARBONS

Location: Jennapah #1, San Juan County, Farmington, NM

Lab#: 93W0585 Method: Amoco Modified 8015

Date sampled: 04/28/93 Date received: 05/03/93

Sample ID	Benz	Tolu	EtBz	Xyls	BTEX TOTAL
Trip blank	ND	ND	ND	ND	ND
MW #1	ND	ND	ND	ND	ND

NOTES
1. Unit of data is mg/L.
2. ND = not detected at or above reporting limit.
3. Benz = benzene, Tolu = toluene, EtBz = ethylbenzene, Xyls = xylenes,
4. Reporting limit for benzene, toluene, ethylbenzene, and each xylene is 0.001 mg/L.

Comments:

Sampled by: Envirotech - R.E.O.

Date analyzed: 05/13/93 Checked by: T. G. Miller

ENVIROTECH LABS

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

EPA METHOD 8020
AROMATIC VOLATILE ORGANICS

Client:	Amoco	Project #:	92140
Sample ID:	MW # 1	Date Reported:	04-29-93
Laboratory Number:	5041	Date Sampled:	04-28-93
Sample Matrix:	Water	Date Received:	04-28-93
Preservative:	HgCl and Cool	Date Analyzed:	04-28-93
Condition:	Cool and Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/L)	Det. Limit (ug/L)
Benzene	ND	0.2
Toluene	0.4	0.3
Ethylbenzene	0.9	0.3
p,m-Xylene	ND	0.5
o-Xylene	ND	0.3

SURROGATE RECOVERIES:

Parameter	Percent Recovery
Trifluorotoluene	103 %
Bromofluorobenzene	98 %

Method: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986

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

ND - Parameter not detected at the stated detection limit.

Comments: Jennapah # 1, 94601.

Analyst

Review

GROUNDWATER MANAGEMENT SECTION
AMOCO CORPORATION - ENVIRONMENTAL AFFAIRS AND SAFETY
FLUID AND SOIL SAMPLE TRANSMITTAL FORM

END SAMPLES TO:

GROUNDWATER MANAGEMENT LABORATORY
7201 E. 38th ST., SPACE 7253
TULSA, OK 74145

PHONE: (918) 660-4420 FAX: (918) 660-4443

RESULTS TO: ☒ AMOCO
☒ CONSULTANT
☐ OTHER (PROVIDE INFO BELOW)

NAME
ADDRESS
CITY STATE ZIP

FROM:
(Please Print)
AMOCO OPERATING COMPANY
AMOCO MARKETING DISTRICT OFFICE (IF APPLICABLE)
BUDDY SHAW
AMOCO REPRESENTATIVE AUTHORIZING WORK
ENVIROTECH, INC.
CONSULTING FIRM
NELSON VELEZ (505) 632-0615
CONSULTING FIRM - PROJECT MANAGER TEL #
5796 U.S. HIGHWAY 64-3014
STREET ADDRESS / MAILING ADDRESS
FARMINGTON NM 87401
CITY STATE ZIP

LOCATION SAMPLED: (Use AMOCO Facility Numbers When Known)
FACILITY NAME JENNAPAH #1 AMOCO FACILITY # SEC 36, T28N, R9W (H)
ADDRESS STREET SAN JUAN COUNTY CITY FARMINGTON STATE NM

RESULTS REQUESTED:

GROUNDWATER:	SOIL:	PRODUCT:
X BTEX	BTEX	PRODUCT
MTBE	MTBE	CHARACTERIZATION
TPH	TPH	LEAD CONTENT
OTHER modified 8015		

DATE RESULTS REQUIRED:

☐ INDICATE HERE IF ***DRINKING WATER SAMPLES***

NUMBER OF SAMPLES SHIPPED: 3

COLLECTED FROM:

X OBSERVATION WELL	DISCHARGE POINT	DATE COLLECTED 4-28-93
RECOVERY WELL	WATER TAP	BY REO
WATER WELL	STREAM	
TEST BORING	TANK	DATE SHIPPED 4-29-93
SEPARATOR	PIT	BY REO
OTHER		VIA UPS

REASON FOR SAMPLING OR ADDITIONAL INFORMATION & REMARKS: QUARTERLY SAMPLING

SHIPPED BY: R. E. O'Neill (SIGNATURE) 4-29-93 (DATE)

RECEIVED BY: (SIGNATURE) (DATE)

PLEASE ATTACH COMPLETED ORIGINAL 'CHAIN OF CUSTODY' FORM
OR
COMPLETE FORM ON REVERSE SIDE

(FORM 3672 Jul-91)

GROUNDWATER MANAGEMENT SECTION
AMOCO CORPORATION - ENVIRONMENTAL AFFAIRS AND SAFETY

RECEIVED MAY 2 4 1993

W0585

CHAIN OF CUSTODY RECORD

PAGE 1 OF 1

AMOCO

LOCATION SAMPLED: (Use AMOCO Facility Numbers When Known)

FACILITY NAME JENNAPAH #1 AMOCO FACILITY # SEC. # 36, T 28 N, R 9 W (H)

ADDRESS STREET SAN JUAN COUNTY CITY FARMINGTON STATE N.M.

SAMPLER R EO AFFILIATION ENVIROTECH INC.

SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	SAMPLE TYPE (SOIL, WATER, PRODUCT)	PRESERVATION METHOD (FREON, ICE PACKS, NONE)	SAMPLE CONTAINER DESCRIPTION	NUMBER OF VIALS	ANALYSES REQUESTED
MW #1 B	4-28-93	0930	WATER	FREON	40 ML VIAL	2	BTEX (8020) modified 80
TRIP BLANK A	4-28-93	—	FREON	—	2 ML VIAL	1	LAB BLANK

REMARKS:

1. RELINQUISHED BY:	1. DATE	1. RECEIVED BY:	3. RELINQUISHED BY:	3. DATE	3. RECEIVED BY:
R. E. O'Neill	4-28-93			5/3/93 11AM	[illegible]
2. RELINQUISHED BY:	2. DATE	2. RECEIVED BY:	4. RELINQUISHED BY:	4. DATE	4. RECEIVED BY:

2560

CHAIN OF CUSTODY RECORD

94601

Client/Project Name	Project Location	ANALYSIS/PARAMETERS
AMOCO 92140	JENNAPAH #1	
Sampler: (Signature) R. E. O'Neill	Chain of Custody Tape No.	

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	BTEX						Remarks
MW #1	4-28-93	0930	5041	WATER	2	✓						

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
R. E. O'Neill	4-28-93	1400	Linda Pender	4-28-93	1400
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

ENVIROTECH INC.
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(505) 632-0615

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ENVIROTECH INC.

MONITOR WELL QUARTERLY MONITORING DATA

DATE: 9-2-93 PROJECT NO: 92140

CLIENT: AMOCO

LOCATION: JENNAPAH 1 # 94601

PROJECT MANAGER: REO/RY CHAIN-OF-CUSTODY NO: 2966

MONITOR WELL DATA

WELL #	OVM (PPM)	pH	COND. (μMHO)	TEMP (°C)	D.T.W. (FT.)	T.D. (FT.)	BAILED (GAL.)	PRODUCT (IN.)
#1	—	—	—	—	—	—	6	—
		WELL	IS 20'	WEST	OF A	DRIP	PIT	
		DRIP	IS DRIPPING	FROM	THE	END OF	A PIPE	
		FROM	A PRODUCTION	TANK.				
		SLIGHT	ODOR TO	WATER	IN	WELL -	NO SHEEN	

Notes: DTW = Depth to water
TD = Total depth
Bailed = Volume of water bailed from well prior to sampling.
A minimum of 3 well volumes.
2" well = 0.49 gallons per foot of water.
4" well = 1.95 gallons per foot of water.
Note well diameter if not standard 2".

ENVIROTECH LABS

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

EPA METHOD 8020
AROMATIC VOLATILE ORGANICS

Client:	Amoco	Project #:	92140
Sample ID:	MW #1	Date Reported:	09-07-93
Laboratory Number:	6015	Date Sampled:	09-02-93
Sample Matrix:	Water	Date Received:	09-02-93
Preservative:	HgCl and Cool	Date Analyzed:	09-03-93
Condition:	Cool and Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/L)	Det. Limit (ug/L)
Benzene	1,080	0.2
Toluene	1,450	0.4
Ethylbenzene	178	0.2
p,m-Xylene	850	0.3
o-Xylene	407	0.2

SURROGATE RECOVERIES:

Parameter	Percent Recovery
Trifluorotoluene	94 %
Bromofluorobenzene	102 %

Method: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986

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

ND - Parameter not detected at the stated detection limit.

Comments: Jennapah 1 94601

Denise L. Ojemar
Analyst

Mavis D. Young
Review

2966

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location	ANALYSIS/PARAMETERS
AMOCO # 92140	JEWNAPAH 1	94601
Sampler: (Signature) R. E. O'Neill	Chain of Custody Tape No.	

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	BTEX						Remarks
MW #1	9-2-93	1220	6015	WATER	2	✓						

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
R. E. O'Neill	9-2-93	1620	[illegible]	9-2-93	1625
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

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Farmington, New Mexico 87401
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ENVIROTECH INC.

MONITOR WELL QUARTERLY MONITORING DATA

DATE: 12-3-93 PROJECT NO: 92140/94601

CLIENT: Amoco CHAIN-OF-CUSTODY NO: 3242

LOCATION: JENNAPAH 1

PROJECT MANAGER: REO SAMPLER: REO

MONITOR WELL DATA

WELL #	OVM (PPM)	pH	COND. (μMHO)	TEMP (°C)	D.T.W. (FT.)	(OLD) T.D. (FT.)	BAILED (GAL.)	PRODUCT (IN.)
MW #1	—	7.4	2400	16°	24.53	36.00	6	—
	WATER	IS	CLOUDY -	POSSIBLE	SLIGHT	ODOR -	NO SHEEN	
	VISIBLE.							
	NOTE:	CONDENSATE	IS	DRIPPING	FROM	PRODUCTION	TANK	
		LINE	INTO	PIT	15'	FROM	WELL	

Notes: DTW = Depth to water
TD = Total depth
Bailed = Volume of water bailed from well prior to sampling.
Ideally a minimum of 3 well volumes.
2" well = 0.49 gallons per foot of water.
4" well = 1.95 gallons per foot of water.
Note well diameter if not standard 2".

ENVIROTECH LABS
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EPA METHOD 8020
AROMATIC VOLATILE ORGANICS

Client:	Amoco	Project #:	92140
Sample ID:	MW #1	Date Reported:	12-06-93
Laboratory Number:	6612	Date Sampled:	12-03-93
Sample Matrix:	Water	Date Received:	12-03-93
Preservative:	HgCl & Cool	Date Analyzed:	12-06-93
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/L)	Det. Limit (ug/L)
Benzene	550	0.2
Toluene	820	0.6
Ethylbenzene	121	0.3
p,m-Xylene	660	0.5
o-Xylene	118	0.3

SURROGATE RECOVERIES:

Parameter	Percent Recovery
Trifluorotoluene	101 %
Bromofluorobenzene	98 %

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

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

ND - Parameter not detected at the stated detection limit.

Comments: Jennapah #1 94601

Analyst

Tony Tristano
Review

3242

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location	ANALYSIS/PARAMETERS
AMOCO # 92140	JENN APAH #1	94601
Sampler: (Signature) R. E. O'Neill	Chain of Custody Tape No. -	

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	BTEX						Remarks
MW #1	12-3-93	1050	6612	WATER	2	✓						

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
R. E. O'Neill	12-3-93	1606	Alan L. Spencer	12-3-93	1606
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

1.5

ENVIROTECH INC.

MONITOR WELL QUARTERLY MONITORING DATA

94601

DATE: 3-30-94 PROJECT NO: 92140

CLIENT: AMOCO CHAIN-OF-CUSTODY NO: 3464

LOCATION: JEMNAPAH 1

PROJECT MANAGER: REO SAMPLER: REO

MONITOR WELL DATA

WELL #	OVM (PPM)	pH	COND. (μMHO)	TEMP (°C)	D.T.W. (FT.)	T.D. (FT.)	BAILED (GAL.)	PRODUCT (IN.)
MW#1	—	7.1	1900	16°	24.58	36.00	5	0
			CLEAR TO CLOUDY - STRONG HYDROCARBON ODOR					
		CONDENSATE IS DRAINING INTO EXPANSION PIT FROM						
		LINE TO PRODUCTION TANK.						

Notes: DTW = Depth to water
TD = Total depth
Bailed = Volume of water bailed from well prior to sampling.
Ideally a minimum of 3 well volumes:
1.25" well = 0.76 quarts per foot of water.
2" well = 0.49 gallons per foot of water.
4" well = 1.95 gallons per foot of water.
Note well diameter if not standard 2".

ENVIROTECH LABS

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

EPA METHOD 8020
AROMATIC VOLATILE ORGANICS

Client:	Amoco	Project #:	92140
Sample ID:	MW #1	Date Reported:	04-01-94
Laboratory Number:	7121	Date Sampled:	03-30-94
Sample Matrix:	Water	Date Received:	03-30-94
Preservative:	HgCl and Cool	Date Analyzed:	04-01-94
Condition:	Cool and Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/L)	Det. Limit (ug/L)
Benzene	750	0.2
Toluene	2,400	0.4
Ethylbenzene	270	0.2
p,m-Xylene	1,790	0.5
o-Xylene	710	0.4

SURROGATE RECOVERIES:

Parameter	Percent Recovery
Trifluorotoluene	99 %
Bromofluorobenzene	98 %

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

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

ND - Parameter not detected at the stated detection limit.

Comments: Jennapah 1 #94601

Analyst

Review

3464

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location	ANALYSIS/PARAMETERS	# 94601
AMOCO # 92140	JENNAPAH 1		
Sampler: (Signature) R. E. O'Neill	Chain of Custody Tape No.		

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	BTEX						Remarks
MW # 1	3-30-94	10.50	7121	WATER	2	✓						

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
R. E. O'Neill	3-30-94	1429	Denise L. Ofenman	3-30-94	1429
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

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R EO

BLAGG ENGINEERING INC.

