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REPORTS

DATE:

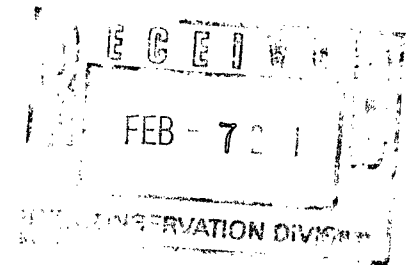
JAN. 26, 2001

23

BLAGG ENGINEERING, INC.

P.O. Box 87, Bloomfield, New Mexico 87413

Phone: (505)632-1199 Fax: (505)632-3903



January 26, 2001

Mr. William C. Olson, Hydrologist
New Mexico Oil Conservation Division
Environmental Bureau
2040 S. Pacheco
Santa Fe, New Mexico 87505

Re: Annual Monitoring Report
BP-Amoco: Gallegos Canyon Unit Com F #162
Sec. 36-T29N-R12W, San Juan County, New Mexico

Dear Mr. Olson:

BP-Amoco has retained Blagg Engineering, Inc. (BEI) to conduct environmental monitoring of groundwater reclamation at Gallegos Canyon Unit Com F Well No. 162 (Figure 1). Following are annual monitoring results as required by the New Mexico Oil Conservation Division (NMOCD), pursuant to reclamation plan approval by the NMOCD with letter dated January 27, 1994 and revised with an area wide plan submitted on October 22, 1996. Based on the requirements for reclamation termination, the GCU Com F No. 162 well qualifies for permanent closure. All site wells have tested groundwater contamination concentrations at levels below New Mexico Water Quality Control Commission standards for four or more quarters of sampling. Therefore, on behalf of BP-Amoco, BEI respectfully requests site closure and termination of reclamation.

The air injection/vapor extraction system at the site has remained in continuous operation. The system is designed to treat soils and groundwater that could not be accessed by excavation or other methods. The expanded air injection system (Figure 1) as modified in May 1999 has been effective at treating residual groundwater impacts and has resulted in all wells reaching closure standards. No other significant modifications to the reclamation system have been instituted since the expanded system was installed.

The Groundwater Discharge Plan (GW-159) for the site was jointly terminated by BP and the NMOCD on July 17, 2000. This plan was allowed to expire because BP does not anticipate that future water discharges will be necessary at the site.

Summary Laboratory Analytical Results

Groundwater monitor wells at the site were sampled in February, May, September and November, 2000. A summary of laboratory analytical results for these and previous sample events are included in Table 1 on the following pages and laboratory data reports are included in Appendix B. Analytical data indicates that groundwater impacts have experienced significant reductions since expansion of the reclamation system, as noted above.

MW-6	ND	ND	ND	ND	ND	0.0002	ND	2.68	0.0002	ND	ND	ND	ND	ND	0.0007	ND
2/25/94	15.9	3.2	5.3	140	140	140	140	140	140	140	140	140	140	140	140	140
6/17/94	15.3	1.9	2.6	98	98	98	98	98	98	98	98	98	98	98	98	98
9/27/94	101.1	3.7	1.9	109	109	109	109	109	109	109	109	109	109	109	109	109
12/7/94	154.8	44.9	0.2	212.2	212.2	212.2	212.2	212.2	212.2	212.2	212.2	212.2	212.2	212.2	212.2	212.2
3/8/95	7.0	ND	ND	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2
6/12/95	2.38	0.86	ND	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.6
9/27/95	12.0	ND	ND	15.33	15.33	15.33	15.33	15.33	15.33	15.33	15.33	15.33	15.33	15.33	15.33	15.33
12/11/95	31.0	29.1	11.4	175.3	175.3	175.3	175.3	175.3	175.3	175.3	175.3	175.3	175.3	175.3	175.3	175.3
3/7/96	42.1	4.5	3.1	51.3	51.3	51.3	51.3	51.3	51.3	51.3	51.3	51.3	51.3	51.3	51.3	51.3
6/27/96	1.53	1.83	ND	5.77	5.77	5.77	5.77	5.77	5.77	5.77	5.77	5.77	5.77	5.77	5.77	5.77
9/6/96	1.64	ND	ND	84.7	84.7	84.7	84.7	84.7	84.7	84.7	84.7	84.7	84.7	84.7	84.7	84.7
12/24/96	0.67	ND	ND	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24
3/20/97	ND	2.05	ND	7.72	7.72	7.72	7.72	7.72	7.72	7.72	7.72	7.72	7.72	7.72	7.72	7.72
6/25/97	ND	2.9	1.7	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0
9/22/97	ND	0.6	0.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6
12/19/97	1.3	6.7	2.4	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5
2/23/98	0.2	1.0	1.8	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
6/2/98	0.9	0.9	ND	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
9/28/98	ND	ND	0.2	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
12/17/98	ND	ND	0.3	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
3/29/99	ND	2.2	0.9	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7
6/22/99	0.3	0.4	0.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
8/30/99	0.4	0.2	ND	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
12/9/99	3.6	9.1	3.1	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2
2/24/00	<0.5	<0.5	<0.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5
MW-7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
12/11/95	185.7	522	144	2422	2422	2422	2422	2422	2422	2422	2422	2422	2422	2422	2422	2422
3/7/96	95.0	421	226	4075	4075	4075	4075	4075	4075	4075	4075	4075	4075	4075	4075	4075
6/27/96	223	150	165	2353	2353	2353	2353	2353	2353	2353	2353	2353	2353	2353	2353	2353
9/6/96	142	104	132	1728	1728	1728	1728	1728	1728	1728	1728	1728	1728	1728	1728	1728
12/24/96	34.3	15.3	14.5	159.8	159.8	159.8	159.8	159.8	159.8	159.8	159.8	159.8	159.8	159.8	159.8	159.8
6/25/97	174	12.5	44.8	637	637	637	637	637	637	637	637	637	637	637	637	637
9/22/97	577	105	248	835	835	835	835	835	835	835	835	835	835	835	835	835
12/19/97	330	9.4	81.9	600	600	600	600	600	600	600	600	600	600	600	600	600
2/23/98	9.1	1.5	9.7	106.0	106.0	106.0	106.0	106.0	106.0	106.0	106.0	106.0	106.0	106.0	106.0	106.0
6/2/98	50.8	113	81.4	466	466	466	466	466	466	466	466	466	466	466	466	466
9/28/98	8.2	4.9	9.2	72.6	72.6	72.6	72.6	72.6	72.6	72.6	72.6	72.6	72.6	72.6	72.6	72.6
12/17/98	32.6	54.0	38.1	234.8	234.8	234.8	234.8	234.8	234.8	234.8	234.8	234.8	234.8	234.8	234.8	234.8
3/29/99	185	701	171	795	795	795	795	795	795	795	795	795	795	795	795	795
6/22/99	33.8	14.5	60.9	321	321	321	321	321	321	321	321	321	321	321	321	321
8/30/99	14.9	5.4	0.8	35.7	35.7	35.7	35.7	35.7	35.7	35.7	35.7	35.7	35.7	35.7	35.7	35.7
12/9/99	23.2	40.0	3.4	95.8	95.8	95.8	95.8	95.8	95.8	95.8	95.8	95.8	95.8	95.8	95.8	95.8
2/24/00	0.8	<0.5	7.6	42	42	42	42	42	42	42	42	42	42	42	42	42
5/23/00	<0.5	<0.5	5.9	25	25	25	25	25	25	25	25	25	25	25	25	25
9/8/00	2.2	<0.5	12	28	28	28	28	28	28	28	28	28	28	28	28	28
11/29/00	1.0	<0.5	6.4	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8

MW-9	ND	1.1	ND	1.4	ND	ND	ND	13.73	13.47	ND	1.17	0.0011	ND	ND	ND	0.0012	ND
2/25/94	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/17/94	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
9/27/94	0.8	0.4	0.6	3.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
12/7/94	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3/8/95	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/12/95	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
9/27/95	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
12/4/95	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3/7/96	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/27/96	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
9/6/96	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
12/24/96	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-10	ND	0.7	ND	1.7	ND	ND	ND	15.04	15.45	ND	2.64	0.0140	ND	0.0012	ND	0.0018	ND
2/25/94	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/17/94	0.8	0.3	0.2	3.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
9/27/94	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
12/7/94	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3/8/95	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/12/95	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
9/27/95	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
12/4/95	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3/7/96	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/27/96	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
9/6/96	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
12/24/96	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3/20/97	0.4	ND	ND	0.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/25/97	ND	1.7	2.9	17.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
9/22/97	ND	0.2	0.9	6.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
12/19/97	1.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-10R	1.8	6.1	0.5	4.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
5/20/99	0.5	1.6	1.1	9.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/22/99	3.4	0.6	0.2	2.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
8/31/99	1.6	4.0	2.3	11.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
12/9/99	<0.5	<0.5	<0.5	<1.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2/24/00	0.8	<0.5	<0.5	<1.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
5/23/00	<0.5	<0.5	<0.5	<1.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
9/8/00	<0.5	<0.5	<0.5	<1.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
11/29/00	<0.5	<0.5	<0.5	<1.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-11	0.5	1.3	0.3	2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
5/20/99	0.4	ND	0.5	5.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
6/22/99	1.6	1.2	ND	1.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
8/30/99	0.2	0.8	0.4	2.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
12/9/99	<0.5	<0.5	<0.5	<1.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2/24/00	<0.5	<0.5	<0.5	<1.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WQCC LIMITS	10	750	750	620	30	0.7	0.1	1.0	0.01	0.05	0.002	0.05	0.05	0.05	0.05	0.05	0.05

ug/L = micrograms per liter, equivalent to parts per billion (ppb) mg/L = milligrams per liter, equivalent to parts per million (ppm) ND=not detected NA=not analyzed

Water Table Elevations

Depth to groundwater measurements in each monitor well was measured during each quarterly sample event. Table 2 includes water depth measurements, surface casing relative elevations and groundwater elevations for the November 29, 2000 sample event. A contour map of relative water table elevations for this sample event is included as Figure 2.