MONITOR WELL QUARTERLY MONITORING DATA

DATE: 6-22-94 FED. LSE # 14-20-603-782 PROJECT NO: _____

CLIENT: AMOCO CHAIN-OF-CUSTODY NO: 1599

LOCATION: JEMMAPAH 1 JEMMAPAH GC A #1 NAVAJO TRIBE
H-36-28-9

PROJECT MANAGER: R EO SAMPLER: R EO

MONITOR WELL DATA

WELL #	OVM (PPM)	pH	COND. (μMHO)	TEMP (°C)	D.T.W. (FT.)	OLD T.D. (FT.)	BAILED (GAL.)	PRODUCT (IN.)
MW-1	—	7.4	1800	58.6	24.90	36.00	5	—
	CLEAR → CLOUDY - SLIGHT ODOR - FILM SPECKS							

Notes: DTW = Depth to water
TD = Total depth
Bailed = Volume of water bailed from well prior to sampling.
Ideally a minimum of 3 well volumes:
1.25" well = 0.76 quarts per foot of water.
2" well = 0.49 gallons per foot of water.
4" well = 1.95 gallons per foot of water.
Note well diameter if not standard 2".

ON SITE TECHNOLOGIES, LTD.

AROMATIC VOLATILE ORGANICS

Attn:	*R. E. O'Neill*	Date:	6/24/94
Company:	*Blagg Engineering Inc.*	*Lab ID:*	*1599*
Address:	*P.O. Box 87*	*Sample ID:*	*1728*
City, State:	*Bloomfield, NM 87413*	*Job No.*	*2-1000*

Project Name:	***Jennapah GC A #1***				
Project Location:	***MW - 1***				
Sampled by:	REO	Date:	6/22/94	Time:	11:05
Analyzed by:	DLA	Date:	6/24/94		
Sample Matrix:	*Liquid*				

Aromatic Volatile Organics

Component	*****Measured Concentration ug/L***
Benzene	*276*
Toluene	*878*
Ethylbenzene	*72*
m,p-Xylene	*1,317*
o-Xylene	*251*
	TOTAL 2,794 ug/L

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

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

Approved by: [signature]
Date: 6/24/94

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

NO. 1599

CHAIN OF CUSTODY RECORD

ON SITE TECHNOLOGIES LIMITED

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

Date: 6-22-99

Page 1 of 1

Purchase Order No.:	Reference No.:		
SEND INVOICE TO — Name			
Company	BLAGG ENGINEERING, INC.	Dept.	
Address	P.O. BOX 87		
City, State, Zip	BLOOMFIELD, N.M. 87413		

REPORT RESULTS TO — Name	R E O'NEILL	Title	
Company	SAME		
Mailing Address			
City, State, Zip			
Telephone No.	632-1199	Telefax No.	632-3403

Special Instructions: JEMNAPAH GC A #1

Sampler: R. E. O'NEILL

ANALYSIS REQUESTED

SAMPLE IDENTIFICATION	DATE/TIME SAMPLED	COMPOSITE/ GRAB	PRESERVATIVES	Number of Containers	BTEX										Remarks (matrix)
MW-1 6/22	1105		H.A.-HC	1	✓		17228-15999								WATER

Relinquished by: R E O'Neill	Date/Time 6/22 1415	Received by: [illegible]	Date/Time 6/22/99 1415
Relinquished by: [illegible]	Date/Time 6/23/99 1145	Received by: [illegible]	Date/Time 6/23/99 1145
Relinquished by:	Date/Time	Received by:	Date/Time

Method of Shipment:	Rush	5 Working Days	10 Working Days	Sampling Location:

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

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

BLAGG ENGINEERING INC.

MONITOR WELL QUARTERLY MONITORING DATA

DATE: 8-25-94 PROJECT NO: _____

CLIENT: AMOCO CHAIN-OF-CUSTODY NO: 1839

LOCATION: JEMNAPAH GC A #1 PRODUCTION PIT WELL POINTS

PROJECT MANAGER: R CO SAMPLER: R CO

WELLS INSTALLED TODAY

MONITOR WELL DATA

WELL #	WELL ELEV.	WATER ELEV.	DTW (FT)	T.D. (FT)	TEM °C	pH	COND. (uMHO)	BAILS (~~GAL~~)	PROD (IN)
			x	x	x	x	x		
WP-1			3.57	6'	76.6	7.5	2300	4	—
	WELL	ABOVE	GROUND =	15"	—	MUDDY			
WP-2			3.66	6'	75.4	7.4	2000	4	—
	WELL	ABOVE	GROUND =	23"					
WP-3			3.71	6'	75.5	7.1	2000	4	—
	WELL	ABOVE	GROUND =	30"					
WP-4			3.74	6'	79.0		2200	4	—
	WELL	ABOVE	GROUND =	9"					

Notes: DTW = Depth to water
TD = Total depth
Bailed = Volume of water bailed from well prior to sampling.
Ideally a minimum of 3 well volumes:
1.25" well = 0.76 quarts per foot of water.
2" well = 0.49 gallons per foot of water.
4" well = 1.95 gallons per foot of water.
Note well diameter if not standard 2".

ON SITE TECHNOLOGIES, LTD.

AROMATIC VOLATILE ORGANICS

Attn:	*R. E. O'Neill*	Date:	8/26/94
Company:	*Blagg Engineering*	*Lab ID:*	*1839*
Address:	*P.O. Box 87*	*Sample ID:*	*2701*
City, State:	*Bloomfield, NM 87413*	*Job No.*	*2-1000*

Project Name:	***Jennapah GC A #1***				
Project Location:	***WP - 1***				
Sampled by:	REO	Date:	8/25/94	Time:	12:00
Analyzed by:	DLA	Date:	8/26/94		
Sample Matrix:	*Liquid*				

Aromatic Volatile Organics

Component	***Measured Concentration ug/L***	***Detection Limit Concentration ug/L***
Benzene	*ND*	0.2
Toluene	*0.7*	0.2
Ethylbenzene	*ND*	0.2
m,p-Xylene	*ND*	0.2
o-Xylene	*ND*	0.2
	TOTAL *0.7 ug/L*	

ND - Not Detectable

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

Approved by: [signature]
Date: 8/26/94

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

ON SITE TECHNOLOGIES, LTD.

AROMATIC VOLATILE ORGANICS

Attn:	*R. E. O'Neill*	Date:	8/26/94
Company:	*Blagg Engineering*	*Lab ID:*	*1839*
Address:	*P.O. Box 87*	*Sample ID:*	*2702*
City, State:	*Bloomfield, NM 87413*	*Job No.*	*2-1000*

Project Name:	***Jennapah GC A #1***				
Project Location:	***WP - 2***				
Sampled by:	REO	Date:	8/25/94	Time:	12:15
Analyzed by:	DLA	Date:	8/26/94		
Sample Matrix:	*Liquid*				

Aromatic Volatile Organics

Component	*Measured Concentration ug/L*	*Detection Limit Concentration ug/L*
Benzene	*ND*	0.2
Toluene	*0.5*	0.2
Ethylbenzene	*ND*	0.2
m,p-Xylene	*ND*	0.2
o-Xylene	*ND*	0.2
	TOTAL *0.5 ug/L*	

ND - Not Detectable

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

Approved by: [signature]
Date: 8/26/94

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

ON SITE TECHNOLOGIES, LTD.

AROMATIC VOLATILE ORGANICS

Attn:	*R. E. O'Neill*	Date:	8/26/94
Company:	*Blagg Engineering*	*Lab ID:*	*1839*
Address:	*P.O. Box 87*	*Sample ID:*	*2703*
City, State:	*Bloomfield, NM 87413*	*Job No.*	*2-1000*

Project Name:	***Jennapah GC A #1***				
Project Location:	***WP - 3***				
Sampled by:	REO	Date:	8/25/94	Time:	12:30
Analyzed by:	DLA	Date:	8/26/94		
Sample Matrix:	*Liquid*				

Aromatic Volatile Organics

Component	***Measured Concentration ug/L***	***Detection Limit Concentration ug/L***
Benzene	*567*	0.2
Toluene	*1,056*	0.2
Ethylbenzene	*53*	0.2
m,p-Xylene	*1,819*	0.2
o-Xylene	*435*	0.2
	TOTAL 3,929 ug/L	

ND - Not Detectable

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

Approved by: [signature]
Date: 8/26/94

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AROMATIC VOLATILE ORGANICS

Attn:	*R. E. O'Neill*	Date:	8/26/94
Company:	*Blagg Engineering*	*Lab ID:*	*1839*
Address:	*P.O. Box 87*	*Sample ID:*	*2704*
City, State:	*Bloomfield, NM 87413*	*Job No.*	*2-1000*

Project Name:	***Jennapah GC A #1***				
Project Location:	***WP - 4***				
Sampled by:	REO	Date:	8/25/94	Time:	13:00
Analyzed by:	DLA	Date:	8/26/94		
Sample Matrix:	*Liquid*				

Aromatic Volatile Organics

Component	*Measured Concentration ug/L*	*Detection Limit Concentration ug/L*
Benzene	*0.8*	0.2
Toluene	*1.4*	0.2
Ethylbenzene	*ND*	0.2
m,p-Xylene	*1.1*	0.2
o-Xylene	*ND*	0.2
	TOTAL 3.3 ug/L	

ND - Not Detectable

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

Approved by: Jan G
Date: 8/20/94

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CHAIN OF CUSTODY RECORD

№ 1839

ON SITE TECHNOLOGIES LIMITED

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LAB: (505) 325-5667 • FAX: (505) 325-6256

Date: 8-25-99

Page 1 of 1

Purchase Order No.:	Reference No.:		
SEND INVOICE TO Name			
Company	BLACK CANYON MINING, INC.	Dept.	
Address	P.O. BOX 87		
City, State, Zip	BLOOMFIELD N.M. 87413		

REPORT RESULTS TO Name	R. E. O'NEILL	Title	
Company	SAME		
Mailing Address			
City, State, Zip			
Telephone No.	632 1119	Telefax No.	

Special Instructions:
JENVAPAH OC A #1

Sampler: R. E. O'NEILL

ANALYSIS REQUESTED

SAMPLE IDENTIFICATION	DATE/TIME SAMPLED	COMPOSITE/ GRAB	PRESERVATIVES	Number of Containers	BTEX										Remarks (matrix)
WP-1 8-25	1200	GB	H_2O_2-ice	2	✓		2701		–	1839					water
WP-2 "	1215	"	"	2	✓		2702		–	1839					"
WP-3 "	1230	"	"	2	✓		2703		–	1839					"
WP-4 "	1300	"	"	2	✓		2704		–	1839					"

Relinquished by: R. E. O'Neill 8/25	Date/Time 1402	Received by: [illegible]	Date/Time 8-25-99 1402
Relinquished by: [illegible]	Date/Time 8-25-99 1403	Received by: [illegible]	Date/Time 8-25-99 1403
Relinquished by:	Date/Time	Received by:	Date/Time

Method of Shipment:	Rush	5 Working Days	10 Working Days	Sampling Location:

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

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

BLAGG ENGINEERING INC.

MONITOR WELL QUARTERLY MONITORING DATA

DATE: 12/27/94 PROJECT NO: 2514

CLIENT: AMOCO CHAIN-OF-CUSTODY NO: _____

LOCATION: JENNAPAH A1

PROJECT MANAGER: REO SAMPLER: NV

MONITOR WELL DATA

WELL #	OVM (PPM)	pH	COND. (μMHO)	TEMP (°C)	D.T.W. (FT.)	T.D. (FT.)	BAILED (GAL.)	PRODUCT (IN.)	SAMPLE TIME
WP-1	–	7.8	1800	38°F	3.18	–	0.25	–	0945
WP-2	–	7.8	1700	38°F	3.38	–	0.25	–	1000
WP-3	–	7.5	1900	40°F	3.54	–	0.25	–	1015
WP-4	–	7.6	2000	41°F	3.44	–	0.25	–	1030

Notes: DTW = Depth to water
TD = Total depth
Bailed = Volume of water bailed from well prior to sampling.
Ideally a minimum of 3 well volumes:
1.25" well = 0.76 quarts per foot of water.
2" well = 0.49 gallons per foot of water.
4" well = 1.95 gallons per foot of water.
Note well diameter if not standard 2".

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ON SITE
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AROMATIC VOLATILE ORGANICS

Attn:	*Nelson Velez*	Date:	12/28/94
Company:	*Blagg Engineering*	*Lab ID:*	*2514*
Address:	*P.O. Box 87*	*Sample ID:*	*4530*
City, State:	*Bloomfield, NM 87413*	*Job No.*	*2-1000*

Project Name:	***Jennapah A 1***				
Project Location:	***WP - 1***				
Sampled by:	NV	Date:	12/27/94	Time:	9:45
Analyzed by:	DLA	Date:	12/28/94		
Sample Matrix:	*Water*				

Aromatic Volatile Organics

Component	***Measured Concentration ug/L***	***Detection Limit Concentration ug/L***
Benzene	ND	*0.2*
Toluene	ND	*0.2*
Ethylbenzene	ND	*0.2*
m,p-Xylene	ND	*0.2*
o-Xylene	ND	*0.2*
	TOTAL *0.0 ug/L*	

ND - Not Detectable

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

Approved by: Jack
Date: 12/28/94

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AROMATIC VOLATILE ORGANICS

Attn:	*Nelson Velez*	Date:	12/28/94
Company:	*Blagg Engineering*	*Lab ID:*	*2514*
Address:	*P.O. Box 87*	*Sample ID:*	*4531*
City, State:	*Bloomfield, NM 87413*	*Job No.*	*2-1000*

Project Name:	***Jennapah A 1***				
Project Location:	***WP - 2***				
Sampled by:	NV	Date:	12/27/94	Time:	10:00
Analyzed by:	DLA	Date:	12/28/94		
Sample Matrix:	*Water*				

Aromatic Volatile Organics

Component	***Measured Concentration ug/L***	***Detection Limit Concentration ug/L***
Benzene	ND	*0.2*
Toluene	ND	*0.2*
Ethylbenzene	ND	*0.2*
m,p-Xylene	ND	*0.2*
o-Xylene	ND	*0.2*
	TOTAL *0.0 ug/L*	

ND - Not Detectable

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

Approved by: [signature]
Date: 12/28/94

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AROMATIC VOLATILE ORGANICS

Attn:	*Nelson Velez*	Date:	12/28/94
Company:	*Blagg Engineering*	*Lab ID:*	*2514*
Address:	*P.O. Box 87*	*Sample ID:*	*4532*
City, State:	*Bloomfield, NM 87413*	*Job No.*	*2-1000*

Project Name:	***Jennapah A 1***				
Project Location:	***WP - 3***				
Sampled by:	NV	Date:	12/27/94	Time:	10:15
Analyzed by:	DLA	Date:	12/28/94		
Sample Matrix:	*Water*				

Aromatic Volatile Organics

Component	*Measured Concentration ug/L*	*Detection Limit Concentration ug/L*
Benzene	1,039	*0.2*
Toluene	21	*0.2*
Ethylbenzene	429	*0.2*
m,p-Xylene	6,737	*0.2*
o-Xylene	255	*0.2*
	TOTAL *8,482 ug/L*	

ND - Not Detectable

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

Approved by: DaG
Date: 12/28/94

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AROMATIC VOLATILE ORGANICS

Attn:	*Nelson Velez*	Date:	12/28/94
Company:	*Blagg Engineering*	*Lab ID:*	*2514*
Address:	*P.O. Box 87*	*Sample ID:*	*4533*
City, State:	*Bloomfield, NM 87413*	*Job No.*	*2-1000*

Project Name:	***Jennapah A 1***				
Project Location:	***WP - 4***				
Sampled by:	NV	Date:	12/27/94	Time:	10:30
Analyzed by:	DLA	Date:	12/28/94		
Sample Matrix:	*Water*				

Aromatic Volatile Organics

Component	***Measured Concentration ug/L***	***Detection Limit Concentration ug/L***
Benzene	0.8	*0.2*
Toluene	ND	*0.2*
Ethylbenzene	ND	*0.2*
m,p-Xylene	1.9	*0.2*
o-Xylene	ND	*0.2*
	TOTAL *2.6 ug/L*	

ND - Not Detectable

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

Approved by: Da G
Date: 12/28/94

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2514

CHAIN OF CUSTODY RECORD

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Date: 12/20/94

Page 1 of 1

Purchase Order No.:	Job No.		
SEND INVOICE TO — Name			
Company: BLACK ENGINEERING	Dept.		
Address: PO BOX 87			
City, State, Zip: BLOOMFIELD, NM 87413			
Sampling Location: TEMPORARY AL			
Sampler: [illegible]			

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

ANALYSIS REQUESTED

SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	MATRIX	PRES.	Number of Containers	BTEX (8020)									LAB ID
WP - 1	12/20/94	0955	water	HCl	2	✓									4530-2514
WP - 2	12/20/94	1000	water	HCl	2	✓									4531-2514
WP - 3	12/20/94	1005	water	HCl	2	✓									4532-2514
WP - 4	12/20/94	1010	water	HCl	2	✓									4533-2514

Relinquished by: [illegible]	Date/Time 12/20/94 1600	Received by: [illegible]	Date/Time 12/21/94 410
Relinquished by:	Date/Time	Received by:	Date/Time
Relinquished by:	Date/Time	Received by:	Date/Time

Method of Shipment:

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

Rush	24-48 Hours	10 Working Days	Special Instructions:

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

BLAGG ENGINEERING INC.

MONITOR WELL QUARTERLY MONITORING DATA

DATE: 3-16-95 PROJECT NO: —

CLIENT: AMOCO CHAIN-OF-CUSTODY NO: 2648

LOCATION: JENNAPAH 6C A1

PROJECT MANAGER: REW SAMPLER: REW

MONITOR WELL DATA

WELL #	WELL ELEV.	WATER ELEV.	DTW (FT)	T.D. (FT)	TEM °~~C~~ F	pH	COND. (uMHO)	BAILED (~~GAL~~)	PROD (IN)
wp-1	—	—	3.13	6.00	51.1	7.3	1800	6	—
wp-2	—	—	3.35	6.00	51.6	7.2	1800	4	—
wp-3	—	—	3.55	6.00	53.6	7.1	1500	3	—
wp-4	—	—	3.49	6.00	54.5	7.3	2300	5	—

Notes: DTW = Depth to water
TD = Total depth
Bailed = Volume of water bailed from well prior to sampling.
Ideally a minimum of 3 well volumes:
1.25" well = 24 oz. per foot of water.(2 bails)
2" well = 0.49 gallons per foot of water.
4" well = 1.95 gallons per foot of water.
Note well diameter if not standard 2".

OFF: (505) 325-8786

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LAB: (505) 325-5667

AROMATIC VOLATILE ORGANICS

Attn:	*R. E. O'Neill*	Date:	3/18/95
Company:	*Blagg Engineering*	*Lab ID:*	*2648*
Address:	*P.O. Box 87*	*Sample ID:*	*5563*
City, State:	*Bloomfield, NM 87413*	*Job No.*	*2-1000*

Project Name:	***Jennapah GC A 1***				
Project Location:	***WP - 1***				
Sampled by:	REO	Date:	3/16/95	Time:	12:40
Analyzed by:	DLA	Date:	3/17/95		
Sample Matrix:	*Water*				

Aromatic Volatile Organics

Component	***Measured Concentration ug/L***	***Detection Limit Concentration ug/L***
Benzene	ND	*0.2*
Toluene	ND	*0.2*
Ethylbenzene	ND	*0.2*
m,p-Xylene	0.4	*0.2*
o-Xylene	ND	*0.2*
	TOTAL *0.4 ug/L*	

ND - Not Detectable

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

Approved by: D. L.
Date: 3/20/95

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AROMATIC VOLATILE ORGANICS

Attn:	*R. E. O'Neill*	Date:	3/18/95
Company:	*Blagg Engineering*	*Lab ID:*	*2648*
Address:	*P.O. Box 87*	*Sample ID:*	*5564*
City, State:	*Bloomfield, NM 87413*	*Job No.*	*2-1000*

Project Name:	***Jennapah GC A 1***				
Project Location:	***WP - 2***				
Sampled by:	REO	Date:	3/16/95	Time:	13:00
Analyzed by:	DLA	Date:	3/17/95		
Sample Matrix:	*Water*				

Aromatic Volatile Organics

Component	***Measured Concentration ug/L***	***Detection Limit Concentration ug/L***
Benzene	ND	*0.2*
Toluene	ND	*0.2*
Ethylbenzene	ND	*0.2*
m,p-Xylene	0.3	*0.2*
o-Xylene	ND	*0.2*
	TOTAL *0.3 ug/L*	

ND - Not Detectable

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

Approved by: D. G.
Date: 3/20/95

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AROMATIC VOLATILE ORGANICS

Attn:	*R. E. O'Neill*	Date:	3/18/95
Company:	*Blagg Engineering*	*Lab ID:*	*2648*
Address:	*P.O. Box 87*	*Sample ID:*	*5565*
City, State:	*Bloomfield, NM 87413*	*Job No.*	*2-1000*

Project Name:	***Jennapah GC A 1***				
Project Location:	***WP - 3***				
Sampled by:	REO	Date:	3/16/95	Time:	13:40
Analyzed by:	DLA	Date:	3/17/95		
Sample Matrix:	*Water*				

Aromatic Volatile Organics

Component	***Measured Concentration ug/L***	***Detection Limit Concentration ug/L***
Benzene	2075.7	*0.2*
Toluene	4.9	*0.2*
Ethylbenzene	183.0	*0.2*
m,p-Xylene	4784.5	*0.2*
o-Xylene	231.8	*0.2*
	TOTAL 7279.9 *ug/L*	

ND - Not Detectable

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

Approved by: DaG
Date: 3/20/95

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LAB: (505) 325-5667

AROMATIC VOLATILE ORGANICS

Attn:	*R. E. O'Neill*	Date:	3/18/95
Company:	*Blagg Engineering*	*Lab ID:*	*2648*
Address:	*P.O. Box 87*	*Sample ID:*	*5566*
City, State:	*Bloomfield, NM 87413*	*Job No.*	*2-1000*

Project Name:	***Jennapah GC A 1***				
Project Location:	***WP - 4***				
Sampled by:	REO	Date:	3/16/95	Time:	13:20
Analyzed by:	DLA	Date:	3/17/95		
Sample Matrix:	*Water*				

Aromatic Volatile Organics

Component	***Measured Concentration ug/L***	***Detection Limit Concentration ug/L***
Benzene	0.7	*0.2*
Toluene	ND	*0.2*
Ethylbenzene	0.2	*0.2*
m,p-Xylene	4.8	*0.2*
o-Xylene	0.2	*0.2*
	TOTAL *5.9 ug/L*	

ND - Not Detectable

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

Approved by: DaL
Date: 3/20/95

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Date: 3-16-95

Page 1 of 1

Purchase Order No.:	Job No.		
SEND INVOICE TO: Name			
Company: RIALL PROP	Dept.		
Address			
City, State, Zip			
REPORT RESULTS TO: Name: R. E. O'NEILL	Title		
Company			
Mailing Address			
City, State, Zip			
Telephone No.	Telefax No.		

Sampling Location: JUMPAH GC A1

Sampler: R. E. O'Neill

SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	MATRIX	PRES.	Number of Containers	BTEX									LAB ID
WP - 1	3-16	1240	water		2	✓									
WP - 2	"	1300	"		2	✓									
WP - 3	"	1340	"		2	✓									
WP - 4	"	1320	"		2	✓									

Relinquished by: R. E. O'Neill	Date/Time 3-16 1352	Received by: [illegible]	Date/Time [illegible]
Relinquished by: [illegible]	Date/Time [illegible]	Received by: [illegible]	Date/Time [illegible]
Relinquished by:	Date/Time	Received by:	Date/Time

Method of Shipment:

Authorized by: R. E. O'Neill Date 3-16 95

(Client Signature Must Accompany Request)

Rush	24-48 Hours	10 Working Days	Special Instructions:

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

BLAGG ENGINEERING INC.

MONITOR WELL QUARTERLY MONITORING DATA

DATE: 6-15-95 PROJECT NO: —

CLIENT: AMOCO CHAIN-OF-CUSTODY NO: 2944

LOCATION: JEMNAPAH 6C A1

PROJECT MANAGER: RED SAMPLER: RED

MONITOR WELL DATA

WELL #	WELL ELEV.	WATER ELEV.	DTW (FT)	T.D. (FT)	TEM °C F	pH	COND. (uMHO)	BAILS (~~GAL~~)	PROD (IN)
wp-1	—	—	3.38	6.00	65.8	7.4	2000	5	—
wp-2	—	—	3.55	6.00	66.4	7.4	1900	4	—
wp-3	—	—		6.00	64.2	7.1	1700	3	—
wp-4	—	—	3.73	6.00	64.2	7.4	2100	4	—

Notes: DTW = Depth to water
TD = Total depth
Bailed = Volume of water bailed from well prior to sampling.
~~Ideally a~~ minimum of 3 well volumes:
1.25" well = 24 oz. per foot of water.(2 bails)
2" well = 0.49 gallons per foot of water.
4" well = 1.95 gallons per foot of water.
Note well diameter if not standard 2".

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LAB: (505) 325-5667

AROMATIC VOLATILE ORGANICS

Attn:	*R.E. O'Neill*	Date:	6/19/95
Company:	*Blagg Engineering*	*COC No.:*	*2944*
Address:	*P.O. Box 87*	*Sample ID:*	*6820*
City, State:	*Bloomfield, NM 87413*	*Job No.*	*2-1000*

Project Name:	***Jennapah GC A1***				
Project Location:	***WP-1***				
Sampled by:	REO	Date:	6/15/95	Time:	10:00
Analyzed by:	DC	Date:	6/16/95		
Sample Matrix:	*Water*				

Aromatic Volatile Organics

Component	***Measured Concentration ug/L***	***Detection Limit Concentration ug/L***
Benzene	ND	*0.2*
Toluene	ND	*0.2*
Ethylbenzene	ND	*0.2*
m,p-Xylene	ND	*0.2*
o-Xylene	ND	*0.2*
	TOTAL 0.0 *ug/L*	

ND - Not Detectable

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

Approved by: Da G
Date: 6/19/95

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AROMATIC VOLATILE ORGANICS

Attn:	*R.E. O'Neill*	Date:	6/19/95
Company:	*Blagg Engineering*	*COC No.:*	*2944*
Address:	*P.O. Box 87*	*Sample ID:*	*6821*
City, State:	*Bloomfield, NM 87413*	*Job No.*	*2-1000*

Project Name:	***Jennapah GC A1***				
Project Location:	***WP-2***				
Sampled by:	REO	Date:	6/15/95	Time:	10:15
Analyzed by:	DC	Date:	6/16/95		
Sample Matrix:	*Water*				

Aromatic Volatile Organics

Component	***Measured Concentration ug/L***	***Detection Limit Concentration ug/L***
Benzene	ND	*0.2*
Toluene	ND	*0.2*
Ethylbenzene	ND	*0.2*
m,p-Xylene	ND	*0.2*
o-Xylene	ND	*0.2*
	TOTAL 0.0 *ug/L*	

ND - Not Detectable

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

Approved by: DaG
Date: 6/19/95

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LAB: (505) 325-5667

AROMATIC VOLATILE ORGANICS

Attn:	*R.E. O'Neill*	Date:	6/19/95
Company:	*Blagg Engineering*	*COC No.:*	*2944*
Address:	*P.O. Box 87*	*Sample ID:*	*6822*
City, State:	*Bloomfield, NM 87413*	*Job No.*	*2-1000*

Project Name:	***Jennapah GC A1***				
Project Location:	***WP-3***				
Sampled by:	REO	Date:	6/15/95	Time:	10:45
Analyzed by:	DC	Date:	6/16/95		
Sample Matrix:	*Water*				

Aromatic Volatile Organics

Component	***Measured Concentration ug/L***	***Detection Limit Concentration ug/L***
Benzene	1386.7	*0.2*
Toluene	132.2	*0.2*
Ethylbenzene	119.2	*0.2*
m,p-Xylene	2299.4	*0.2*
o-Xylene	261.7	*0.2*
	TOTAL 4199.2 *ug/L*	

ND - Not Detectable

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

Approved by: Da 4
Date: 6/19/95

P. O. BOX 2606 • FARMINGTON, NM 87499

OFF: (505) 325-8786

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-5667

AROMATIC VOLATILE ORGANICS

Attn:	*R.E. O'Neill*	Date:	6/19/95
Company:	*Blagg Engineering*	*COC No.:*	*2944*
Address:	*P.O. Box 87*	*Sample ID:*	*6823*
City, State:	*Bloomfield, NM 87413*	*Job No.*	*2-1000*

Project Name:	***Jennapah GC A1***				
Project Location:	***WP-4***				
Sampled by:	REO	Date:	6/15/95	Time:	10:30
Analyzed by:	DC	Date:	6/16/95		
Sample Matrix:	*Water*				

Aromatic Volatile Organics

Component	*Measured Concentration ug/L*	*Detection Limit Concentration ug/L*
Benzene	0.5	*0.2*
Toluene	ND	*0.2*
Ethylbenzene	ND	*0.2*
m,p-Xylene	2.5	*0.2*
o-Xylene	ND	*0.2*
	TOTAL 3.0 *ug/L*	

ND - Not Detectable

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

Approved by: Da 4
Date: 6/19/95

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2944

CHAIN OF CUSTODY RECORD

ON SITE TECHNOLOGIES, LTD.