TABLE 2

Relative Groundwater Elevations
Amoco Production Company GCU Com "F" No. 162
November 29, 2000

Monitor Well	Total Depth (feet)	Depth to Fluid (feet)	Relative Casing Elevation (feet)	Relative Groundwater Elevation (feet)
MW-1A	In 1995 well	abandoned	during	excavations
MW-2A	23.3	21.77	100.16	78.39
MW-3	In 1995 well	abandoned	during	excavations
MW-4	24.1	21.39	98.88	77.49
MW-5	25.1	--	102.46	--
MW-6	26.7	--	98.67	--
MW-7	25.3	19.95	97.39	77.44
MW-8	In 1995 well	abandoned	during	excavations
MW-9	19.6	--	88.50	--
MW-10R	18.4	13.80	90.56	76.76
MW-11	27.0	19.57	96.58	77.01

Current and Proposed Activities

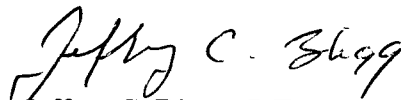
Operation of the air injection/vapor extraction system is on-going and is proposed to continue until OCD approves the BP-Amoco request for closure of the site. Following approval of site closure, reclamation system operation will terminate and site wells will be abandoned following approved NMOCD well abandonment procedures.

Summary

This report has been prepared by Blagg Engineering, Inc. on behalf of BP-Amoco. Questions or comments may be directed to Jeff Blagg at (505)632-1199.

Respectfully submitted:

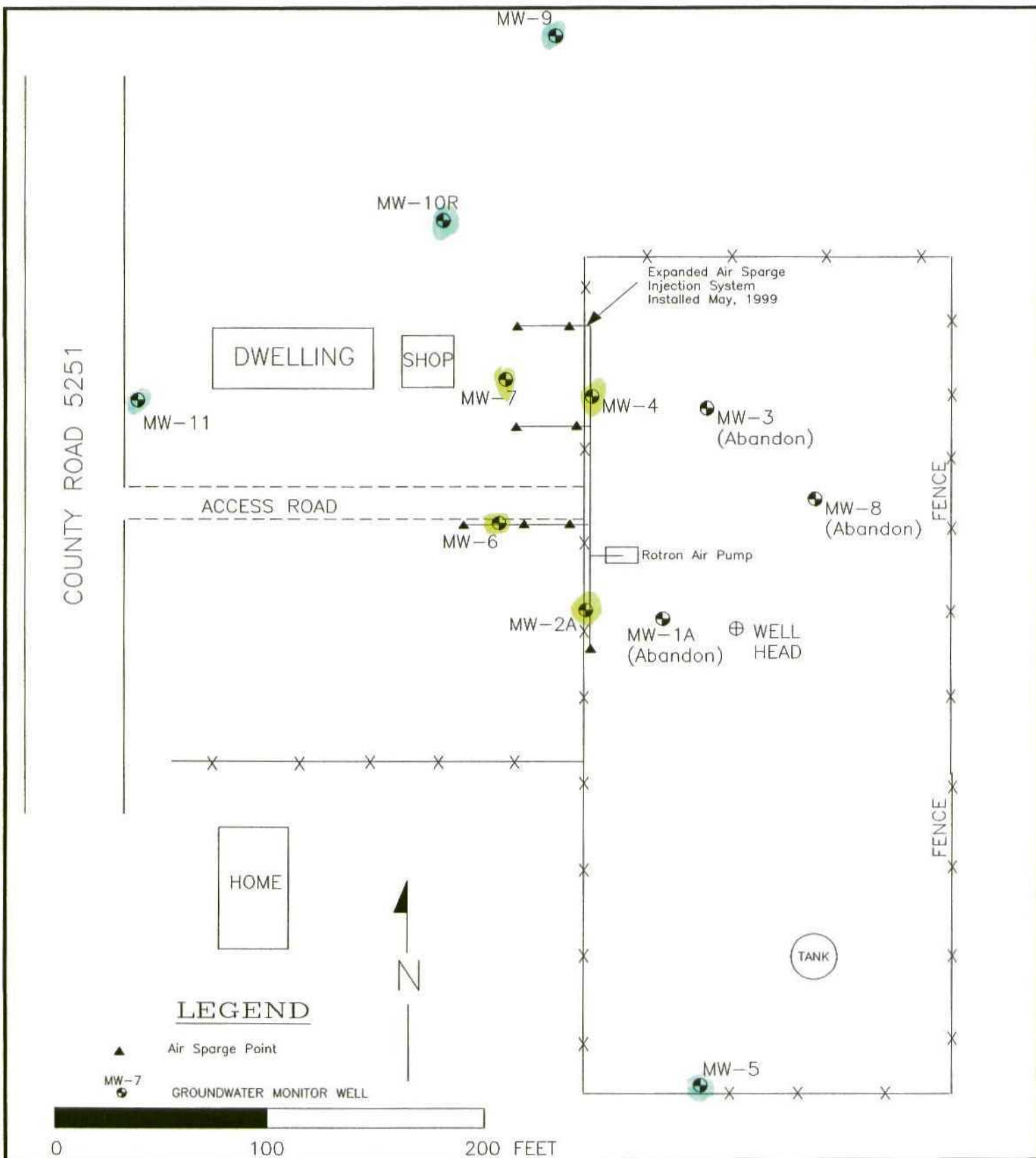
Blagg Engineering, Inc.



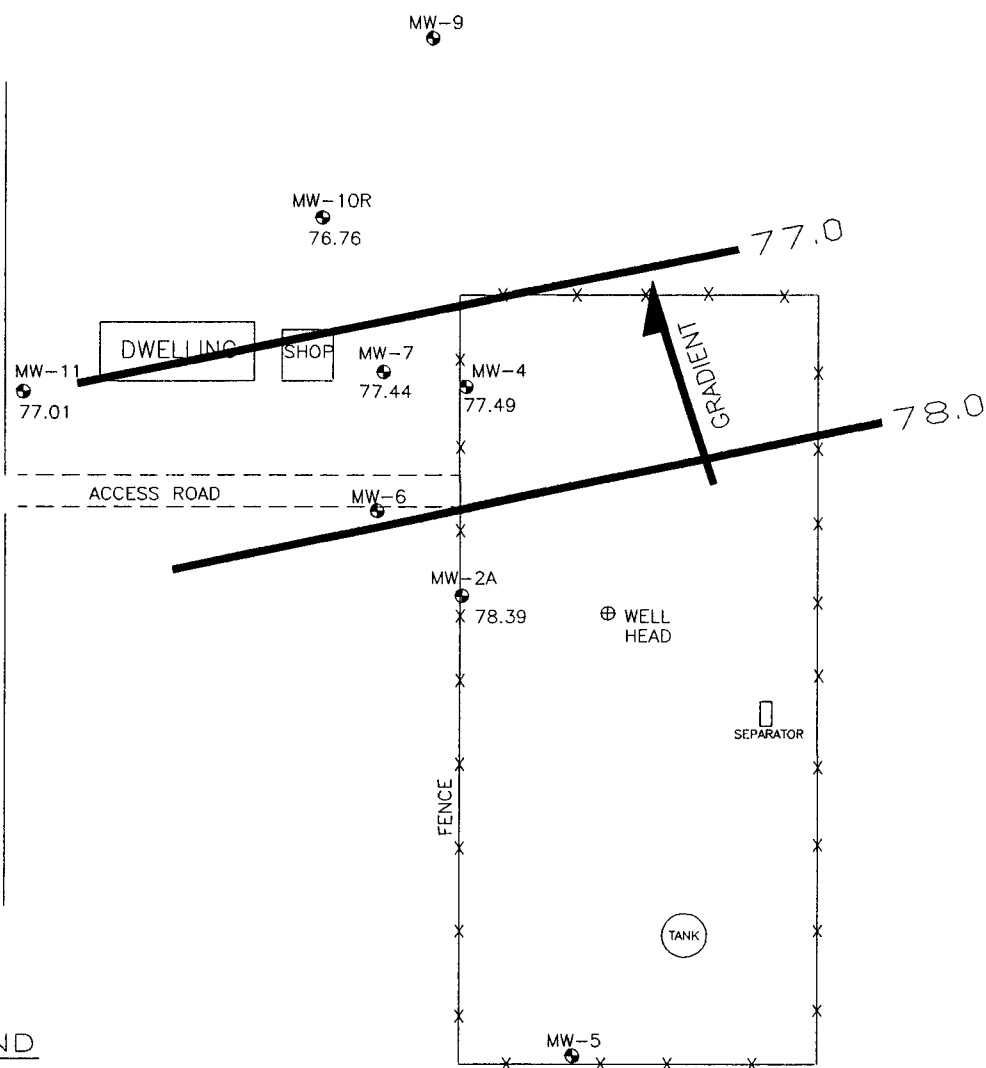
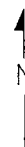
Jeffrey C. Blagg, P.E.

President

cc: Mr. Denny Foust, NMOCD
Mr. Buddy Shaw, BP-Amoco



BP-AMOCO GCU 162 WELL SITE SAN JUAN CO., NEW MEXICO January 2001	BLAGG ENGINEERING, INC. CONSULTING PETROLEUM / RECLAMATION SERVICES P.O. BOX 87 BLOOMFIELD, NEW MEXICO 87413 PHONE: (505) 632-1199	SITE PLAN	
		FIGURE 1	DRWN BY: JCB
		162REV	PROJ MGR: JCB



LEGEND

-  CONTOUR OF RELATIVE GW ELEVATION
-  MW-7
80.61 GROUNDWATER MONITOR WELL
W/ RELATIVE GW ELEVATION

0 100 200 FEET

BP-AMOCO
GCU 162 WELL SITE
SAN JUAN CO., NEW MEXICO

November 2000

BLAGG ENGINEERING, INC.
CONSULTING ENGINEERING SERVICES

P.O. BOX 87
BLOOMFIELD, NEW MEXICO 87413

PHONE:(505)632-1199

GW SURFACE
CONTOUR
11/29/00

FIGURE 2

DRWN BY:
JCB

162SITE6

PROJ MANG:
JCB

BLAGG ENGINEERING, INC.**MONITOR WELL SAMPLING DATA**CLIENT : BP AMOCOCHAIN-OF-CUSTODY # : 10362GCU COM F # 162LABORATORY (S) USED : ON - SITE TECH.