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

Date: 6-15-95

Page 1 of 1

Purchase Order No.:	Job No. Amoco		
SEND INVOICE TO	Name		
	Company BLAGG ENGINEERING	Dept.	
	Address		
	City, State, Zip		

REPORT RESULTS TO	Name R. E. O'NEILL	Title
	Company SAME	
	Mailing Address	
	City, State, Zip	
	Telephone No.	Telefax No.

Sampling Location: JEMNAPM 6C A1

Sampler: R. E. O'NEILL

ANALYSIS REQUESTED

SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	MATRIX	PRES.	Number of Containers	BTX									LAB ID
WP-1	6-15	1000	WATER	H2O2	2	✓									6970-2944
WP-2	"	1015	"	"	2	✓									6971-
WP-3	"	1045	"	"	2	✓									6972-
WP-4	"	1030	"	"	2	✓									6973-

Relinquished by: R. E. O'Neill	Date/Time 6-15 1412	Received by: [illegible]	Date/Time 6/15/95 1412
Relinquished by:	Date/Time	Received by:	Date/Time
Relinquished by:	Date/Time	Received by:	Date/Time

Method of Shipment:

Authorized by: R. E. O'Neill Date 6-15-95
(Client Signature Must Accompany Request)

Rush	24-48 Hours	10 Working Days	Special Instructions:

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

BLAGG ENGINEERING INC.

MONITOR WELL QUARTERLY MONITORING DATA

DATE: 9-6-95 PROJECT NO: _____

CLIENT: AMOCO CHAIN-OF-CUSTODY NO: 4377

LOCATION: JEMAPAH 6C A1 ENVIROTECH

PROJECT MANAGER: REO SAMPLER: REO

MONITOR WELL DATA

WELL #	WELL ELEV.	WATER ELEV.	DTW (FT)	T.D. (FT)	TEM °F	pH	COND. (uMHO)	BAILS (~~GAL~~)	PROD (IN)
wp-1	—	—	3.28	6.00	69.6	7.3	2100	5	—
wp-2	—	—	3.57	6.00	72.3	7.4	2000	5	—
wp-3	—	—	3.89	6.00	72.2	7.3	1900	5	—
wp-4	—	—	3.95	6.00	67.2	7.4	2500	5	—

Notes: DTW = Depth to water
TD = Total depth
Bailed = Volume of water bailed from well prior to sampling.
Ideally a minimum of 3 well volumes:
1.25" well = 24 oz. per foot of water.(2 bails)
2" well = 0.49 gallons per foot of water.
4" well = 1.95 gallons per foot of water.
Note well diameter if not standard 2".

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8020
AROMATIC VOLATILE ORGANICS

Client:	Blagg / Amoco	Project #:	04034
Sample ID:	WP - 1	Date Reported:	09-07-95
Chain of Custody:	4377	Date Sampled:	09-06-95
Laboratory Number:	8886	Date Received:	09-06-95
Sample Matrix:	Water	Date Analyzed:	09-06-95
Preservative:	HgCl & Cool	Analysis Requested:	BTEX
Condition:	Cool & Intact		

Parameter	Concentration (ug/L)	Dilution Factor	Det. Limit (ug/L)
Benzene	**ND**	**1**	**0.4**
Toluene	**ND**	**1**	**0.5**
Ethylbenzene	**ND**	**1**	**0.5**
p,m-Xylene	**0.4**	**1**	**0.4**
o-Xylene	**ND**	**1**	**0.4**

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	**94 %**
	Bromofluorobenzene	**102 %**

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: Jennapah GC A1.

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
Sample ID:	WP - 2	Date Reported:	09-07-95
Chain of Custody:	4377	Date Sampled:	09-06-95
Laboratory Number:	8887	Date Received:	09-06-95
Sample Matrix:	Water	Date Analyzed:	09-06-95
Preservative:	HgCl & Cool	Analysis Requested:	BTEX
Condition:	Cool & Intact		

Parameter	Concentration (ug/L)	Dilution Factor	Det. Limit (ug/L)
Benzene	**0.6**	**1**	**0.4**
Toluene	**ND**	**1**	**0.5**
Ethylbenzene	**ND**	**1**	**0.5**
p,m-Xylene	**0.9**	**1**	**0.4**
o-Xylene	**1.6**	**1**	**0.4**

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	**96 %**
	Bromofluorobenzene	**102 %**

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: **Jennapah GC A1.**

Analyst

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8020
AROMATIC VOLATILE ORGANICS

Client:	Blagg / Amoco	Project #:	04034
Sample ID:	WP - 3	Date Reported:	09-07-95
Chain of Custody:	4377	Date Sampled:	09-06-95
Laboratory Number:	8888	Date Received:	09-06-95
Sample Matrix:	Water	Date Analyzed:	09-06-95
Preservative:	HgCl & Cool	Analysis Requested:	BTEX
Condition:	Cool & Intact		

Parameter	Concentration (ug/L)	Dilution Factor	Det. Limit (ug/L)
Benzene	**191**	**1**	**0.4**
Toluene	**1.7**	**1**	**0.5**
Ethylbenzene	**21.5**	**1**	**0.5**
p,m-Xylene	**197**	**1**	**0.4**
o-Xylene	**39.0**	**1**	**0.4**

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	**95 %**
	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: **Jennapah GC A1.**

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
Sample ID:	WP - 4	Date Reported:	09-07-95
Chain of Custody:	4377	Date Sampled:	09-06-95
Laboratory Number:	8889	Date Received:	09-06-95
Sample Matrix:	Water	Date Analyzed:	09-06-95
Preservative:	HgCl & Cool	Analysis Requested:	BTEX
Condition:	Cool & Intact		

Parameter	Concentration (ug/L)	Dilution Factor	Det. Limit (ug/L)
Benzene	**1.0**	**1**	**0.4**
Toluene	**ND**	**1**	**0.5**
Ethylbenzene	**ND**	**1**	**0.5**
p,m-Xylene	**1.2**	**1**	**0.4**
o-Xylene	**0.7**	**1**	**0.4**

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	**94 %**
	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: **Jennapah GC A1.**

Analyst

Review

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4377

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location
BLAGG / Amoco	JEMAPAH 6C A1
Sampler: (Signature) R. E. O'Neill	Chain of Custody Tape No. 04034

ANALYSIS/PARAMETERS

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	BTEX						Remarks
WP-1	9-6	0830	8886	WATER	2	✓						PRES: $HgCl_2$ - cool
WP-2	9-6	0845	8887	"	2	✓						"
WP-3	9-6	0915	8888	"	2	✓						"
WP-4	9-6	0900	8889	"	2	✓						"

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
R. E. O'Neill	9-6	1312	Nettie Spence	9-6-95	1312
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

BLAGG ENGINEERING INC.

MONITOR WELL QUARTERLY MONITORING DATA

DATE: 12-6-95 PROJECT NO: _____

CLIENT: AMOCO CHAIN-OF-CUSTODY NO: _____

LOCATION: JENNAPAH GC A1

PROJECT MANAGER: PEO SAMPLER: PEO

MONITOR WELL DATA

WELL #	WELL ELEV.	WATER ELEV.	DTW (FT)	T.D. (FT)	TEM °F	pH	COND. (uMHO)	BAILS (~~GAL~~)	PROD (IN)
wp #1	—	—	2.86	6.00	44.4	7.4	1700	6	—
wp #2	—	—	3.25	6.00	44.9	7.3	2000	5	—
wp #3	—	—	3.56	6.00	49.7	7.2	2000	6	—
wp #4	—	—	3.35	600	49.5	7.2	2500	6	—

Notes: DTW = Depth to water
TD = Total depth
Bailed = Volume of water bailed from well prior to sampling.
Ideally a minimum of 3 well volumes:
1.25" well = 24 oz. per foot of water.(2 bails)
2" well = 0.49 gallons per foot of water.
4" well = 1.95 gallons per foot of water.
Note well diameter if not standard 2".

ANALYTICA
ENVIRONMENTAL LABORATORY

PURGEABLE AROMATICS

Blagg Engineering, Inc.

Project ID:	Amoco/Jennapah GC A1	Report Date:	12/19/95
Sample ID:	WP - 1	Date Sampled:	12/06/95
Lab ID:	2103	Date Received:	12/06/95
Sample Matrix:	Water	Date Analyzed:	12/15/95
Preservative:	Cool, $HgCl_2$		
Condition:	Intact		

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	ND	0.20
Toluene	ND	0.20
Ethylbenzene	ND	0.20
m,p-Xylenes	ND	0.40
o-Xylene	ND	0.20
Total BTEX	**ND**	

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Trifluorotoluene	100	88 - 110%

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

Comments:

Analyst

Review

ANALYTICA
ENVIRONMENTAL LABORATORY

PURGEABLE AROMATICS

Blagg Engineering, Inc.

Project ID:	Amoco/Jennapah GC A1	Report Date:	12/19/95
Sample ID:	WP - 2	Date Sampled:	12/06/95
Lab ID:	2104	Date Received:	12/06/95
Sample Matrix:	Water	Date Analyzed:	12/15/95
Preservative:	Cool, $HgCl_2$		
Condition:	Intact		

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	ND	0.20
Toluene	ND	0.20
Ethylbenzene	0.28	0.20
m,p-Xylenes	ND	0.40
o-Xylene	ND	0.20
Total BTEX	**0.28**	

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Trifluorotoluene	103	88 - 110%

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

Comments:

Analyst

Review

ANALYTICA
ENVIRONMENTAL LABORATORY

PURGEABLE AROMATICS

Blagg Engineering, Inc.

Project ID:	Amoco/Jennapah GC A1	Report Date:	12/19/95
Sample ID:	WP - 3	Date Sampled:	12/06/95
Lab ID:	2105	Date Received:	12/06/95
Sample Matrix:	Water	Date Analyzed:	12/15/95
Preservative:	Cool, $HgCl_2$		
Condition:	Intact		

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	158	20.0
Toluene	6.16	0.20
Ethylbenzene	68.4	20.0
m,p-Xylenes	904	40.0
o-Xylene	174	20.0
Total BTEX	**1,310**	

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Trifluorotoluene	100	88 - 110%

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

Comments:

Analyst

Review

ANALYTICA
ENVIRONMENTAL LABORATORY

PURGEABLE AROMATICS

Blagg Engineering, Inc.

Project ID:	Amoco/Jennapah GC A1	Report Date:	12/19/95
Sample ID:	WP - 4	Date Sampled:	12/06/95
Lab ID:	2106	Date Received:	12/06/95
Sample Matrix:	Water	Date Analyzed:	12/15/95
Preservative:	Cool, $HgCl_2$		
Condition:	Intact		

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	ND	0.20
Toluene	ND	0.20
Ethylbenzene	ND	0.20
m,p-Xylenes	0.52	0.40
o-Xylene	ND	0.20
Total BTEX	**0.52**	

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Trifluorotoluene	104	88 - 110%

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

Comments:

Analyst

Review

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

CHAIN OF CUSTODY

PROJECT MANAGER:
Analytica Lab I.D.:

Company: BLAGG ENGR.
Address: P.O. BOX 87 BLOOMFIELD
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):	COMMENTS
WP #1	12-6	0840	WATER					✓																						PRES: HgCl2 - COOL
WP #2	12-6	0850	"					✓																						
WP #3	12-6	0915	"					✓																						
WP #4	12-6	0900	"					✓																						

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

Required Turnaround Time (Prior Authorization Required for Rush)

Sampled By:	Relinquished By:	Relinquished By:
Signature: R. F. O'Neill Date: 12/6/95	Signature: R. F. O'Neill Date: 12/6/95	Signature: Date:
Company: BLAGG Time:	Company: BLAGG Time: 1430	Company: Time:
Received By:	**Received By:**	**Received By:**
Signature: Date:	Signature: Date:	Signature: Date: 12/6/95
Company: Time:	Company: Time:	Company: ANALYTICA Time: 14:30

Please Fill Out Thoroughly.

Shaded areas for lab use only.

White/Yellow: Analytica
Pink: Client

BLAGG ENGINEERING INC.

MONITOR WELL QUARTERLY MONITORING DATA

DATE: 3-21-96 PROJECT NO: _____

CLIENT: Amoco CHAIN-OF-CUSTODY NO: ANALYTICA

LOCATION: JEMMAPAH 6C A1

PROJECT MANAGER: RGW SAMPLER: RGW

MONITOR WELL DATA

	WELL #	WELL ELEV.	WATER ELEV.	DTW (FT)	T.D. (FT)	TEM °F	pH	COND. (uMHO)	BAILS ~~(GAL)~~	PROD (IN)
0840	WP-1	–	–	2.90	6.00	47.0	6.5	1200	9	–
0850	WP-2	–	–	3.37	6.00	47.0	6.6	1400	8	–
0910	WP-3	–	–	3.58	6.00	47.2	6.8	1400	8	–
0900	WP-4	–	–	3.41	6.00	47.3	6.6	1600	8	–

Notes: Volume of water bailed from well prior to sampling.
Ideally a minimum of 3 well volumes:
1.25" well = 24 oz. per foot of water.
= 2 bails per foot - small teflon bailer
= 3 bails per foot - 3/4" disposable bailer
2" well = 0.49 gallons per foot of water.
4" well = 1.95 gallons per foot of water.
Note well diameter if not standard 2".

ANAITAS ENVIRONMENTAL LABS

PURGEABLE AROMATICS

Blagg Engineering, Inc.

Project ID:	Jennapah GC A1	Report Date:	03/27/96
Sample ID:	WP - 1	Date Sampled:	03/21/96
Lab ID:	2949	Date Received:	03/21/96
Sample Matrix:	Water	Date Analyzed:	03/25/96
Preservative:	Cool, $HgCl_2$		
Condition:	Intact		

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
Total BTEX	**ND**	

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Trifluorotoluene	98	88 - 110%

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:	Jennapah GC A1	Report Date:	03/27/96
Sample ID:	WP - 2	Date Sampled:	03/21/96
Lab ID:	2950	Date Received:	03/21/96
Sample Matrix:	Water	Date Analyzed:	03/25/96
Preservative:	Cool, $HgCl_2$		
Condition:	Intact		

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
Total BTEX	**ND**	

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Trifluorotoluene	105	88 - 110%

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:	Jennapah GC A1	Report Date:	03/27/96
Sample ID:	WP - 3	Date Sampled:	03/21/96
Lab ID:	2951	Date Received:	03/21/96
Sample Matrix:	Water	Date Analyzed:	03/25/96
Preservative:	Cool, $HgCl_2$		
Condition:	Intact		

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	707	25.0
Toluene	389	25.0
Ethylbenzene	262	25.0
m,p-Xylenes	2,890	100
o-Xylene	502	25.0
Total BTEX	**4,750**	

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Trifluorotoluene	105	88 - 110%

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:	Jennapah GC A1	Report Date:	03/27/96
Sample ID:	WP - 4	Date Sampled:	03/21/96
Lab ID:	2952	Date Received:	03/21/96
Sample Matrix:	Water	Date Analyzed:	03/25/96
Preservative:	Cool, $HgCl_2$		
Condition:	Intact		

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	ND	0.50
Toluene	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	2.66	1.00
o-Xylene	0.75	0.50
Total BTEX	**3.41**	

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Trifluorotoluene	101	88 - 110%

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

Comments:

Analyst

Review

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

CHAIN OF CUSTODY

Page 1 of 1

PROJECT MANAGER:
Analytica 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):	COMMENTS
																														PRES:
WP - 1	3-21	0840	WATER					✓																						$HgCl_2$ - cool
WP - 2	"	0850	"					✓																						"
WP - 3	"	0910	"					✓																						"
WP - 4	"	0900	"					✓																						"

Project Information	Sample Receipt
Proj. #: AMOCO	No. Containers:
Proj. Name: JENNAPAH	Custody Seals: Y / N / NA
P.O. No.: GC A1	Received Intact:
Shipped Via: DEL'D	Received Cold:

Required Turnaround Time (Prior Authorization Required for Rush)

Sampled By:	Relinquished By:	Relinquished By:
Signature: R. F. O'Neill Date: 3-21-96	Signature: R. F. O'Neill Date: 3-21-96	Signature: Date:
Company: BEI Time: —	Company: BEI Time: 1415	Company: Time:
Received By:	**Received By:**	**Received By:**
Signature: Date:	Signature: Date:	Signature: Date: 3/21
Company: Time:	Company: Time:	Company: Time:

Please Fill Out Thoroughly.

Shaded areas for lab use only.

White/Yellow: Analytica
Pink: Client

PURGEABLE AROMATICS
Quality Control Report

Method Blank Analysis

Sample Matrix: Water
Lab ID: MB35149

Report Date: 03/27/96
Date Analyzed: 03/25/96

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	101	88 - 110%

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

Comments:

Analyst

Review

Purgeable Aromatics

Matrix Spike Analysis

Lab ID:	2947Spk	Report Date:	03/27/96
Sample Matrix:	Water	Date Sampled:	03/21/96
Preservative:	Cool, HgCl2	Date Received:	03/21/96
Condition:	Intact	Date Analyzed:	03/25/96

Target Analyte	Spike Added (ug/L)	Original Conc. (ug/L)	Spiked Sample Conc. (ug/L)	% Recovery	Acceptance Limits (%)
Benzene	10	ND	9.26	93%	39 -150
Toluene	10	ND	9.47	90%	46 - 148
Ethylbenzene	10	1.40	10.6	92%	32 - 160
m,p-Xylenes	20	ND	18.6	91%	NE
o-Xylene	10	ND	9.22	90%	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%

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

Comments:

Analyst

Review

Purgeable Aromatics

Duplicate Analysis

Lab ID:	2954Dup	Report Date:	03/27/96
Sample Matrix:	Water	Date Sampled:	03/21/96
Preservative:	Cool, HgCl2	Date Received:	03/21/96
Condition:	Intact	Date Analyzed:	03/25/96

Target Analyte	Original Conc. (ug/L)	Duplicate Conc. (ug/L)	Acceptance Range (ug/L)
Benzene	357	358	292 - 423
Toluene	15.8	15.8	12.0 - 19.6
Ethylbenzene	424	417	277 - 564
m,p-Xylenes	920	925	NE
o-Xylene	7.23	6.82	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	103	88 - 110%

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

Comments:

Analyst

Review

BLAGG ENGINEERING INC.

MONITOR WELL QUARTERLY MONITORING DATA

DATE: 6-17-96 PROJECT NO: _____

CLIENT: AMOCO CHAIN-OF-CUSTODY NO: 2499

LOCATION: JENNAPAH GC A1

PROJECT MANAGER: RCG SAMPLER: RCG

MONITOR WELL DATA

WELL #	WELL ELEV.	WATER ELEV.	DTW (FT)	T.D. (FT)	TIME	pH	COND. (uMHO)	BAILS (~~GAL~~)	PROD (IN)
WP-3			3.59	6.0	0840	7.2	1700	—	—
WP-4			3.70	6.0	0830	6.7	2200	3	—

Notes: Volume of water bailed from well prior to sampling.
Ideally a minimum of 3 well volumes:
1.25" well = 24 oz. per foot of water.
= 2 bails per foot - small teflon bailer
= 3 bails per foot - 3/4" disposable bailer
2" well = 0.49 gallons per foot of water.
4" well = 1.95 gallons per foot of water.
Note well diameter if not standard 2".

ANAITAS ENVIRONMENTAL LABS

PURGEABLE AROMATICS

Blagg Engineering, Inc.

Project ID:	Jennapah GC A1	Report Date:	07/03/96
Sample ID:	WP - 3	Date Sampled:	6/17/96
Lab ID:	3952	Date Received:	6/17/96
Sample Matrix:	Water	Date Analyzed:	6/27/96
Preservative:	Cool, $HgCl_2$		
Condition:	Intact		

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	556	50.0
Toluene	10.2	5.00
Ethylbenzene	184	5.00
m,p-Xylenes	1,980	100
o-Xylene	353	5.00
Total BTEX	3,080	

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Trifluorotoluene	103	88 - 110%
Bromofluorobenzene	105	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:	Jennapah GC A1	Report Date:	07/03/96
Sample ID:	WP - 4	Date Sampled:	6/17/96
Lab ID:	3953	Date Received:	6/17/96
Sample Matrix:	Water	Date Analyzed:	6/27/96
Preservative:	Cool, $HgCl_2$		
Condition:	Intact		

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	ND	0.50
Toluene	1.12	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	3.13	1.00
o-Xylene	1.11	0.50
Total BTEX	5.36	

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Trifluorotoluene	107	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

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

CHAIN OF CUSTODY

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):	COMMENTS
WP - 3	6-17	0840	WATER					✓																						
WP - 4	"	0830	"					✓																						

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)

JEMNAPAH GC A1

Sampled By:	Relinquished By:	Relinquished By:
Signature: R. SO Date: 6-17-96	Signature: R SO Date: 6-17-96	Signature: Date:
Company: BEI Time: —	Company: BEI Time: 1345	Company: Time:
Received By:	Received By:	Received By:
Signature: Date:	Signature: Date:	Signature: Date: 6/
Company: Time:	Company: Time:	Company: Anaitas Time: 1:45

Please Fill Out Thoroughly.

Shaded areas for lab use only.

White/Yellow: Anaitas
Pink: Client

PURGEABLE AROMATICS
Quality Control Report

Method Blank Analysis

Sample Matrix:	Water	Report Date:	07/03/96
Lab ID:	MB35243	Date Analyzed:	6/27/96

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	107	88 - 110%
Bromofluorobenzene	103	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:	3953Spk	Report Date:	07/03/96
Sample Matrix:	Water	Date Sampled:	6/17/96
Preservative:	Cool, $HgCl_2$	Date Received:	6/17/96
Condition:	Intact	Date Analyzed:	6/27/96

Target Analyte	Spike Added (ug/L)	Original Conc. (ug/L)	Spiked Sample Conc. (ug/L)	% Recovery	Acceptance Limits (%)
Benzene	10	ND	10.4	101%	39 -150
Toluene	10	1.12	11.3	101%	46 - 148
Ethylbenzene	10	ND	10.8	104%	32 - 160
m,p-Xylenes	20	3.13	23.0	99%	NE
o-Xylene	10	1.11	11.4	102%	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	102	86 - 115%

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

Comments:

Analyst

Review

VOLATILE AROMATIC HYDROCARBONS

Matrix Spike Duplicate Analysis

Lab ID:	3953Spkdup	Report Date:	7/3/96
Sample Matrix:	Water	Date Sampled:	6/17/96
Preservative:	Cool, HgCl2	Date Received:	6/17/96
Condition:	Intact	Date Analyzed:	6/27/96

Target Analyte	Spike Added (ug/L)	Sample Spike Recovery (%)	Duplicate Spike Recovery (%)	Acceptance Limits (%)
Benzene	10	101%	99%	81 - 119
Toluene	10	101%	94%	79 - 116
Ethylbenzene	10	104%	98%	66 - 136
m,p-Xylenes	20	99%	93%	NE
o-Xylene	10	102%	95%	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	91	88 - 110%
Bromofluorobenzene	92	86 - 115%

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

Comments: Calculation of spike recovery requires consideration of a sample dilution factor

Analyst

Review

Purgeable Aromatics

Duplicate Analysis

Lab ID:	3956Dup	Report Date:	07/03/96
Sample Matrix:	Water	Date Sampled:	06/17/96
Preservative:	Cool, $HgCl_2$	Date Received:	06/17/96
Condition:	Intact	Date Analyzed:	06/28/96

Target Analyte	Original Conc. (ug/L)	Duplicate Conc. (ug/L)	Acceptance Range (ug/L)
Benzene	230	220	183 - 267
Toluene	10.2	9.19	7.01 - 12.4
Ethylbenzene	77.7	77.7	50.4 - 105
m,p-Xylenes	30.4	27.8	NE
o-Xylene	2.14	2.88	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	113	88 - 110%
	Bromofluorobenzene	110	86 - 115%

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

Comments: High toluene-d8 recovery is due to hydrocarbon interference at the d8 retention time.

Analyst

Review

BLAGG ENGINEERING, INC.

MONITOR WELL SAMPLING DATA

CLIENT : AMOCO PRODUCTION CO.

CHAIN-OF-CUSTODY # : 5109

JENNAPAH GC A # 1 – ~~SEP~~ PROD. PIT
UNIT H, SEC. 36, T28N, R9W

LABORATORY (S) USED : ENVIRO

Date : 6/16/97

Filename : 06-16-97.WB3

SAMPLER : NJV

PROJECT MANAGER : NJV

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	VOLUME PURGED (gal.)	FREE PRODUCT (ft)	TOC AGS
1			2.92	6.00	—	—	—	—	—	1.20
2			3.47	6.00	—	—	—	—	—	1.85
3			3.77	6.00	1345	7.2	1600	0.42	NA	1.45
4			3.57	6.00	—	—	—	—	—	0.63

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

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 ".

1.25" WELL DIAMETER

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:	06-18-97
Chain of Custody:	5109	Date Sampled:	06-16-97
Laboratory Number:	B449	Date Received:	06-17-97
Sample Matrix:	Water	Date Analyzed:	06-17-97
Preservative:	HgCl2 & Cool	Analysis Requested:	BTEX
Condition:	Cool & Intact		

Parameter	Concentration (ug/L)	Dilution Factor	Det. Limit (ug/L)
Benzene	**245**	**1**	**0.2**
Toluene	**3.9**	**1**	**0.2**
Ethylbenzene	**55.6**	**1**	**0.2**
p,m-Xylene	**412**	**1**	**0.2**
o-Xylene	**35.5**	**1**	**0.1**
Total BTEX	**753**		

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: Jennapah GC A1 Prod. Pit.

Analyst

Review

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CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location	ANALYSIS/PARAMETERS
BLAGG/AMOCO	PROD. PIT JENNAPAH GC A1	
Sampler: (Signature) Nelson Velez	Chain of Custody Tape No. 04034-10	

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	BTEX (8020)						Remarks
MW #3	6/16/97	1345	B449	WATER	2	✓						PRESERV. COOL &
												$HgCl_2$
				Sample received cool & intact								

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Nelson Velez	6/17/97	1143	Dave L. Ofenson	6/17/97	1143
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

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:	06-18-97
Laboratory Number:	06-17-PM-BTEX.BLANK	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	06-17-97
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.

Method 8020, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1994.

Comments: **QA/QC for samples B449 - B452.**

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 Duplicate	Date Reported:	06-18-97
Laboratory Number:	B449	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	HgCl and Cool	Date Analyzed:	06-17-97
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	**245**	**240**	**2.3%**	**0.2**	**1**
Toluene	**3.9**	**4.1**	**4.9%**	**0.2**	**1**
Ethylbenzene	**55.6**	**56.9**	**2.4%**	**0.2**	**1**
p,m-Xylene	**412**	**409**	**0.8%**	**0.2**	**1**
o-Xylene	**35.5**	**36.4**	**2.5%**	**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 B449 - B452.

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:	06-17-97
Laboratory Number:	B449	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	Cool	Date Analyzed:	06-17-97
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	**245**	**50.0**	**289**	**0.2**	**98%**	**39-150**
Toluene	**3.9**	**50.0**	**53.8**	**0.2**	**100%**	**46-148**
Ethylbenzene	**55.6**	**50.0**	**105**	**0.2**	**99%**	**32-160**
p,m-Xylene	**412**	**100**	**498**	**0.2**	**97%**	**46-148**
o-Xylene	**35.5**	**50.0**	**84.3**	**0.1**	**99%**	**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 B449 - B452.**

Analyst

Review

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BLAGG ENGINEERING, INC.

MONITOR WELL SAMPLING DATA

CLIENT : AMOCO PRODUCTION CO.

CHAIN-OF-CUSTODY # : 6036

JENNAPAH GC A # 1 – ~~SEP~~. PROD. PIT
UNIT H, SEC. 36, T28N, R9W

LABORATORY (S) USED : ENVIROTECH

Date : JUNE 23, 1998

Filename : 06-23-98.WK3

SAMPLER : NJV

PROJECT MANAGER : NJV

WELL POINT #	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			2.98	6.00	–	–	–	–	–
2			3.46	6.00	–	–	–	–	–
3			3.65	6.00	0810	7.3	1,500	0.50	–
4			3.77	6.00	–	–	–	–	–

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

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 ".