UNIT J, SEC. 36, T29N, R12W

Date : Februay 24, 2000SAMPLER : N J VFilename : 02-24-00.WK4PROJECT MANAGER : J C B

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)
2A	100.16	79.68	20.48	23.32	1150	7.6	1,500	1.50	-
4	98.88	78.72	20.16	24.09	1125	7.3	2,500	2.00	-
6	98.67	79.36	19.31	26.77	1110	7.4	2,600	3.75	-
7	97.39	78.70	18.69	25.30	1135	7.4	2,800	3.25	-
10R	90.56	78.98	11.58	18.40	1300	7.4	1,600	3.50	-
11	96.58	78.39	18.19	27.00	1250	7.6	900	4.50	-

NOTES : Volume of water purged from well prior to sampling: $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3 \text{ (wellbores)}$.(i.e. 2" MW $r = (1/12) \text{ ft}$. $h = 1 \text{ ft}$.) (i.e. 4" MW $r = (2/12) \text{ ft}$. $h = 1 \text{ ft}$.)

Ideally a minimum of three (3) wellbore volumes:

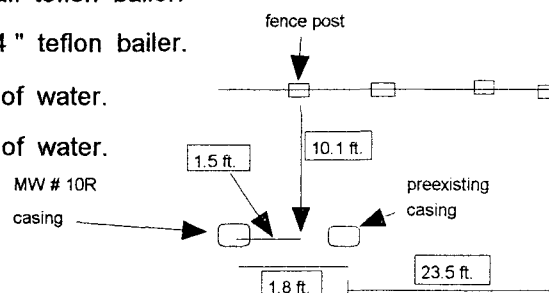
1.25 " well diameter = 0.19 gallons per foot of water (or 24 oz.).

2 bails per foot - small teflon bailer.

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

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

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

Comments or note well diameter if not standard 2".

Collected BTEX samples for all MW's listed above. BEI reclamation system operational @
time of sampling. Poor recovery in MW #'s 2A & 10R.

OFF: (505) 325-5667



LAB: (505) 325-1556

March 01, 2000

Nelson Velez
Blagg Engineering
P.O. Box 87
Bloomfield, NM 87413
TEL: (505) 632-1199
FAX (505) 632-3903

RE: BP Amoco- GCU Com F #162

Order No.: 0002055

Dear Nelson Velez,

On Site Technologies, LTD. received 6 samples on 2/24/2000 for the analyses presented in the following report.

The Samples were analyzed for the following tests:
Aromatic Volatiles by GC/PID (SW8021B)

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

A handwritten signature in black ink, appearing to be 'David Cox', written over a horizontal line.

David Cox

OFF: (505) 325-5667



LAB: (505) 325-1556

On Site Technologies, LTD.

Date: 01-Mar-00

CLIENT: Blagg Engineering
Project: BP Amoco- GCU Com F #162
Lab Order: 0002055

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 01-Mar-00

Client:	Blagg Engineering	Client Sample Info:	GCU Com F #162
Work Order:	0002055	Client Sample ID:	MW #2A
Lab ID:	0002055-01A	Matrix:	AQUEOUS
Project:	BP Amoco- GCU Com F #162	Collection Date:	2/24/2000 11:50:00 AM
		COC Record:	10362

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

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

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

1 of 1

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 01-Mar-00

Client:	Blagg Engineering	Client Sample Info:	GCU Com F #162
Work Order:	0002055	Client Sample ID:	MW #4
Lab ID:	0002055-02A	Matrix:	AQUEOUS
Project:	BP Amoco- GCU Com F #162	Collection Date:	2/24/2000 11:25:00 AM
		COC Record:	10362

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DM		
Benzene	ND	0.5		µg/L	1	2/29/2000
Toluene	ND	0.5		µg/L	1	2/29/2000
Ethylbenzene	3.5	0.5		µg/L	1	2/29/2000
m,p-Xylene	12	1		µg/L	1	2/29/2000
o-Xylene	ND	0.5		µg/L	1	2/29/2000

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 01-Mar-00

Client:	Blagg Engineering	Client Sample Info:	GCU Com F #162
Work Order:	0002055	Client Sample ID:	MW #6
Lab ID:	0002055-03A	Matrix:	AQUEOUS
Project:	BP Amoco- GCU Com F #162	Collection Date:	2/24/2000 11:10:00 AM
		COC Record:	10362

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

Qualifiers:

PQL - Practical Quantitation Limit
ND - Not Detected at Practical Quantitation Limit
J - Analyte detected below Practical Quantitation Limit
B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 01-Mar-00

Client:	Blagg Engineering	Client Sample Info:	GCU Com F #162
Work Order:	0002055	Client Sample ID:	MW #7
Lab ID:	0002055-04A	Matrix:	AQUEOUS
Project:	BP Amoco- GCU Com F #162	Collection Date:	2/24/2000 11:35:00 AM
		COC Record:	10362

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DM		
Benzene	0.8	0.5		µg/L	1	2/29/2000
Toluene	ND	0.5		µg/L	1	2/29/2000
Ethylbenzene	7.6	0.5		µg/L	1	2/29/2000
m,p-Xylene	24	1		µg/L	1	2/29/2000
o-Xylene	18	0.5		µg/L	1	2/29/2000

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 01-Mar-00

Client:	Blagg Engineering	Client Sample Info:	GCU Com F #162
Work Order:	0002055	Client Sample ID:	MW #10R
Lab ID:	0002055-05A	Matrix:	AQUEOUS
Project:	BP Amoco- GCU Com F #162	Collection Date:	2/24/2000 1:00:00 PM
		COC Record:	10362

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

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

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 01-Mar-00

Client:	Blagg Engineering	Client Sample Info:	GCU Com F #162
Work Order:	0002055	Client Sample ID:	MW #11
Lab ID:	0002055-06A	Matrix:	AQUEOUS
Project:	BP Amoco- GCU Com F #162	Collection Date:	2/24/2000 12:50:00 PM
		COC Record:	10362

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

Qualifiers:

PQL - Practical Quantitation Limit
ND - Not Detected at Practical Quantitation Limit
J - Analyte detected below Practical Quantitation Limit
B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
Surr: - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

On Site Technologies, LTD.

Date: 01-Mar-00

CLIENT: Blagg Engineering
Work Order: 0002055
Project: BP Amoco- GCU Com F #162

QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-1_000229	Test Code: SW8021B	Units: µg/L	Analysis Date 2/29/2000	Prep Date:						
Client ID:	0002055	Run ID: GC-1_000229A		SeqNo: 24671							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	.0873	0.5									J
Ethylbenzene	.0742	0.5									J
m,p-Xylene	.2172	1									J
Methyl tert-Butyl Ether	ND	1									J
o-Xylene	.0814	0.5									J
Toluene	.1879	0.5									J

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

On Site Technologies, LTD.

Date: 01-Mar-00

CLIENT: Blagg Engineering

Work Order: 0002055

Project: BP Amoco- GCU Com F #162

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 0002054-01AMS		Batch ID: GC-1_000229		Test Code: SW8021B		Units: µg/L		Analysis Date 2/29/2000		Prep Date:	
Client ID:		0002055		Run ID: GC-1_000229A				SeqNo: 24672			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	687	5	400	288.1	99.7%	73	126				
Ethylbenzene	531.7	5	400	134.6	99.3%	88	113				
m,p-Xylene	1964	10	800	1178	98.3%	83	112				
Methyl tert-Butyl Ether	402	10	400	0	100.5%	81	125				
o-Xylene	619.8	5	400	223.8	99.0%	93	110				
Toluene	1200	5	400	787	103.3%	76	126				

Sample ID: 0002054-01AMSD		Batch ID: GC-1_000229		Test Code: SW8021B		Units: µg/L		Analysis Date 2/29/2000		Prep Date:	
Client ID:		0002055		Run ID: GC-1_000229A				SeqNo: 24673			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	661.9	5	400	288.1	93.4%	73	126	687	3.7%	6	
Ethylbenzene	513.1	5	400	134.6	94.6%	88	113	531.7	3.6%	5	
m,p-Xylene	1894	10	800	1178	89.5%	83	112	1964	3.6%	7	
Methyl tert-Butyl Ether	393.2	10	400	0	98.3%	81	125	402	2.2%	9	
o-Xylene	620.4	5	400	223.8	99.2%	93	110	619.8	0.1%	6	
Toluene	1156	5	400	787	92.3%	76	126	1200	3.8%	6	

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 01-Mar-00

CLIENT: Blagg Engineering

Work Order: 0002055

Project: BP Amoco- GCU Com F #162

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS WATER		Batch ID: GC-1_000229	Test Code: SW8021B	Units: µg/L		Analysis Date 2/29/2000		Prep Date:	
Client ID:		0002055	Run ID: GC-1_000229A	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit
Analyte	Result								
Benzene	39.59		0.5	40	0.0873		98.8%	89	112
Ethylbenzene	40.28		0.5	40	0.0742		100.5%	93	112
m,p-Xylene	76.5		1	80	0.2172		95.4%	88	108
Methyl tert-Butyl Ether	39.41		1	40	0		98.5%	87	115
o-Xylene	40.09		0.5	40	0.0814		100.0%	93	112
Toluene	40.02		0.5	40	0.1879		99.6%	92	111

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 01-Mar-00

CLIENT: Blagg Engineering
Work Order: 0002055
Project: BP Amoco- GCU Com F #162

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1 BTEX_0001		Batch ID: GC-1_000229		Test Code: SW8021B		Units: µg/L		Analysis Date 2/29/2000		Prep Date:	
Client ID:		0002055		Run ID:		GC-1_000229A		SeqNo: 24665			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	19.78	0.5	20	0	98.9%	85	115				
Ethylbenzene	20.37	0.5	20	0	101.9%	85	115				
m,p-Xylene	38.43	1	40	0	96.1%	85	115				
Methyl tert-Butyl Ether	20.01	1	20	0	100.0%	85	115				
o-Xylene	20.25	0.5	20	0	101.2%	85	115				
Toluene	19.98	0.5	20	0	99.9%	85	115				
1,4-Difluorobenzene	89.73	0	100	0	89.7%	80	105				
4-Bromochlorobenzene	90.01	0	100	0	90.0%	78	108				
Fluorobenzene	88.26	0	100	0	88.3%	78	108				