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Blagg / AMOCO	Project #:	04034-10
Sample ID:	WP - 3	Date Reported:	06-30-98
Chain of Custody:	6036	Date Sampled:	06-23-98
Laboratory Number:	D517	Date Received:	06-26-98
Sample Matrix:	Water	Date Analyzed:	06-29-98
Preservative:	HgCl2 & Cool	Analysis Requested:	BTEX
Condition:	Cool & Intact		

Parameter	Concentration (ug/L)	Dilution Factor	Det. Limit (ug/L)
Benzene	**5.7**	**1**	**0.2**
Toluene	**5.2**	**1**	**0.2**
Ethylbenzene	**9.9**	**1**	**0.2**
p,m-Xylene	**50.3**	**1**	**0.2**
o-Xylene	**5.5**	**1**	**0.1**
Total BTEX	**76.6**		

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: **Jennapah GC A #1.**

Analyst

Review

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CHAIN OF CUSTODY RECORD

6036

Client / Project Name	Project Location	ANALYSIS / PARAMETERS
BLAGG / Amoco	JENNAPAH GC A #1	
Sampler: NJV	Client No. 04034-10	

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	BTEX (8021)						Remarks
WP-3	6/23/98	0810	0517	WATER	2	✓						PRESERV. - $HgCl_2$ + COOL

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Nelson Velez	6/26/98	1152	[illegible]	6.26.98	1152
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

Rep COC's 6036 → 6039

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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:	06-29-BTEX QA/QC	Date Reported:	06-30-98
Laboratory Number:	D517	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	06-29-98
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	2.4176E-01	2.4200E-01	**0.10%**	**ND**	**1.8**
Toluene	4.9646E-02	4.9795E-02	**0.30%**	**ND**	**1.7**
Ethylbenzene	4.1020E-02	4.1350E-02	**0.81%**	**ND**	**1.5**
p,m-Xylene	2.6433E-02	2.6620E-02	**0.70%**	**ND**	**2.2**
o-Xylene	3.0648E-02	3.0833E-02	**0.60%**	**ND**	**1.0**

Duplicate Conc. (ug/L)	Sample	Duplicate	%Diff.	Accept Limit
Benzene	**5.7**	**5.7**	**0.0%**	**0 - 30%**
Toluene	**5.2**	**5.3**	**1.9%**	**0 - 30%**
Ethylbenzene	**9.9**	**10.1**	**2.0%**	**0 - 30%**
p,m-Xylene	**50.3**	**50.9**	**1.2%**	**0 - 30%**
o-Xylene	**5.5**	**5.5**	**0.0%**	**0 - 30%**

Spike Conc. (ug/L)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Limits
Benzene	**5.7**	**50.0**	**55.4**	**99%**	**39 - 150**
Toluene	**5.2**	**50.0**	**54.9**	**99%**	**46 - 148**
Ethylbenzene	**9.9**	**50.0**	**59.4**	**99%**	**32 - 160**
p,m-Xylene	**50.3**	**100.0**	**147.3**	**98%**	**46 - 148**
o-Xylene	**5.5**	**50.0**	**55.2**	**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 D517 - D523.**

Analyst

Review

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BLAGG ENGINEERING, INC.
MONITOR WELL SAMPLING DATA

CLIENT : AMOCO PRODUCTION CO.

CHAIN-OF-CUSTODY # : 6220

PROD.

JENNAPAH GC A # 1 - ~~SEP.~~ PIT
UNIT H, SEC. 36, T28N, R9W

LABORATORY (S) USED : ENVIROTECH, INC.

Date : *September 25, 1998*

SAMPLER : R E P

Filename : *09-25-98.WK3*

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	96.61	93.61	3.00	6.00	-	-	-	-	-
2	95.62	92.14	3.48	6.00	-	-	-	-	-
3	95.78	92.12	3.66	6.00	1305	7.2	2,000	0.50	-
4	97.28	93.51	3.77	6.00	-	-	-	-	-

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

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 ".

All MW's are 1.25 inch well points . Collected BTEX sample for WP - 3 only .

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Blagg / AMOCO	Project #:	04034-10
Sample ID:	WP - 3	Date Reported:	09-26-98
Chain of Custody:	6220	Date Sampled:	09-25-98
Laboratory Number:	D982	Date Received:	09-25-98
Sample Matrix:	Water	Date Analyzed:	09-26-98
Preservative:	HgCl2 & Cool	Analysis Requested:	BTEX
Condition:	Cool & Intact		

Parameter	Concentration (ug/L)	Dilution Factor	Det. Limit (ug/L)
Benzene	**0.6**	**1**	**0.2**
Toluene	**3.4**	**1**	**0.2**
Ethylbenzene	**1.8**	**1**	**0.2**
p,m-Xylene	**3.1**	**1**	**0.2**
o-Xylene	**3.0**	**1**	**0.1**
Total BTEX	**11.9**		

ND - Parameter not detected at the stated detection limit.

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

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

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

Comments: **Jennapah GC A #1.**

Analyst

Review

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CHAIN OF CUSTODY RECORD

6220

Client / Project Name	Project Location	ANALYSIS / PARAMETERS
BLAGG/ AMOCO	JENNAPAH GC A #1	
Sampler: REP	Client No. 04034-10	

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	BTEX (8021)						Remarks
WP-3	9/25/98	1305	D982	WATER	2	✓						PRESERV. - COOL

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	9/25/98	1509	[signature]	9/25/98	1509
Relinquished by: (Signature) [signature]	9/25/98	1527	Received by: (Signature) [signature]	9.25.98	1527
Relinquished by: (Signature)			Received by: (Signature)		

Ref COC's 6218 — 6221

ENVIROTECH INC.

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(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:	09-26-BTEX QA/QC	Date Reported:	09-26-98
Laboratory Number:	D977	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	09-26-98
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	0.5	0.5	0.0%	0 - 30%
Toluene	0.5	0.5	0.0%	0 - 30%
Ethylbenzene	0.3	0.3	0.0%	0 - 30%
p,m-Xylene	1.5	1.5	0.0%	0 - 30%
o-Xylene	1.9	1.9	0.0%	0 - 30%

Spike Conc. (ug/L)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Limits
Benzene	0.5	50.0	50.4	100%	39 - 150
Toluene	0.5	50.0	50.5	100%	46 - 148
Ethylbenzene	0.3	50.0	50.2	100%	32 - 160
p,m-Xylene	1.5	100	101	100%	46 - 148
o-Xylene	1.9	50.0	51.8	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 D977 - D985.**

Analyst

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BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY # : N / A & 14717

JENNAPAH GC # 1A
UNIT H, SEC. 36, T28N, R9W

LABORATORY (S) USED : HALL ENVIRONMENTAL
ENVIROTECH

Date : November 28, 2006

SAMPLER : N J V

Filename : 11-28-06.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.)
MW - 1A	101.29	75.37	25.92	37.50	1155	7.55	1,800	11.9	8.00
MW - 2A	101.44	75.26	26.18	42.50	1245	7.30	2,100	12.8	8.00
MW - 3A	100.68	74.51	26.17	42.50	1335	7.40	2,000	13.3	8.00
					INSTRUMENT CALIBRATIONS =	7.00	2,800		
					DATE & TIME =	11/28/06	1235		

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 all MW's. All murky brown in appearance with no physical evidence of hydrocarbon. Collected samples from all MW's for BTEX & major anions / cations anayses.

Top of casing MW # 1 ~ 2.50 ft., MW # 2 ~ 2.50 ft., MW # 3 ~ 3.00 ft. above grade.

Hall Environmental Analysis Laboratory, Inc.

Date: *11-Dec-06*

CLIENT: Blagg Engineering
Project: Jenna PAH GC A #1
Lab Order: 0612007

Lab ID: 0612007-01
Client Sample ID: MW # 1A
Collection Date: 11/28/2006 11:55:00 AM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	12/6/2006 4:33:13 AM
Toluene	ND	1.0		µg/L	1	12/6/2006 4:33:13 AM
Ethylbenzene	ND	1.0		µg/L	1	12/6/2006 4:33:13 AM
Xylenes, Total	ND	3.0		µg/L	1	12/6/2006 4:33:13 AM
Surr: 4-Bromofluorobenzene	83.8	70.2-105		%REC	1	12/6/2006 4:33:13 AM

Lab ID: 0612007-02
Client Sample ID: MW # 2A
Collection Date: 11/28/2006 12:45:00 PM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	12/5/2006 12:24:58 AM
Toluene	ND	1.0		µg/L	1	12/5/2006 12:24:58 AM
Ethylbenzene	ND	1.0		µg/L	1	12/5/2006 12:24:58 AM
Xylenes, Total	ND	3.0		µg/L	1	12/5/2006 12:24:58 AM
Surr: 4-Bromofluorobenzene	82.3	70.2-105		%REC	1	12/5/2006 12:24:58 AM

Lab ID: 0612007-03
Client Sample ID: MW # 3A
Collection Date: 11/28/2006 1:35:00 PM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	12/5/2006 12:55:01 AM
Toluene	ND	1.0		µg/L	1	12/5/2006 12:55:01 AM
Ethylbenzene	ND	1.0		µg/L	1	12/5/2006 12:55:01 AM
Xylenes, Total	ND	3.0		µg/L	1	12/5/2006 12:55:01 AM
Surr: 4-Bromofluorobenzene	82.2	70.2-105		%REC	1	12/5/2006 12:55:01 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		

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	MW #1A	Date Reported:	11-29-06
Laboratory Number:	39324	Date Sampled:	11-28-06
Chain of Custody:	14717	Date Received:	11-28-06
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	11-29-06
Condition:	Cool & Intact		

Parameter	Analytical Result	Units		
pH	**7.57**	s.u.		
Conductivity @ 25° C	**1,930**	umhos/cm		
Total Dissolved Solids @ 180C	**1,280**	mg/L		
Total Dissolved Solids (Calc)	**1,300**	mg/L		
SAR	**8.3**	ratio		
Total Alkalinity as CaCO3	**298**	mg/L		
Total Hardness as CaCO3	**282**	mg/L		
Bicarbonate as HCO3	**298**	mg/L	4.88	meq/L
Carbonate as CO3	**<0.1**	mg/L	0.00	meq/L
Hydroxide as OH	**<0.1**	mg/L	0.00	meq/L
Nitrate Nitrogen	**<0.1**	mg/L	0.00	meq/L
Nitrite Nitrogen	**0.007**	mg/L	0.00	meq/L
Chloride	**70.0**	mg/L	1.97	meq/L
Fluoride	**0.95**	mg/L	0.05	meq/L
Phosphate	**0.3**	mg/L	0.01	meq/L
Sulfate	**612**	mg/L	12.74	meq/L
Iron	**0.037**	mg/L	0.00	meq/L
Calcium	**100**	mg/L	5.00	meq/L
Magnesium	**7.81**	mg/L	0.64	meq/L
Potassium	**3.12**	mg/L	0.08	meq/L
Sodium	**320**	mg/L	13.92	meq/L
Cations			19.64	meq/L
Anions			19.66	meq/L
Cation/Anion Difference			**0.09%**	

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: **Jennapah GC A #1 Grab Sample**

Christine M Walters
Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	MW #2A	Date Reported:	11-29-06
Laboratory Number:	39325	Date Sampled:	11-28-06
Chain of Custody:	14717	Date Received:	11-28-06
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	11-29-06
Condition:	Cool & Intact		

Parameter	Analytical Result	Units		
pH	**7.45**	s.u.		
Conductivity @ 25° C	**2,260**	umhos/cm		
Total Dissolved Solids @ 180C	**1,540**	mg/L		
Total Dissolved Solids (Calc)	**1,510**	mg/L		
SAR	**7.5**	ratio		
Total Alkalinity as CaCO3	**302**	mg/L		
Total Hardness as CaCO3	**381**	mg/L		
Bicarbonate as HCO3	**302**	mg/L	4.95	meq/L
Carbonate as CO3	**<0.1**	mg/L	0.00	meq/L
Hydroxide as OH	**<0.1**	mg/L	0.00	meq/L
Nitrate Nitrogen	**<0.1**	mg/L	0.00	meq/L
Nitrite Nitrogen	**0.009**	mg/L	0.00	meq/L
Chloride	**44.0**	mg/L	1.24	meq/L
Fluoride	**1.00**	mg/L	0.05	meq/L
Phosphate	**0.4**	mg/L	0.01	meq/L
Sulfate	**788**	mg/L	16.41	meq/L
Iron	**<0.001**	mg/L	0.00	meq/L
Calcium	**130**	mg/L	6.49	meq/L
Magnesium	**16.0**	mg/L	1.32	meq/L
Potassium	**2.76**	mg/L	0.07	meq/L
Sodium	**340**	mg/L	14.79	meq/L
Cations			22.66	meq/L
Anions			22.66	meq/L
Cation/Anion Difference			**0.01%**	

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

Comments: **Jennapah GC A #1 Grab Sample**

Christine M Walters
Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	MW #3A	Date Reported:	11-29-06
Laboratory Number:	39326	Date Sampled:	11-28-06
Chain of Custody:	14717	Date Received:	11-28-06
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	11-29-06
Condition:	Cool & Intact		

Parameter	Analytical Result	Units		
pH	**7.64**	s.u.		
Conductivity @ 25° C	**2,090**	umhos/cm		
Total Dissolved Solids @ 180C	**1,380**	mg/L		
Total Dissolved Solids (Calc)	**1,370**	mg/L		
SAR	**8.9**	ratio		
Total Alkalinity as CaCO3	**292**	mg/L		
Total Hardness as CaCO3	**282**	mg/L		
Bicarbonate as HCO3	**292**	mg/L	4.79	meq/L
Carbonate as CO3	**<0.1**	mg/L	0.00	meq/L
Hydroxide as OH	**<0.1**	mg/L	0.00	meq/L
Nitrate Nitrogen	**<0.1**	mg/L	0.00	meq/L
Nitrite Nitrogen	**0.009**	mg/L	0.00	meq/L
Chloride	**38.0**	mg/L	1.07	meq/L
Fluoride	**1.19**	mg/L	0.06	meq/L
Phosphate	**0.5**	mg/L	0.02	meq/L
Sulfate	**704**	mg/L	14.66	meq/L
Iron	**0.088**	mg/L	0.00	meq/L
Calcium	**96.2**	mg/L	4.80	meq/L
Magnesium	**10.3**	mg/L	0.84	meq/L
Potassium	**3.40**	mg/L	0.09	meq/L
Sodium	**342**	mg/L	14.88	meq/L
Cations			20.61	meq/L
Anions			20.59	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: **Jennapah GC A #1 Grab Sample**

Christine M Walters
Analyst

Review

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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: JENWA PAH GC A #1

Project #: 9V

Project Manager: NV

Sampler: NV

Sample Temperature: 2

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HNO_3	Preservative:	HEAL No. 0612007	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)
11/28/06	1155	WATER	MW #1A	2-40ml	✓			1	✓																
11/28/06	1245	WATER	MW #2A	2-40ml	✓			2	✓																
11/28/06	1335	WATER	MW #3A	2-40ml	✓			3	✓																

Date	Time	Relinquished By: (Signature)	Received By: (Signature)	Date	Time
11/29/06	1035 ~~0930~~	[signature]	[signature]	12/1/06	1041
Date:	Time: NV	Relinquished By: (Signature)	Received By: (Signature)		

Remarks:

14717

CHAIN OF CUSTODY RECORD

Client / Project Name	Project Location
BLAGG / BP	JENNAPAH GC A #1
Sampler: NJV	Client No. 94034-010

ANALYSIS / PARAMETERS

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	MAJOR ANIONS/ CATIONS						Remarks: PRESERVED COOL GRAB SAMPLES
MW #1A	11/28/06	1155	39324	WATER	1	✓						
MW #2A	11/28/06	1245	39325	WATER	1	✓						
MW #3A	11/28/06	1335	39326	WATER	1	✓						

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Nelson Velez	11/28/06	1448	[signature]	11/28/06	1445
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	X		
Cool - Ice/Blue Ice	X		

san juan reproduction 578-129

1. DEFINITIONS

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1.2 "Customer" means the individual or entity who may request laboratory services and his or its heirs, successors, assigns, and representatives

1.3 HEAL means Hall Environmental Analysis Laboratory its employees, servants, agents, and representative.

1.4 "Price schedule" means HEAL'S standard price schedule, as such, document may be amended from time to time by HEAL.

1.5 "Results" mean data generated by HEAL from the analysis of one or more samples.

1.6 "Terms and Conditions" mean these Terms and Conditions of sale, including the Price Schedule, and any additions or amendments hereto which are agreed to in writing by HEAL as provided in Section 7.1

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2.1 The customer may order services by submitting a written purchase order to HEAL, by placing a telephone order, which will be subsequently confirmed in writing, or by negotiated contract. Any such order constitutes a) an acceptance by the Customer of HEAL'S offer to do business with the Customer under these Terms and Conditions, and b) an agreement to be bound by these Terms and Conditions. The Customer's delivery of samples to HEAL constitutes the Customer's express assent to be governed by these Terms and Conditions. HEAL reserves the right to refuse to proceed with work at any time based upon an unfavorable customer credit report.

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4.2 HEAL reserves the absolute right, exercisable at any time to refuse delivery of, refuse to accept, or revoke Acceptance or, any sample which in the sole judgement of HEAL a) is of unsuitable volume, b) unsuitable containers as required for the requested analysis, or c) may be or become unsuitable for, or may pose a risk in, handling, transport or processing for any health, safety, environmental or other reason, whether or not due to the presence in the sample of any hazardous substance and whether or not such presence has been disclosed to HEAL by the Customer.

4.3 Where applicable, HEAL will use analytical methodologies which are in substantial conformity with U.S. Environmental Protection Agency (EPA), state agency, American Society for Testing and Materials (ASTM), Association of Official Analytical Chemist (AOAC), Standard Methods for the examination of Water and Wastewater, or other recognized methodologies. HEAL reserves the right to deviate from these methodologies, if necessary or appropriate due to the nature of composition of the sample or otherwise based on the reasonable judgement of HEAL, which deviation, if any will be made on a basis consistent with recognized standards of industry and/ or HEAL'S Standard Operating Procedures.

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5.1 HEAL warrants only that its services will fulfill obligations set forth in Section 4.3 and 4.4 hereof. This warranty is the sole and exclusive warranty given by HEAL in connection with any such services, and HEAL gives and makes no other representation or warranty of any kind, express or implied. No representative of HEAL is authorized to give or make any other representation or warranty or modify the warranty in any way.

5.2 The liability and obligations of HEAL, and the remedies of the Customer in connection with any services performed by HEAL will be limited to repeating the services performed or, at the sole option of HEAL, refunding in full or in part fees paid by the Customer for such services. HEAL'S obligation to repeat any services with respect to any sample will be contingent on the Customer's providing, at the request of HEAL and at the Customer's expense, an additional sample if necessary. Any reanalysis generating Results consistent with the Original Results will be at the Customer's expense. Except as otherwise specifically provided herein, HEAL shall have no liability, obligation or responsibility of any kind for any losses, costs, expenses, or other damages (including but not limited to any special, indirect, incidental or consequential damages) for any representation or warranty of a kind with respect to HEAL'S Services or Results.

5.3 In no event shall HEAL have any responsibility or liability to the Customer for any failure or delay in performance by HEAL, which results, directly or indirectly, in whole or in part, from any cause or circumstance beyond the reasonable control of HEAL. Such cause and circumstance shall include, but not be limited to, acts of God, acts of Customer, acts of orders of any government authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disputes, difficulties or delays in transportation, mail or delivery services, inability to obtain from HEAL usual sources sufficient services or supplies, or any other cause beyond HEAL'S reasonable control.

5.4 All results provided by HEAL are strictly for the use of its Customers, and HEAL is in no way responsible for the use of such results by Customers or third parties. All results should be considered in their entirety, and HEAL is in no way responsible for the separation, detachment, or other use of any portion of the results.

5.5 The customer represents and warrants that any sample delivered to HEAL will be preceded or accompanied by complete written disclosure of the presence of any hazardous substances known or suspected by the customer. The Customer further warrants that any sample containing any hazardous substance, which is to be delivered to HEAL'S premises will be packaged, labeled, transported and delivered properly and in accordance with applicable laws.

5.6 It is understood and agreed that all samples and cuttings of materials containing hazardous contaminants are the property and the responsibility of the Customer. All contaminated samples and laboratory byproducts will be returned to the Customer for disposal. It is understood and agreed that HEAL is not, and has no responsibility as, a generator, treater, storer, or disposer of hazardous or toxic substances found or identified at a site, and the Customer agrees to assume the responsibility for the foregoing.

5.7 The Customer shall indemnify and hold harmless HEAL from and against any and all claims, suits, judgements, damages, losses, liabilities, expenses, payments, taxes, duties, fines and/or other costs (including but not limited to liability to a third party) arising out of a) the presence of hazardous substances in any sample of the Customer regardless of the Customer's compliance with paragraph 5.5 hereof b) accidents occurring during the transport of any sample of the Customer, c) events control, or d) negligence by the Customer in the use, evaluation, or application of Results provided by HEAL.

5.8 Should any Customer sample, due to its matrix or constituents of its matrix, cause the operations of any HEAL instrumentation to be reduced, stopped, or altered, HEAL is entitled to compensation by the Customer for any loss of revenue due to the instrument's downtime, and/or the parts and labor necessary to bring the instruments back to its former operating condition. The amount of compensation is negotiable upon acceptance of these Terms and Conditions and the individual circumstances warranting the reimbursement.

6. ENTIRE AGREEMENT: SEVERABILITY

6.1 These Terms and Conditions, together with any additions or revisions which may be agreed to in writing by HEAL as provided in Section 7.1, embodied the whole agreement of the parties. There are no promises, terms, conditions, understandings, obligations or agreements other than those contained herein, unless made in accordance with Section 7.1; and these Terms and Conditions shall supersede all previous communications, representations, or agreements, either verbal or written, between the Customer and HEAL. HEAL specifically rejects all additional, inconsistent, or conflicting terms, whether printed or otherwise set forth in any purchase order or other communication from the Customer to HEAL

6.2 The invalidity or unenforceability, in whole or in part of any provision, term or condition hereof shall not affect in any way the validity or enforceability of the remainder of the Terms and Conditions, the intent of the parties being that the provisions be severable.

7. AMENDMENTS AND WAIVERS

7.1 HEAL shall not be subject to or bound by any provision, term or condition which is in addition to or inconsistent or conflicting with these Terms and Conditions. HEAL shall not be deemed to have amended or waived and provision, term or condition, or have given any required consent or approval, or to have waived any breach by the Customer of any of these Terms and Conditions unless specifically set forth in writing and executed on behalf of HEAL by a duly authorized officer. No other employee, servant, agent or representatives of HEAL has any authority whatsoever to add to, delete, alter or vary any of these Terms and Conditions in any manner, or to give any consent, approval or waiver, and HEAL shall not be bound by any such purported addition, deletion, alteration, variation, consent, approval or waiver.

7.2 No waiver by HEAL of any provision, term or condition hereof or of any breach by or obligation of the Customer hereunder shall constitute a waiver of such provision, term or condition on any other occasion or a waiver of any other breach by or obligation of the Customer.

8. SAMPLE STORAGE

8.1 Bulk samples will be retained for thirty (30) days after the analytical report has been issued unless alternate arrangements have been made in advance. Storage of samples or extracts for longer periods is by request only. Sample storage charges depend upon storage requirements and duration. Nominally, a sample storage fee of $5.00 per sample, per month will be billed monthly unless other arrangements are made. If requested, unused sample material may be returned at the client's expense. Materials, which are identified as hazardous, will be returned to the client or disposed of as hazardous waste and billed at the rate of $25.00 per sample. HEAL reserves the right to return all dibenzodioxins/dibenzofurans to the client.

9. SECTION HEADING

9.1 The section headings of these Terms and Conditions are intended solely for convenient reference and shall not define, limit or affect in any way These Terms and Conditions or their interpretations.

10. GOVERNING LAW

10.1 These Terms and Conditions, and transaction or agreement, to which they apply, shall be governed both as to interpretation and performance by the laws of the State of New Mexico.

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: Jenna PAH GC A #1 **Work Order:** 0612007

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8021									
Sample ID: B		*MBLK*			Batch ID:	**R21651**	Analysis Date:	12/4/2006 10:18:30 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: 5ML RB		*MBLK*			Batch ID:	**R21677**	Analysis Date:	12/5/2006 8:27:26 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:	**R21651**	Analysis Date:	12/4/2006 10:24:45 PM	
Benzene	18.14	µg/L	1.0	90.7	85.9	113			
Toluene	17.86	µg/L	1.0	89.3	86.4	113			
Ethylbenzene	17.30	µg/L	1.0	86.5	83.5	118			
Xylenes, Total	52.11	µg/L	3.0	86.8	83.4	122			
Sample ID: 100NG BTEX LCS		*LCS*			Batch ID:	**R21677**	Analysis Date:	12/6/2006 12:30:15 AM	
Benzene	17.22	µg/L	1.0	86.1	85.9	113			
Toluene	17.12	µg/L	1.0	85.6	85.4	113			
Ethylbenzene	16.51	µg/L	1.0	82.5	82.5	118			
Xylenes, Total	49.97	µg/L	3.0	83.3	82.4	122			
Sample ID: 100NG BTEX LCSD		*LCSD*			Batch ID:	**R21651**	Analysis Date:	12/4/2006 10:54:40 PM	
Benzene	18.02	µg/L	1.0	90.1	85.9	113	0.686	27	
Toluene	17.73	µg/L	1.0	88.7	86.4	113	0.719	19	
Ethylbenzene	17.17	µg/L	1.0	85.9	83.5	118	0.766	10	
Xylenes, Total	51.71	µg/L	3.0	86.2	83.4	122	0.774	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: 12/1/2006

Work Order Number 0612007 | Received by TLS

Checklist completed by Tanya Shomin (Signature) Dec 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? **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

JENNAPAH GC A # 1
UNIT H, SEC. 36, T28N, R9W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : February 26, 2007

SAMPLER : N J V

Filename : 02-26-07.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.)
MW - 1A	101.29	75.61	25.68	37.50	-	-	-	-	-
MW - 2A	101.44	75.59	25.85	42.50	1000	7.33	2,100	11.1	8.25
MW - 3A	100.68	74.74	25.94	42.50	1035	7.45	2,100	12.2	8.25
					INSTRUMENT CALIBRATIONS =	7.00	2,800		
					DATE & TIME =	02/21/07	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 # 2 & # 3 . Both murky brown in appearance with no physical evidence of hydrocarbon . Collected samples from MW # 2 & # 3 for BTEX analysis .

Top of casing MW # 1 ~ 2.50 ft. , MW # 2 ~ 2.50 ft. , MW # 3 ~ 3.00 ft. above grade .

Hall Environmental Analysis Laboratory, Inc.

Date: *02-Mar-07*

CLIENT: Blagg Engineering
Project: Jennapah GC A #1

Lab Order: 0702363

Lab ID: 0702363-01
Client Sample ID: MW #2A

Collection Date: 2/26/2007 10:00:00 AM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	3/1/2007 12:55:34 PM
Toluene	ND	1.0		µg/L	1	3/1/2007 12:55:34 PM
Ethylbenzene	ND	1.0		µg/L	1	3/1/2007 12:55:34 PM
Xylenes, Total	ND	2.0		µg/L	1	3/1/2007 12:55:34 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	3/1/2007 12:55:34 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	3/1/2007 12:55:34 PM
Surr: 4-Bromofluorobenzene	91.6	70.2-105		%REC	1	3/1/2007 12:55:34 PM

Lab ID: 0702363-02
Client Sample ID: MW #3A

Collection Date: 2/26/2007 10:35:00 AM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	3/1/2007 1:25:45 PM
Toluene	ND	1.0		µg/L	1	3/1/2007 1:25:45 PM
Ethylbenzene	ND	1.0		µg/L	1	3/1/2007 1:25:45 PM
Xylenes, Total	ND	2.0		µg/L	1	3/1/2007 1:25:45 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	3/1/2007 1:25:45 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	3/1/2007 1:25:45 PM
Surr: 4-Bromofluorobenzene	92.9	70.2-105		%REC	1	3/1/2007 1:25:45 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: JENNAPAH GC A #1

Project #: nv

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. 07023463	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)
								#																
2/26/07	1000	WATER	MW # 2A	2-40 ml	✓			1	✓															
2/26/07	1035	WATER	MW # 3A	2-40 ml	✓			2	✓															

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
2/27/07	0700	[signature]	[signature] 2/28/07 900
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks:

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5.2 The liability and obligations of HEAL, and the remedies of the Customer in connection with any services performed by HEAL will be limited to repeating the services performed or, at the sole option of HEAL, refunding in full or in part fees paid by the Customer for such services. HEAL'S obligation to repeat any services with respect to any sample will be contingent on the Customer's providing, at the request of HEAL and at the Customer's expense, an additional sample if necessary. Any reanalysis generating Results consistent with the Original Results will be at the Customer's expense. Except as otherwise specifically provided herein, HEAL shall have no liability, obligation or responsibility of any kind for any losses, costs, expenses, or other damages (including but not limited to any special, indirect, incidental or consequential damages) for any representation or warranty of a kind with respect to HEAL'S Services or Results.