Sample ID: CCV2 BTEX_0001		Batch ID: GC-1_000229	Test Code: SW8021B	Units: µg/L	Analysis Date 2/29/2000		Prep Date:				
Client ID:		Run ID:	GC-1_000229A		SeqNo:	24666					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	19.1	0.5	20	0	95.5%	85	115				
Ethylbenzene	19.64	0.5	20	0	98.2%	85	115				
m,p-Xylene	36.94	1	40	0	92.3%	85	115				
Methyl tert-Butyl Ether	19.41	1	20	0	97.0%	85	115				
o-Xylene	19.59	0.5	20	0	98.0%	85	115				
Toluene	19.28	0.5	20	0	96.4%	85	115				
1,4-Difluorobenzene	89.93	0	100	0	89.9%	80	105				
4-Bromochlorobenzene	90.04	0	100	0	90.0%	78	108				
Fluorobenzene	88.09	0	100	0	88.1%	78	108				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Blagg Engineering

Work Order: 0002055

Project: BP Amoco- GCU Com F #162

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV3 BTEX_0001		Batch ID: GC-1_000229	Test Code: SW8021B	Units: µg/L		Analysis Date 2/29/2000		Prep Date:			
Client ID:		0002055	Run ID: GC-1_000229A			SeqNo: 24667					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	38.44	0.5	40	0	96.1%	85	115				
Ethylbenzene	38.91	0.5	40	0	97.3%	85	115				
m,p-Xylene	73.62	1	80	0	92.0%	85	115				
Methyl tert-Butyl Ether	39.67	1	40	0	99.2%	85	115				
o-Xylene	38.98	0.5	40	0	97.5%	85	115				
Toluene	38.82	0.5	40	0	97.0%	85	115				
1,4-Difluorobenzene	89.07	0	100	0	89.1%	80	105				
4-Bromochlorobenzene	90.83	0	100	0	90.8%	78	108				
Fluorobenzene	87.69	0	100	0	87.7%	78	108				

Sample ID: CCV4 BTEX_0001		Batch ID: GC-1_000229		Test Code: SW8021B		Units: µg/L		Analysis Date 2/29/2000		Prep Date:	
Client ID:		0002055		Run ID: GC-1_000229A				SeqNo: 24668			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit Qual
Benzene		20.78	0.5	20	0	103.9%	85	115			
Ethylbenzene		21.36	0.5	20	0	106.8%	85	115			
m,p-Xylene		40.26	1	40	0	100.6%	85	115			
Methyl tert-Butyl Ether		17.61	1	20	0	88.1%	85	115			
o-Xylene		21.27	0.5	20	0	106.3%	85	115			
Toluene		20.96	0.5	20	0	104.8%	85	115			
1,4-Difluorobenzene		88.96	0	100	0	89.0%	80	105			
4-Bromochlorobenzene		88	0	100	0	88.0%	78	108			
Fluorobenzene		88.46	0	100	0	88.5%	78	108			

Qualifiers: ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Blagg Engineering
Work Order: 0002055
Project: BP Amoco- GCU Com F #162

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV5 BTEX_0001		Batch ID: GC-1_000229	Test Code: SW8021B		Units: µg/L		Analysis Date 2/29/2000		Prep Date:		
Client ID:		0002055	Run ID:	GC-1_000229A			SeqNo:	24669			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.23	0.5	20	0	101.2%	85	115				
Ethylbenzene	20.81	0.5	20	0	104.1%	85	115				
m,p-Xylene	39.26	1	40	0	98.2%	85	115				
Methyl tert-Butyl Ether	20.94	1	20	0	104.7%	85	115				
o-Xylene	20.83	0.5	20	0	104.2%	85	115				
Toluene	20.48	0.5	20	0	102.4%	85	115				
1,4-Difluorobenzene	90.04	0	100	0	90.0%	80	105				
4-Bromochlorobenzene	88.66	0	100	0	88.7%	78	108				
Fluorobenzene	88.26	0	100	0	88.3%	78	108				

On Site Technologies, LTD.

Date: 01-Mar-00

CLIENT: Blagg Engineering
Work Order: 0002055
Project: BP Amoco- GCU Com F #162
Test No: SW8021B

QC SUMMARY REPORT SURROGATE RECOVERIES

Aromatic Volatiles by GC/PID

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

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

* Surrogate recovery outside acceptance limits



CHAIN OF CUSTODY RECORD

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

Date: 2/24/00

Page: 1 of 1

Purchase Order No.:		Project No.		Name <u>Same</u>		Title	
SEND INVOICE TO		Name <u>ANILSON VELEZ</u>		Company			
		Company <u>BAGG ENGINEERING, INC.</u>		Mailing Address			
		Address <u>P.O. BOX 87</u>		City, State, Zip			
		City, State, Zip <u>Bloomfield, NM 87413</u>		Telephone No. <u>632-4499</u>		Telefax No. <u>632-3900</u>	
PROJECT LOCATION: <u>BP Amoco - GCA com T #162</u>				ANALYSIS REQUESTED			
SAMPLER'S SIGNATURE: <u>Alison Velez</u>							
SAMPLE IDENTIFICATION				LAB ID			
DATE	TIME	MATRIX	PRES.				
2/24/00	1150	WATER	COOL & HCL	2	01020155 - 011		
2/24/00	1125	WATER	COOL & HCL	2	- 012A		
2/24/00	1110	WATER	COOL & HCL	2	- 01A		
2/24/00	1135	WATER	COOL & HCL	2	- 011A		
2/24/00	1300	WATER	COOL & HCL	2	- 05A		
2/24/00	1250	WATER	COOL & HCL	2	- 06A		
Relinquished by: <u>Alison Velez</u>				Date/Time <u>2/24/00 1437</u>		Date/Time <u>2/24/00 1437</u>	
Relinquished by:				Date/Time		Date/Time	
Relinquished by:				Date/Time		Date/Time <u>2/23/00</u>	
Method of Shipment:				Rush		By Date <u>2/23/00</u>	
Authorized by: _____				Date _____		Special Instructions / Remarks: <u>Please see Results upon Amoco's Completion.</u>	
(Client Signature Must Accompany Request)				24-48 Hours		10 Working Days	

BLAGG ENGINEERING, INC.
MONITOR WELL SAMPLING DATA

CLIENT : BP AMOCO

CHAIN-OF-CUSTODY # : 10587

GCU COM F # 162

LABORATORY (S) USED : ON - SITE TECH.

UNIT J, SEC. 36, T29N, R12W

Date : May 23, 2000

SAMPLER : N J V

Filename : 05-23-00.WK4

PROJECT MANAGER : J C B

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)
2A	100.16	79.71	20.45	23.32	1120	7.8	1,500	1.50	-
4	98.88	78.74	20.14	24.09	1055	7.3	1,900	2.00	-
6	98.67	79.4	19.27	26.77	-	-	-	-	-
7	97.39	78.77	18.62	25.30	1110	7.3	2,500	3.25	-
10R	90.56	78.12	12.44	18.40	1155	7.0	1,700	3.00	-
11	96.58	78.55	18.03	27.00	-	-	-	-	-

NOTES : Volume of water purged from well prior to sampling: $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3 \text{ (wellbores)}$.
(i.e. 2" MW $r = (1/12) \text{ ft. } h = 1 \text{ ft.}$ (i.e. 4" MW $r = (2/12) \text{ ft. } h = 1 \text{ ft.}$)

Ideally a minimum of three (3) wellbore volumes:

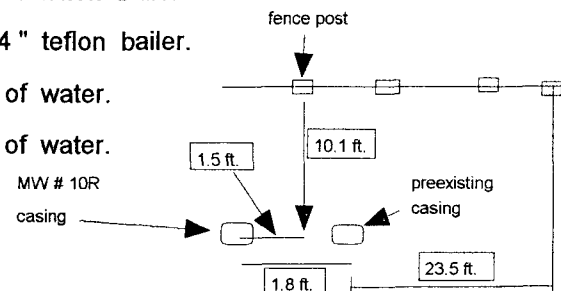
1.25 " well diameter = 0.19 gallons per foot of water (or 24 oz.).

2 bails per foot - small teflon bailer.

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

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

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



Comments or note well diameter if not standard 2"

Collected BTEX samples from MW #'s 2A, 4, 7, & 10R. BEI reclamation system operational @
time of sampling. Poor recovery in MW #'s 2A & 10R.

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Page: 1 of 1

TECHNOLOGIES, LTD.