5.3 In no event shall HEAL have any responsibility or liability to the Customer for any failure or delay in performance by HEAL, which results, directly or indirectly, in whole or in part, from any cause or circumstance beyond the reasonable control of HEAL. Such cause and circumstance shall include, but not be limited to, acts of God, acts of Customer, acts of orders of any government authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disputes, difficulties or delays in transportation, mail or delivery services, inability to obtain from HEAL usual sources sufficient services or supplies, or any other cause beyond HEAL'S reasonable control.

5.4 All results provided by HEAL are strictly for the use of its Customers, and HEAL is in no way responsible for the use of such results by Customers or third parties. All results should be considered in their entirety, and HEAL is in no way responsible for the separation, detachment, or other use of any portion of the results.

5.5 The customer represents and warrants that any sample delivered to HEAL will be preceded or accompanied by complete written disclosure of the presence of any hazardous substances known or suspected by the customer. The Customer further warrants that any sample containing any hazardous substance, which is to be delivered to HEAL'S premises will be packaged, labeled, transported and delivered properly and in accordance with applicable laws.

5.6 It is understood and agreed that all samples and cuttings of materials containing hazardous contaminants are the property and the responsibility of the Customer. All contaminated samples and laboratory byproducts will be returned to the Customer for disposal. It is understood and agreed that HEAL is not, and has no responsibility as, a generator, treater, storer, or disposer of hazardous or toxic substances found or identified at a site, and the Customer agrees to assume the responsibility for the foregoing.

5.7 The Customer shall indemnify and hold harmless HEAL from and against any and all claims, suits, judgements, damages, losses, liabilities, expenses, payments, taxes, duties, fines and/or other costs (including but not limited to liability to a third party) arising out of a) the presence of hazardous substances in any sample of the Customer regardless of the Customer's compliance with paragraph 5.5 hereof b) accidents occurring during the transport of any sample of the Customer, c) events control, or d) negligence by the Customer in the use, evaluation, or application of Results provided by HEAL.

5.8 Should any Customer sample, due to its matrix or constituents of its matrix, cause the operations of any HEAL instrumentation to be reduced, stopped, or altered, HEAL is entitled to compensation by the Customer for any loss of revenue due to the instrument's downtime, and/or the parts and labor necessary to bring the instruments back to its former operating condition. The amount of compensation is negotiable upon acceptance of these Terms and Conditions and the individual circumstances warranting the reimbursement.

6. ENTIRE AGREEMENT: SEVERABILITY

6.1 These Terms and Conditions, together with any additions or revisions which may be agreed to in writing by HEAL as provided in Section 7.1, embodied the whole agreement of the parties. There are no promises, terms, conditions, understandings, obligations or agreements other than those contained herein, unless made in accordance with Section 7.1; and these Terms and Conditions shall supersede all previous communications, representations, or agreements, either verbal or written, between the Customer and HEAL. HEAL specifically rejects all additional, inconsistent, or conflicting terms, whether printed or otherwise set forth in any purchase order or other communication from the Customer to HEAL

6.2 The invalidity or unenforceability, in whole or in part of any provision, term or condition hereof shall not affect in any way the validity or enforceability of the remainder of the Terms and Conditions, the intent of the parties being that the provisions be severable.

7. AMENDMENTS AND WAIVERS

7.1 HEAL shall not be subject to or bound by any provision, term or condition which is in addition to or inconsistent or conflicting with these Terms and Conditions. HEAL shall not be deemed to have amended or waived and provision, term or condition, or have given any required consent or approval, or to have waived any breach by the Customer of any of these Terms and Conditions unless specifically set forth in writing and executed on behalf of HEAL by a duly authorized officer. No other employee, servant, agent or representatives of HEAL has any authority whatsoever to add to, delete, alter or vary any of these Terms and Conditions in any manner, or to give any consent, approval or waiver, and HEAL shall not be bound by any such purported addition, deletion, alteration, variation, consent, approval or waiver.

7.2 No waiver by HEAL of any provision, term or condition hereof or of any breach by or obligation of the Customer hereunder shall constitute a waiver of such provision, term or condition on any other occasion or a waiver of any other breach by or obligation of the Customer.

8. SAMPLE STORAGE

8.1 Bulk samples will be retained for thirty (30) days after the analytical report has been issued unless alternate arrangements have been made in advance. Storage of samples or extracts for longer periods is by request only. Sample storage charges depend upon storage requirements and duration. Nominally, a sample storage fee of $5.00 per sample, per month will be billed monthly unless other arrangements are made. If requested, unused sample material may be returned at the client's expense Materials, which are identified as hazardous, will be returned to the client or disposed of as hazardous waste and billed at the rate of $25.00 per sample. HEAL reserves the right to return all dibenzodioxins/dibenzofurans to the client.

9. SECTION HEADING

9.1 The section headings of these Terms and Conditions are intended solely for convenient reference and shall not define, limit or affect in any way These Terms and Conditions or their interpretations.

10. GOVERNING LAW

10.1 These Terms and Conditions, and transaction or agreement, to which they apply, shall be governed both as to interpretation and performance by the laws of the State of New Mexico.

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: Jennapah GC A #1 **Work Order:** 0702363

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8021									
Sample ID: RB-II		*MBLK*			Batch ID:	**R22664**	Analysis Date:	3/2/2007 2:07:52 AM	
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	2.0						
1,2,4-Trimethylbenzene	ND	µg/L	1.0						
1,3,5-Trimethylbenzene	ND	µg/L	1.0						
Sample ID: 100NG BTEX LCS-II		*LCS*			Batch ID:	**R22664**	Analysis Date:	3/2/2007 2:37:53 AM	
Benzene	20.24	µg/L	1.0	101	85.9	113			
Toluene	20.31	µg/L	1.0	102	86.4	113			
Ethylbenzene	20.41	µg/L	1.0	102	83.5	118			
Xylenes, Total	62.18	µg/L	2.0	104	83.4	122			
1,2,4-Trimethylbenzene	20.48	µg/L	1.0	102	83.5	115			
1,3,5-Trimethylbenzene	20.34	µg/L	1.0	102	85.2	113			

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: 2/28/2007

Work Order Number 0702363 | Received by TLS

Checklist completed by Tanya Shor (Signature) Feb 28, 07 (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 _____

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY # : N / A

JENNAPAH GC A # 1
UNIT H, SEC. 36, T28N, R9W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : May 21, 2007

SAMPLER : N J V

Filename : 05-21-07.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.)
1A	101.29	75.51	25.78	37.50	-	-	-	-	-
2A	101.44	75.46	25.98	42.50	1200	7.23	2,000	18.1	8.00
3A	100.68	74.61	26.07	42.50	1240	7.30	2,000	18.9	8.00
					INSTRUMENT CALIBRATIONS =	7.00	2,800		
					DATE & TIME =	05/08/07	0740		

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 # 2 & # 3 . Both murky brown in appearance with no physical evidence of hydrocarbon . Collected samples from MW # 2 & # 3 for BTEX analysis .

Top of casing MW # 1 ~ 2.50 ft. , MW # 2 ~ 2.50 ft. , MW # 3 ~ 3.00 ft. above grade .

Hall Environmental Analysis Laboratory, Inc.

Date: *31-May-07*

CLIENT:	Blagg Engineering	**Client Sample ID:**	MW #2A
Lab Order:	0705358	**Collection Date:**	5/21/2007 12:00:00 PM
Project:	Jennapah GC A #1	**Date Received:**	5/23/2007
Lab ID:	0705358-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	5/29/2007 6:39:47 PM
Toluene	ND	1.0		µg/L	1	5/29/2007 6:39:47 PM
Ethylbenzene	ND	1.0		µg/L	1	5/29/2007 6:39:47 PM
Xylenes, Total	ND	2.0		µg/L	1	5/29/2007 6:39:47 PM
Surr: 4-Bromofluorobenzene	91.1	70.2-105		%REC	1	5/29/2007 6:39:47 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		

Hall Environmental Analysis Laboratory, Inc.

Date: *31-May-07*

CLIENT:	Blagg Engineering	**Client Sample ID:**	MW #3A
Lab Order:	0705358	**Collection Date:**	5/21/2007 12:40:00 PM
Project:	Jennapah GC A #1	**Date Received:**	5/23/2007
Lab ID:	0705358-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	5/29/2007 7:10:00 PM
Toluene	ND	1.0		µg/L	1	5/29/2007 7:10:00 PM
Ethylbenzene	ND	1.0		µg/L	1	5/29/2007 7:10:00 PM
Xylenes, Total	ND	2.0		µg/L	1	5/29/2007 7:10:00 PM
Surr: 4-Bromofluorobenzene	91.0	70.2-105		%REC	1	5/29/2007 7:10:00 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: BLACK ENGR. / BP AMERICA

Project Name: JICARILLA GC A #1

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

Project #: NV

Project Manager: NV

Phone #: 632-1199

Sampler: NV

Fax #:

Sample Temperature: 5°

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative	HEAL No. 0705358	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)
5/21/07	1200	WATER	MW # 2A	2-40ml				1	✓																
5/21/07	1240	WATER	MW # 3A	2-40 ml				2	✓																

Date	Time	Relinquished By: (Signature)	Received By: (Signature)
5/22/07	1415	[signature]	[signature] 5/23/07 1801
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks:

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: Jennapah GC A #1
Work Order: 0705358

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8021									
Sample ID: 5ML REAGENT BLA		*MBLK*			Batch ID:	**R23774**	Analysis Date:	5/29/2007 8:19:53 AM	
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	2.0						
Sample ID: 100NG BTEX LCS		*LCS*			Batch ID:	**R23774**	Analysis Date:	5/29/2007 9:40:18 PM	
Benzene	19.41	µg/L	1.0	97.1	85.9	113			
Toluene	19.59	µg/L	1.0	97.9	86.4	113			
Ethylbenzene	19.63	µg/L	1.0	98.2	83.5	118			
Xylenes, Total	58.61	µg/L	2.0	97.7	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: 5/23/2007

Work Order Number 0705358 | Received by TLS

Checklist completed by _____ Signature 5/23/07 Date

Matrix | Carrier name UPS

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?	**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

JENNAPAH GC A # 1
UNIT H, SEC. 36, T28N, R9W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : August 16, 2007

SAMPLER : N J V

Filename : 08-16-07.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.)
1A	101.29	74.67	26.62	37.50	-	-	-	-	-
2A	101.44	74.88	26.56	42.50	0925	7.16	2,000	18.1	7.75
3A	100.68	73.86	26.82	42.50	1020	7.28	2,100	20.5	7.75
					INSTRUMENT CALIBRATIONS ≈	7.00	2,800		
					DATE & TIME ≈	08/15/07	0900		

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 # 2A & # 3A . Both murky brown in appearance with no physical evidence of hydrocarbon . Collected samples from MW # 2A & # 3A for BTEX analysis .

Top of casing MW # 1 ~ 2.50 ft. , MW # 2 ~ 2.50 ft. , MW # 3 ~ 3.00 ft. above grade .

Hall Environmental Analysis Laboratory, Inc.

Date: *27-Aug-07*

CLIENT: Blagg Engineering
Project: Jennapah GC A #1

Lab Order: 0708248

Lab ID: 0708248-01 **Collection Date:** 8/16/2007 9:25:00 AM
Client Sample ID: MW #2A **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **SMP**
Benzene	ND	1.0		µg/L	1	8/24/2007 12:23:42 AM
Toluene	ND	1.0		µg/L	1	8/24/2007 12:23:42 AM
Ethylbenzene	ND	1.0		µg/L	1	8/24/2007 12:23:42 AM
Xylenes, Total	ND	2.0		µg/L	1	8/24/2007 12:23:42 AM
Surr: 4-Bromofluorobenzene	87.5	70.2-105		%REC	1	8/24/2007 12:23:42 AM

Lab ID: 0708248-02 **Collection Date:** 8/16/2007 10:20:00 AM
Client Sample ID: MW #3A **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **SMP**
Benzene	ND	1.0		µg/L	1	8/24/2007 1:23:40 AM
Toluene	ND	1.0		µg/L	1	8/24/2007 1:23:40 AM
Ethylbenzene	ND	1.0		µg/L	1	8/24/2007 1:23:40 AM
Xylenes, Total	ND	2.0		µg/L	1	8/24/2007 1:23:40 AM
Surr: 4-Bromofluorobenzene	85.2	70.2-105		%REC	1	8/24/2007 1:23:40 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

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

Phone #: 632-1199

Fax #:

Project Name: JENNAPAH GC A #1

Project #: 2nd

Project Manager: NV

Sampler: NV

Sample Temperature: 1°

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative	HEAL No. 0708248	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)
8/16/07	0925	WATER	MW #2A	2-40ml	✓			1	✓															
8/16/07	1020	WATER	MW #3A	2-40ml	✓			2	✓															

Date	Time	Relinquished By: (Signature)	Received By: (Signature)
8/16/07	1545	[signature]	Tonya Shomin 8/17/07 1416
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks:

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: Jennapah GC A #1 **Work Order:** 0708248

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8021									
Sample ID: 5ML RB		*MBLK*			Batch ID:	**R24885**	Analysis Date:	8/23/2007 9:10:07 AM	
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	2.0						
Sample ID: 100NG BTEX LCS		*LCS*			Batch ID:	**R24885**	Analysis Date:	8/23/2007 2:37:33 PM	
Benzene	17.77	µg/L	1.0	88.9	85.9	113			
Toluene	17.37	µg/L	1.0	86.9	86.4	113			
Ethylbenzene	18.05	µg/L	1.0	90.2	83.5	118			
Xylenes, Total	54.72	µg/L	2.0	90.9	83.4	122			
Sample ID: 100NG BTEX LCSD		*LCSD*			Batch ID:	**R24885**	Analysis Date:	8/23/2007 3:07:41 PM	
Benzene	18.32	µg/L	1.0	91.6	85.9	113	3.04	27	
Toluene	18.12	µg/L	1.0	90.6	86.4	113	4.23	19	
Ethylbenzene	18.75	µg/L	1.0	93.7	83.5	118	3.81	10	
Xylenes, Total	56.41	µg/L	2.0	93.7	83.4	122	3.04	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: 8/17/2007

Work Order Number 0708248

Received by TLS

Checklist completed by 8/17/07
Signature Date

Matrix

Carrier name UPS

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?	1°	*4° C ± 2 Acceptable* If given sufficient time to cool.		

COMMENTS:

Client contacted Date contacted: Person contacted

Contacted by: Regarding

Comments:

Corrective Action