Distribution: White - On Site	Yellow - LAB	Pink - Sampler	Goldenrod - Client
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OFF: (505) 325-5667
FAX: (505) 327-1496



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

ANALYTICAL REPORT

Date: 30-May-00

Client:	Blagg Engineering	Client Sample Info:	GCU Com F #162
Work Order:	0005056	Client Sample ID:	MW #2A
Lab ID:	0005056-01A	Matrix:	AQUEOUS
Project:	BP Amoco; GCU Com F #162	Collection Date:	5/23/2000 11:20:00 AM
		COC Record:	10587

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DM		
Benzene	ND	0.5		µg/L	1	5/24/2000
Toluene	ND	0.5		µg/L	1	5/24/2000
Ethylbenzene	0.8	0.5		µg/L	1	5/24/2000
m,p-Xylene	1.2	1		µg/L	1	5/24/2000
o-Xylene	ND	0.5		µg/L	1	5/24/2000

Qualifiers:

PQL - Practical Quantitation Limit
ND - Not Detected at Practical Quantitation Limit
J - Analyte detected below Practical Quantitation Limit
B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
Surr: - Surrogate

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

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



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

ANALYTICAL REPORT

Date: 30-May-00

Client:	Blagg Engineering	Client Sample Info:	GCU Com F #162
Work Order:	0005056	Client Sample ID:	MW #4
Lab ID:	0005056-02A	Matrix:	AQUEOUS
Project:	BP Amoco; GCU Com F #162	Collection Date:	5/23/2000 10:55:00 AM
		COC Record:	10587

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DM		
Benzene	ND	0.5		µg/L	1	5/24/2000
Toluene	1.4	0.5		µg/L	1	5/24/2000
Ethylbenzene	1.8	0.5		µg/L	1	5/24/2000
m,p-Xylene	1.1	1		µg/L	1	5/24/2000
o-Xylene	ND	0.5		µg/L	1	5/24/2000

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

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2 of 4

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



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

ANALYTICAL REPORT

Date: 30-May-00

Client:	Blagg Engineering	Client Sample Info:	GCU Com F #162
Work Order:	0005056	Client Sample ID:	MW #7
Lab ID:	0005056-03A	Matrix:	AQUEOUS
Project:	BP Amoco; GCU Com F #162	Collection Date:	5/23/2000 11:10:00 AM
		COC Record:	10587

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DM		
Benzene	ND	0.5		µg/L	1	5/24/2000
Toluene	7.1	0.5		µg/L	1	5/24/2000
Ethylbenzene	5.9	0.5		µg/L	1	5/24/2000
m,p-Xylene	14	1		µg/L	1	5/24/2000
o-Xylene	11	0.5		µg/L	1	5/24/2000

Qualifiers:

PQL - Practical Quantitation Limit
ND - Not Detected at Practical Quantitation Limit
J - Analyte detected below Practical Quantitation Limit
B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
Surr: - Surrogate

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



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

ANALYTICAL REPORT

Date: 30-May-00

Client:	Blagg Engineering	Client Sample Info:	GCU Com F #162
Work Order:	0005056	Client Sample ID:	MW #10R
Lab ID:	0005056-04A	Matrix:	AQUEOUS
Project:	BP Amoco; GCU Com F #162	Collection Date:	5/23/2000 11:55:00 AM
		COC Record:	10587

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
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AROMATIC VOLATILES BY GC/PID

SW8021B

Analyst: DM

Benzene	0.8	0.5		µg/L	1	5/24/2000
Toluene	ND	0.5		µg/L	1	5/24/2000
Ethylbenzene	ND	0.5		µg/L	1	5/24/2000
m,p-Xylene	ND	1		µg/L	1	5/24/2000
o-Xylene	ND	0.5		µg/L	1	5/24/2000

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

On Site Technologies, LTD.

Date: 30-May-00

CLIENT: Blagg Engineering

Work Order: 0005056

Project: BP Amoco; GCU Com F #162

QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-1_000524	Test Code: SW8021B	Units: µg/L	Analysis Date: 5/24/2000	Prep Date:
Client ID:	0005056	Run ID: GC-1_000524A		SeqNo: 28092	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	.2418	0.5			J
Ethylbenzene	.1025	0.5			J
m,p-Xylene	.2478	1			J
Methyl tert-Butyl Ether	ND	1			
o-Xylene	.1145	0.5			J
Toluene	.2237	0.5			J

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 30-May-00

CLIENT: Blagg Engineering
 Work Order: 0005056
 Project: BP Amoco; GCU Com F #162

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 0005053-01AMS			Batch ID: GC-1_000524		Test Code: SW8021B		Units: µg/L		Analysis Date: 5/24/2000			Prep Date:	
Client ID:			0005056		Run ID: GC-1_000524A				SeqNo: 28093				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Benzene	2901	5	400	2393	126.9%	73	126				ES		
Ethylbenzene	1023	5	400	599.5	105.8%	88	113				S		
m,p-Xylene	3010	10	800	2112	112.3%	83	112						
Methyl tert-Butyl Ether	645.4	10	400	222.2	105.8%	81	125				E		
o-Xylene	783.8	5	400	355.6	107.1%	93	110						
Toluene	2233	5	400	1763	117.4%	76	126						

Sample ID: 0005053-01AMSD		Batch ID: GC-1_000524		Test Code: SW8021B		Units: µg/L		Analysis Date: 5/24/2000			Prep Date:	
Client ID:		0005056		Run ID: GC-1_000524A				SeqNo: 28094				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Benzene	2788	5	400	2393	98.7%	73	126	2901	4.0%	6	E	
Ethylbenzene	983.6	5	400	599.5	96.0%	88	113	1023	3.9%	5		
m,p-Xylene	2894	10	800	2112	97.7%	83	112	3010	3.9%	7		
Methyl tert-Butyl Ether	633.8	10	400	222.2	102.9%	81	125	645.4	1.8%	9		
o-Xylene	764.9	5	400	355.6	102.3%	93	110	783.8	2.4%	6		
Toluene	2147	5	400	1763	95.9%	76	126	2233	3.9%	6	E	

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 30-May-00

CLIENT: Blagg Engineering
Work Order: 0005056
Project: BP Amoco; GCU Com F #162

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS WATER		Batch ID: GC-1_000524		Test Code: SW8021B		Units: µg/L		Analysis Date: 5/24/2000		Prep Date:	
Client ID:		0005056		Run ID: GC-1_000524A				SeqNo: 28091			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	41.68	0.5	40	0.2418	103.6%	89	112				
Ethylbenzene	41.22	0.5	40	0.1025	102.8%	93	112				
m,p-Xylene	78.64	1	80	0.2478	98.0%	88	108				
Methyl tert-Butyl Ether	40.9	1	40	0	102.2%	87	115				
o-Xylene	41.03	0.5	40	0.1145	102.3%	93	112				
Toluene	41.32	0.5	40	0.2237	102.7%	92	111				

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

On Site Technologies, LTD.

Date: 30-May-00

QC SUMMARY REPORT

Continuing Calibration Verification Standard

CLIENT: Blagg Engineering
 Work Order: 0005056
 Project: BP Amoco; GCU Com F #162

Sample ID: CCV1 BTEX_0004		Batch ID: GC-1_000524		Test Code: SW8021B		Units: µg/L		Analysis Date: 5/24/2000		Prep Date:		
Client ID:		0005056		Run ID:		GC-1_000524A		SeqNo: 28088				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene		21.4	0.5	20	0	107.0%	85	115				
Ethylbenzene		21.3	0.5	20	0	106.5%	85	115				
m,p-Xylene		40.36	1	40	0	100.9%	85	115				
Methyl tert-Butyl Ether		20.88	1	20	0	104.4%	85	115				
o-Xylene		21.31	0.5	20	0	106.5%	85	115				
Toluene		21.06	0.5	20	0	105.3%	85	115				
1,4-Difluorobenzene		90.77	0	100	0	90.8%	80	105				
4-Bromochlorobenzene		88.51	0	100	0	88.5%	78	108				
Fluorobenzene		90.69	0	100	0	90.7%	78	108				

Sample ID: CCV2 BTEX_0004		Batch ID: GC-1_000524		Test Code: SW8021B		Units: µg/L		Analysis Date: 5/24/2000		Prep Date:	
Client ID:		0005056		Run ID:		GC-1_000524A		SeqNo: 28089			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.59	0.5	20	0	103.0%	85	115				
Ethylbenzene	20.61	0.5	20	0	103.1%	85	115				
m,p-Xylene	38.95	1	40	0	97.4%	85	115				
Methyl tert-Butyl Ether	21.51	1	20	0	107.5%	85	115				
o-Xylene	20.66	0.5	20	0	103.3%	85	115				
Toluene	20.38	0.5	20	0	101.9%	85	115				
1,4-Difluorobenzene	90.07	0	100	0	90.1%	80	105				
4-Bromochlorobenzene	87	0	100	0	87.0%	78	108				
Fluorobenzene	90.06	0	100	0	90.1%	78	108				

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Blagg Engineering
Work Order: 0005056
Project: BP Amoco; GCU Com F #162

QC SUMMARY REPORT
 Continuing Calibration Verification Standard

Sample ID: CCV3 BTEX_0004	Batch ID: GC-1_000524	Test Code: SW8021B	Units: µg/L	Analysis Date: 5/24/2000	Prep Date:
Client ID: 0005056	Run ID: GC-1_000524A	PQL	SPK value	SeqNo: 28090	
Analyte	Result	PQL	SPK value	SPK Ref Val	LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	40.45	0.5	40	0	85 115 101.1%
Ethylbenzene	39.88	0.5	40	0	85 115 99.7%
m,p-Xylene	75.55	1	80	0	85 115 94.4%
Methyl tert-Butyl Ether	42.77	1	40	0	85 115 106.9%
o-Xylene	39.98	0.5	40	0	85 115 99.9%
Toluene	40.07	0.5	40	0	85 115 100.2%
1,4-Difluorobenzene	89.05	0	100	0	80 105 89.0%
4-Bromochlorobenzene	88.07	0	100	0	78 108 88.1%
Fluorobenzene	89.28	0	100	0	78 108 89.3%

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

2 of 2

On Site Technologies, LTD.

Date: 30-May-00

CLIENT: Blagg Engineering
Work Order: 0005056
Project: BP Amoco; GCU Com F #162
Test No: SW8021B

QC SUMMARY REPORT SURROGATE RECOVERIES

Aromatic Volatiles by GC/PID

Sample ID	14FBZ	4BCBZ	FLBZ					
0005053-01A	88	90.3	87.5					
0005053-01AMS	88.3	89.4	87.3					
0005053-01AMSD	88	88.4	87.4					
0005053-03A	89.9	87.6	90.6					
0005055-01A	89.8	88.9	90.7					
0005055-02A	90.6	89.1	91.6					
0005055-03A	99.5	88.7	94.4					
0005055-04A	102	89.4	93.3					
0005055-05A	91.3	86.8	90.5					
0005055-06A	90.5	88.8	91.2					
0005055-07A	89.8	87.4	90.3					
0005055-08A	89.5	87.7	90.9					
0005055-09A	87.4	87	88.3					
0005055-10A	89.6	88.2	90.8					
0005055-11A	89.9	88.6	90.7					
0005055-12A	90.8	88.2	92.1					
0005056-01A	89	87.3	89.4					
0005056-02A	89.6	88.1	90.8					
0005056-03A	88.8	87.1	91.1					
0005056-04A	90.7	88.4	90.7					
CCV1 BTEX_00040	90.8	88.5	90.7					
CCV2 BTEX_00040	90.1	87	90					
CCV3 BTEX_00040	89	88.1	89.3					
LCS WATER	89.3	89.5	89.2					
MBI	91	87.5	91.4					

Acronym

Surrogate

QC Limits

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

BLAGG ENGINEERING, INC.**MONITOR WELL SAMPLING DATA**CLIENT : BP AMOCOCHAIN-OF-CUSTODY # : 10769GCU COM F # 162LABORATORY (S) USED : ON - SITE TECH.

UNIT J, SEC. 36, T29N, R12W

Date : September 8, 2000SAMPLER : N J VFilename : 09-08-00.WK4PROJECT MANAGER : J C B

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)
2A	100.16	78.8	21.36	23.32	1000	8.2	1,800	1.00	-
4	98.88	77.89	20.99	24.09	1030	7.8	2,200	1.50	-
6	98.67	-	-	26.77	-	-	-	-	-
7	97.39	77.85	19.54	25.30	1100	7.4	2,500	3.00	-
10R	90.56	77.29	13.27	18.40	1130	7.1	1,800	2.50	-
11	96.58	77.55	19.03	27.00	-	-	-	-	-

NOTES : Volume of water purged from well prior to sampling; $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3 \text{ (wellbores)}$.(i.e. 2" MW $r = (1/12) \text{ ft}$. $h = 1 \text{ ft}$.) (i.e. 4" MW $r = (2/12) \text{ ft}$. $h = 1 \text{ ft}$.)

Ideally a minimum of three (3) wellbore volumes:

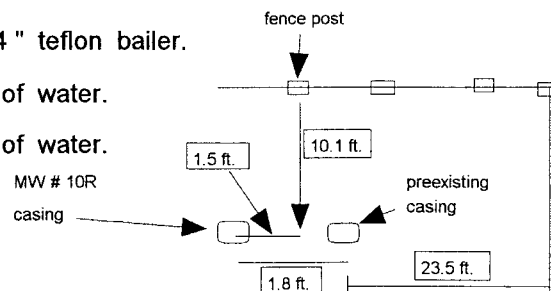
1.25 " well diameter = 0.19 gallons per foot of water (or 24 oz.).

2 bails per foot - small teflon bailer.

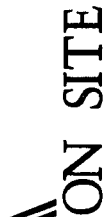
3 bails per foot - 3 / 4 " teflon bailer.

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

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

Comments or note well diameter if not standard 2 "

Collected BTEX samples from MW #'s 2A, 4, 7, & 10R . BEI reclamation system operational @
time of sampling . Poor recovery in MW #'s 2A & 10R .



10

Page: 1 of 1

Page: 1 of 1

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

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



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

ANALYTICAL REPORT

Date: 20-Sep-00

Client:	Blagg Engineering	Client Sample Info:	GCU Com F #162
Work Order:	0009016	Client Sample ID:	MW #2A
Lab ID:	0009016-01A	Matrix:	AQUEOUS
Project:	BP Amoco; GCU Com F #162	Collection Date:	9/8/2000 10:00:00 AM
		COC Record:	10769

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DM		
Benzene	ND	0.5		µg/L	1	9/11/2000
Toluene	ND	0.5		µg/L	1	9/11/2000
Ethylbenzene	1.3	0.5		µg/L	1	9/11/2000
m,p-Xylene	1.1	1		µg/L	1	9/11/2000
o-Xylene	ND	0.5		µg/L	1	9/11/2000

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

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667
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LAB: (505) 325-1556
FAX: (505) 327-1496

ANALYTICAL REPORT

Date: 20-Sep-00

Client:	Blagg Engineering	Client Sample Info:	GCU Com F #162
Work Order:	0009016	Client Sample ID:	MW #4
Lab ID:	0009016-02A	Matrix:	AQUEOUS
Project:	BP Amoco; GCU Com F #162	Collection Date:	9/8/2000 10:30:00 AM
		COC Record:	10769

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DM		
Benzene	ND	0.5		µg/L	1	9/11/2000
Toluene	ND	0.5		µg/L	1	9/11/2000
Ethylbenzene	2.5	0.5		µg/L	1	9/11/2000
m,p-Xylene	ND	1		µg/L	1	9/11/2000
o-Xylene	ND	0.5		µg/L	1	9/11/2000

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

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

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



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

ANALYTICAL REPORT

Date: 20-Sep-00

Client:	Blagg Engineering	Client Sample Info:	GCU Com F #162
Work Order:	0009016	Client Sample ID:	MW #7
Lab ID:	0009016-03A	Matrix:	AQUEOUS
Project:	BP Amoco; GCU Com F #162	Collection Date:	9/8/2000 11:00:00 AM
		COC Record:	10769

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DM		
Benzene	2.2	0.5		µg/L	1	9/18/2000
Toluene	ND	0.5		µg/L	1	9/18/2000
Ethylbenzene	12	0.5		µg/L	1	9/18/2000
m,p-Xylene	16	1		µg/L	1	9/18/2000
o-Xylene	12	0.5		µg/L	1	9/18/2000

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

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

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



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

ANALYTICAL REPORT

Date: 20-Sep-00

Client:	Blagg Engineering	Client Sample Info:	GCU Com F #162
Work Order:	0009016	Client Sample ID:	MW #10R
Lab ID:	0009016-04A	Matrix:	AQUEOUS
Project:	BP Amoco; GCU Com F #162	Collection Date:	9/8/2000 11:30:00 AM
		COC Record:	10769

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DM		
Benzene	ND	0.5		µg/L	1	9/11/2000
Toluene	ND	0.5		µg/L	1	9/11/2000
Ethylbenzene	ND	0.5		µg/L	1	9/11/2000
m,p-Xylene	ND	1		µg/L	1	9/11/2000
o-Xylene	ND	0.5		µg/L	1	9/11/2000

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

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

On Site Technologies, LTD.

Date: 20-Sep-00

CLIENT: Blagg Engineering
 Work Order: 0009016
 Project: BP Amoco; GCU Com F #162

QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-1_000911	Test Code: SW8021B	Units: µg/L	Analysis Date 9/11/2000	Prep Date:
Client ID:	0009016	Run ID: GC-1_000911A		SeqNo: 31222	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	.063	0.5			J
Ethylbenzene	.0932	0.5			J
m,p-Xylene	.1753	1			J
Methyl tert-Butyl Ether	ND	1			
o-Xylene	.087	0.5			J
Toluene	.1631	0.5			J

Sample ID: MB1	Batch ID: GC-1_000918	Test Code: SW8021B	Units: µg/L	Analysis Date 9/18/2000	Prep Date:
Client ID:	0009016	Run ID: GC-1_000918A		SeqNo: 31258	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	ND	0.5			
Ethylbenzene	ND	0.5			
m,p-Xylene	ND	1			
Methyl tert-Butyl Ether	ND	1			
o-Xylene	ND	0.5			
Toluene	.0826	0.5			J

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank
 I of 1

On Site Technologies, LTD.

Date: 20-Sep-00

CLIENT: Blagg Engineering
 Work Order: 0009016
 Project: BP Amoco; GCU Com F #162

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 0009006-01AMS		Batch ID: GC-1_000911		Test Code: SW8021B		Units: µg/L		Analysis Date 9/11/2000		Prep Date:	
Client ID:		0009016		Run ID: GC-1_000911A				SeqNo: 31223			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	51.19	0.5	40	9.907	103.2%	88	112				
Ethylbenzene	82.12	0.5	40	41.56	101.4%	86	113				
m,p-Xylene	99.14	1	80	18.78	100.5%	85	108				
Methyl tert-Butyl Ether	43.01	1	40	0	107.5%	86	117				
o-Xylene	61.24	0.5	40	20.71	101.3%	92	110				
Toluene	50.85	0.5	40	10.19	101.6%	88	116				

Sample ID: 0009006-01AMSD		Batch ID: GC-1_000911	Test Code: SW8021B	Units: µg/L	Analysis Date 9/11/2000				Prep Date:		
Client ID: 0009016		Run ID: GC-1_000911A	SeqNo: 31224								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	50.21	0.5	40	9.907	100.8%	88	112	48.83	2.8%	6	
Ethylbenzene	80.65	0.5	40	41.56	97.7%	86	113	82.24	1.9%	6	
m,p-Xylene	97.51	1	80	18.78	98.4%	85	108	99.1	1.6%	6	
Methyl tert-Butyl Ether	42.77	1	40	0	106.9%	86	117	40.02	6.6%	7	
o-Xylene	60.2	0.5	40	20.71	98.7%	92	110	61.4	2.0%	6	
Toluene	49.9	0.5	40	10.19	99.3%	88	116	50.22	0.6%	6	

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

CLIENT: Blagg Engineering
Work Order: 0009016
Project: BP Amoco; GCU Com F #162

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 0009019-04AMS		Batch ID: GC-1_000918		Test Code: SW8021B		Units: µg/L		Analysis Date 9/18/2000		Prep Date:	
Client ID:		0009016		Run ID: GC-1_000918A				SeqNo: 31259			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	437	5	400	46.21	97.7%	88	112				
Ethylbenzene	425.2	5	400	19.04	101.6%	86	113				
m,p-Xylene	1386	10	800	604.1	97.7%	85	108				
Methyl tert-Butyl Ether	430.5	10	400	0	107.6%	86	117				
o-Xylene	439.2	5	400	1.64	109.4%	92	110				
Toluene	414.6	5	400	11.6	100.8%	88	116				

Sample ID: 0009019-04AMSD		Batch ID: GC-1_000918		Test Code: SW8021B		Units: µg/L		Analysis Date 9/18/2000		Prep Date:	
Client ID:		0009016		Run ID: GC-1_000918A				SeqNo: 31260			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	433.4	5	400	46.21	96.8%	88	112	437	0.8%	6	
Ethylbenzene	422.3	5	400	19.04	100.8%	86	113	425.2	0.7%	6	
m,p-Xylene	1380	10	800	604.1	97.0%	85	108	1386	0.4%	6	
Methyl tert-Butyl Ether	434.2	10	400	0	108.6%	86	117	430.5	0.9%	7	
o-Xylene	426.5	5	400	1.64	106.2%	92	110	439.2	2.9%	6	
Toluene	410.6	5	400	11.6	99.7%	88	116	414.6	1.0%	6	

On Site Technologies, LTD.

Date: 20-Sep-00

CLIENT: Blagg Engineering
Work Order: 0009016
Project: BP Amoco; GCU Com F #162

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS WATER		Batch ID: GC-1_000911	Test Code: SW8021B	Units: µg/L	Analysis Date 9/11/2000		Prep Date:				
Client ID:	0009016	Run ID:	GC-1_000911A		SeqNo:	31220					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	41.61	0.5	40	0.063	103.9%	96	111				
Ethylbenzene	41.84	0.5	40	0.0932	104.4%	96	111				
m,p-Xylene	82.06	1	80	0.1753	102.4%	92	105				
Methyl tert-Butyl Ether	41.7	1	40	0	104.2%	93	113				
o-Xylene	40.98	0.5	40	0.087	102.2%	97	110				
Toluene	40.9	0.5	40	0.1631	101.8%	97	109				

Sample ID: LCS WATER		Batch ID: GC-1_000918	Test Code: SW8021B	Units: µg/L	Analysis Date 9/18/2000		Prep Date:				
Client ID:		0009016	Run ID: GC-1_000918A		SeqNo:	31257					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	39.98	0.5	40	0	99.9%	96	111				
Ethylbenzene	40.95	0.5	40	0	102.4%	96	111				
m,p-Xylene	80.24	1	80	0	100.3%	92	105				
Methyl tert-Butyl Ether	42.47	1	40	0	106.2%	93	113				
o-Xylene	40.15	0.5	40	0	100.4%	97	110				
Toluene	39.83	0.5	40	0.0826	99.4%	97	109				

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

On Site Technologies, LTD.

Date: 20-Sep-00

CLIENT: Blagg Engineering

Work Order: 0009016

Project: BP Amoco; GCU Com F #162

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1 BTEX_0007		Batch ID: GC-1_000911	Test Code: SW8021B	Units: µg/L		Analysis Date 9/11/2000		Prep Date:			
Client ID:		0009016	Run ID:	GC-1_000911A	SeqNo: 31218						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.66	0.5	20	0	108.3%	85	115				
Ethylbenzene	22.24	0.5	20	0	111.2%	85	115				
m,p-Xylene	43.81	1	40	0	109.5%	85	115				
Methyl tert-Butyl Ether	21.74	1	20	0	108.7%	85	115				
o-Xylene	22.03	0.5	20	0	110.2%	85	115				
Toluene	21.5	0.5	20	0	107.5%	85	115				
1,4-Difluorobenzene	87.18	0	100	0	87.2%	79	101				
4-Bromochlorobenzene	90.32	0	100	0	90.3%	78	99				
Fluorobenzene	85.67	0	100	0	85.7%	76	103				

Sample ID: CCV2 BTEX_0007		Batch ID: GC-1_000911	Test Code: SW8021B	Units: µg/L	Analysis Date 9/11/2000		Prep Date:				
Client ID:		0009016	Run ID:	GC-1_000911A	SeqNo: 31219						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.01	0.5	20	0	105.0%	85	115				
Ethylbenzene	21.4	0.5	20	0	107.0%	85	115				
m,p-Xylene	42.24	1	40	0	105.6%	85	115				
Methyl tert-Butyl Ether	21.75	1	20	0	108.7%	85	115				
o-Xylene	21.18	0.5	20	0	105.9%	85	115				
Toluene	20.84	0.5	20	0	104.2%	85	115				
1,4-Difluorobenzene	87.34	0	100	0	87.3%	79	101				
4-Bromochlorobenzene	89.74	0	100	0	89.7%	78	99				
Fluorobenzene	85.47	0	100	0	85.5%	76	103				

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Blagg Engineering
Work Order: 0009016
Project: BP Amoco; GCU Com F #162

QC SUMMARY REPORT
 Continuing Calibration Verification Standard

Sample ID: CCV1 BTEX_0007		Batch ID: GC-1_000918	Test Code: SW8021B	Units: µg/L	Analysis Date 9/18/2000		Prep Date:				
Client ID: 0009016		Run ID: GC-1_000918A	SeqNo: 31254								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.06	0.5	20	0	105.3%	85	115				
Ethylbenzene	21.53	0.5	20	0	107.7%	85	115				
m,p-Xylene	42.36	1	40	0	105.9%	85	115				
Methyl tert-Butyl Ether	22.51	1	20	0	112.5%	85	115				
o-Xylene	21.37	0.5	20	0	106.9%	85	115				
Toluene	20.98	0.5	20	0	104.9%	85	115				
1,4-Difluorobenzene	86.05	0	100	0	86.0%	79	101				
4-Bromochlorobenzene	91.15	0	100	0	91.2%	78	99				
Fluorobenzene	84.39	0	100	0	84.4%	76	103				

Sample ID: CCV2 BTEX_0007		Batch ID: GC-1_000918		Test Code: SW8021B		Units: µg/L		Analysis Date 9/18/2000		Prep Date:	
Client ID:		0009016		Run ID:		GC-1_000918A		SeqNo: 31255			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.19	0.5	20	0	100.9%	85	115				
Ethylbenzene	20.48	0.5	20	0	102.4%	85	115				
m,p-Xylene	40.61	1	40	0	101.5%	85	115				
Methyl tert-Butyl Ether	22.19	1	20	0	111.0%	85	115				
o-Xylene	20.32	0.5	20	0	101.6%	85	115				
Toluene	20.12	0.5	20	0	100.6%	85	115				
1,4-Difluorobenzene	85.97	0	100	0	86.0%	79	101				
4-Bromochlorobenzene	89.68	0	100	0	89.7%	78	99				
Fluorobenzene	84.58	0	100	0	84.6%	76	103				

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

CLIENT: Blagg Engineering

Work Order: 0009016

Project: BP Amoco; GCU Com F #162

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV3 BTEX_0007 Batch ID: GC-1_000918 Test Code: SW8021B Units: µg/L Analysis Date 9/18/2000 Prep Date:

Client ID: 0009016 Run ID: GC-1_000918A SeqNo: 31256

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	38.84	0.5	40	0	97.1%	85	115				
Ethylbenzene	39.44	0.5	40	0	98.6%	85	115				
m,p-Xylene	77.84	1	80	0	97.3%	85	115				
Methyl tert-Butyl Ether	42.93	1	40	0	107.3%	85	115				
o-Xylene	38.89	0.5	40	0	97.2%	85	115				
Toluene	38.87	0.5	40	0	97.2%	85	115				
1,4-Difluorobenzene	86.1	0	100	0	86.1%	79	101				
4-Bromochlorobenzene	90	0	100	0	90.0%	78	99				
Fluorobenzene	84.12	0	100	0	84.1%	76	103				

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

CLIENT: Blagg Engineering
 Work Order: 0009016
 Project: BP Amoco; GCU Com F #162
 Test No: SW8021B

QC SUMMARY REPORT SURROGATE RECOVERIES

Aromatic Volatiles by GC/PID

Sample ID	14FBZ	4BCBZ	FLBZ					
0009006-01A	87	90.6	86					
0009006-01AMS	86.3	89.1	84.8					
0009006-01AMSD	86.5	89.4	85					
0009008-10A	87.1	89.6	86.2					
0009008-12A	85.9	89.2	85.1					
0009016-01A	85.4	87.4	85.6					
0009016-02A	86.3	89.4	85.9					
0009016-03A	83.8	88	86.2					
0009016-04A	87.9	89.5	86.1					
0009017-01A	85.9	88.3	84.3					
0009019-01A	86.3	94.2	84.8					
0009019-03A	85.8	90.1	85.6					
0009019-04A	85.6	89.6	84.4					
0009019-04AMS	84.6	91.1	83					
0009019-04AMSD	85.6	91.2	84.4					
0009021-01A	86.3	91.4	84.8					
0009021-02A	87	89.4	84.8					
0009021-03A	86.3	91	85.3					
0009021-04A	87.1	89.8	85.1					
0009021-05A	86.4	89.7	85.3					
0009021-06A	86.3	90.8	84.2					
0009021-07A	85.8	89.2	84.1					
0009024-01A	85.7	89	84.4					
0009024-03A	85	89.2	83					
0009026-01A	86.4	91.9	84.8					
0009026-02A	85.4	90.2	83.2					
0009026-03A	87.5	88.3	85.2					

Acronym

Surrogate

QC Limits

14FBZ

= 1,4-Difluorobenzene

79-101

4BCBZ

= 4-Bromochlorobenzene

78-99

FLBZ

= Fluorobenzene

76-103

* Surrogate recovery outside acceptance limits

CLIENT: Blagg Engineering
Work Order: 0009016
Project: BP Amoco; GCU Com F #162
Test No: SW8021B

QC SUMMARY REPORT SURROGATE RECOVERIES

Aromatic Volatiles by GC/PID

Sample ID	14FBZ	4BCBZ	FLBZ					
CCV1 BTEX_00070	86	91.2	84.4					
CCV2 BTEX_00070	86	89.7	84.6					
CCV3 BTEX_00070	86.1	90	84.1					
LCS WATER	86.4	91.8	83.6					
MB1	86.8	90.8	84.7					

Acronym	Surrogate	QC Limits
14FBZ	= 1,4-Difluorobenzene	79-101
4BCBZ	= 4-Bromochlorobenzene	78-99
FLBZ	= Fluorobenzene	76-103

* Surrogate recovery outside acceptance limits

BLAGG ENGINEERING, INC.**MONITOR WELL SAMPLING DATA**CLIENT : BP AMOCOCHAIN-OF-CUSTODY # : 10345GCU COM F # 162LABORATORY (S) USED : ON - SITE TECH.

UNIT J, SEC. 36, T29N, R12W

Date : November 29, 2000SAMPLER : N J VFilename : 11-29-00.WK4PROJECT MANAGER : J C B

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)
2A	100.16	78.39	21.77	23.32	1430	8.3	1,900	0.75	-
4	98.88	77.49	21.39	24.09	1345	7.5	2,300	1.50	-
6	98.67	-	-	26.77	-	-	-	-	-
7	97.39	77.44	19.95	25.30	1415	7.3	2,600	2.75	-
10R	90.56	76.76	13.80	18.40	1500	7.2	1,800	2.25	-
11	96.58	77.01	19.57	27.00	-	-	-	-	-

NOTES : Volume of water purged from well prior to sampling; $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3 \text{ (wellbores)}$.
(i.e. 2" MW $r = (1/12) \text{ ft}$. $h = 1 \text{ ft}$.) (i.e. 4" MW $r = (2/12) \text{ ft}$. $h = 1 \text{ ft}$.)

Ideally a minimum of three (3) wellbore volumes:

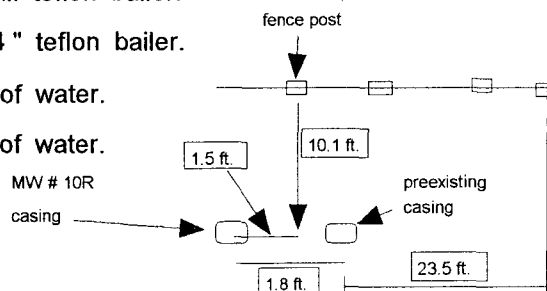
1.25 " well diameter = 0.19 gallons per foot of water (or 24 oz.).

2 bails per foot - small teflon bailer.

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

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

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

Comments or note well diameter if not standard 2".

Collected BTEX samples from MW #'s 2A, 4, 7, & 10R. BEI reclamation system operational @
time of sampling. Poor recovery in MW #'s 2A & 10R.



CHAIN OF CUSTODY RECORD

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

Date: 11/29/00

Page: 1 of 1

Purchase Order No.:		Project No.	
Name: <u>JEFF BLAGE</u>		Title:	
Company: <u>BLAGE ENGINEERING, INC.</u>		Company: <u>NAME</u>	
Address:		Mailing Address:	
City, State, Zip:		City, State, Zip:	
Telephone No.:		Telephone No.:	
Telefax No.:		Telefax No.:	
ANALYSIS REQUESTED			
REPORT RESULTS TO		Number of Containers	
Name: <u>ALBERT VELA</u>		LAB ID	
Company: <u>NAME</u>			
Mailing Address:			
City, State, Zip:			
Telephone No.:			
Telefax No.:			
PROJECT LOCATION:			
<u>BP - Gas com F #162</u>			
SAMPLER'S SIGNATURE: <u>Albert Vela</u>			
SAMPLE IDENTIFICATION			
DATE	TIME	MATRIX	PRES.
11/29/00	1430	WATER	HCl & SO ₄
11/29/00	1745	WATER	HCl & SO ₄
11/29/00	1415	WATER	HCl & SO ₄
11/29/00	1500	WATER	HCl & SO ₄
Relinquished by: <u>Albert Vela</u> Date/Time: <u>11/29/00 1534</u>			
Relinquished by: _____ Date/Time: _____			
Relinquished by: _____ Date/Time: _____			
Method of Shipment: _____			
Special Instructions / Remarks:			
Authorized by: _____ Date: _____			
(Client Signature <u>Must</u> Accompany Request)			

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



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

December 15, 2000

Nelson Velez
Blagg Engineering
P.O. Box 87
Bloomfield, NM 87413
TEL: (505) 632-1199
FAX (505) 632-3903

RE: BP - GCU Com F #162

Order No.: 0011050

Dear Nelson Velez,

On Site Technologies, LTD. received 4 samples on 11/29/2000 for the analyses presented in the following report.

The Samples were analyzed for the following tests:
Aromatic Volatiles by GC/PID (SW8021B)

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

A handwritten signature in black ink, appearing to be 'David Cox', written over a horizontal line.

David Cox

P.O. BOX 2606 • FARMINGTON, NM 87499

EMAIL: ONSITE@ONSITELTD.COM

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

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



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

On Site Technologies, LTD.

Date: 15-Dec-00

CLIENT: Blagg Engineering
Project: BP - GCU Com F #162
Lab Order: 0011050

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition.

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.

Any quality control and/or data qualifiers associated with this laboratory order will be flagged in the analytical result page(s) or the quality control summary report(s).

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



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

ANALYTICAL REPORT

Date: 15-Dec-00

Client:	Blagg Engineering	Client Sample Info:	GCU Com F #162
Work Order:	0011050	Client Sample ID:	MW #2A
Lab ID:	0011050-01A	Matrix:	AQUEOUS
Project:	BP - GCU Com F #162	Collection Date:	11/29/2000 2:30:00 PM
		COC Record:	10345

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DC		
Benzene	ND	0.5		µg/L	1	12/5/2000
Toluene	ND	0.5		µg/L	1	12/5/2000
Ethylbenzene	1.2	0.5		µg/L	1	12/5/2000
m,p-Xylene	2.3	1		µg/L	1	12/5/2000
o-Xylene	0.5	0.5		µg/L	1	12/5/2000

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

1 of 4

P.O. BOX 2606 • FARMINGTON, NM 87499

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667
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LAB: (505) 325-1556
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ANALYTICAL REPORT

Date: 15-Dec-00

Client:	Blagg Engineering	Client Sample Info:	GCU Com F #162
Work Order:	0011050	Client Sample ID:	MW #4
Lab ID:	0011050-02A	Matrix:	AQUEOUS
Project:	BP - GCU Com F #162	Collection Date:	11/29/2000 1:45:00 PM
		COC Record:	10345

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DC		
Benzene	ND	0.5		µg/L	1	12/5/2000
Toluene	2.4	0.5		µg/L	1	12/5/2000
Ethylbenzene	7.5	0.5		µg/L	1	12/5/2000
m,p-Xylene	5.4	1		µg/L	1	12/5/2000
o-Xylene	ND	0.5		µg/L	1	12/5/2000

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

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ANALYTICAL REPORT

Date: 15-Dec-00

Client:	Blagg Engineering	Client Sample Info:	GCU Com F #162
Work Order:	0011050	Client Sample ID:	MW #7
Lab ID:	0011050-03A	Matrix:	AQUEOUS
Project:	BP - GCU Com F #162	Collection Date:	11/29/2000 2:15:00 PM
		COC Record:	10345

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DC		
Benzene	1	0.5		µg/L	1	12/5/2000
Toluene	ND	0.5		µg/L	1	12/5/2000
Ethylbenzene	6.4	0.5		µg/L	1	12/5/2000
m,p-Xylene	12	1		µg/L	1	12/5/2000
o-Xylene	9.8	0.5		µg/L	1	12/5/2000

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

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ANALYTICAL REPORT

Date: 15-Dec-00

Client:	Blagg Engineering	Client Sample Info:	GCU Com F #162
Work Order:	0011050	Client Sample ID:	MW #10R
Lab ID:	0011050-04A	Matrix:	AQUEOUS
Project:	BP - GCU Com F #162	Collection Date:	11/29/2000 3:00:00 PM
		COC Record:	10345

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DC		
Benzene	ND	0.5		µg/L	1	12/5/2000
Toluene	ND	0.5		µg/L	1	12/5/2000
Ethylbenzene	ND	0.5		µg/L	1	12/5/2000
m,p-Xylene	ND	1		µg/L	1	12/5/2000
o-Xylene	ND	0.5		µg/L	1	12/5/2000

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

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

On Site Technologies, LTD.

Date: 15-Dec-00

CLIENT: Blagg Engineering
 Work Order: 0011050
 Project: BP - GCU Com F #162

QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-1_001205	Test Code: SW8021B	Units: µg/L	Analysis Date 12/5/2000	Prep Date:
Client ID:	0011050	Run ID: GC-1_001205A		SeqNo: 33206	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	ND	0.5			
Ethylbenzene	.0771	0.5			J
m,p-Xylene	.2174	1			J
Methyl tert-Butyl Ether	ND	1			
o-Xylene	.2053	0.5			J
Toluene	ND	0.5			

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

On Site Technologies, LTD.

Date: 15-Dec-00

CLIENT: Blagg Engineering
Work Order: 0011050
Project: BP - GCU Com F #162

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 0012002-03AMS		Batch ID: GC-1_001205		Test Code: SW8021B		Units: µg/L		Analysis Date 12/5/2000		Prep Date:	
Client ID: 0011050		Run ID: GC-1_001205A		SeqNo: 33207							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	1939	25	2000	0	97.0%	88	112				
Ethylbenzene	1968	25	2000	41.32	96.4%	86	113				
m,p-Xylene	4855	50	4000	1051	95.1%	85	108				
Methyl tert-Butyl Ether	1964	50	2000	0	98.2%	86	117				
o-Xylene	2031	25	2000	75.36	97.8%	92	110				
Toluene	1974	25	2000	0	98.7%	88	116				

Sample ID: 0012002-03AMSD		Batch ID: GC-1_001205		Test Code: SW8021B		Units: µg/L		Analysis Date 12/5/2000		Prep Date:	
Client ID: 0011050		Run ID: GC-1_001205A		SeqNo: 33208							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	1950	25	2000	0	97.5%	88	112	1939	0.5%	6	
Ethylbenzene	1980	25	2000	41.32	96.9%	86	113	1968	0.6%	6	
m,p-Xylene	4890	50	4000	1051	96.0%	85	108	4855	0.7%	6	
Methyl tert-Butyl Ether	1998	50	2000	0	99.9%	86	117	1964	1.7%	7	
o-Xylene	2051	25	2000	75.36	98.8%	92	110	2031	1.0%	6	
Toluene	1989	25	2000	0	99.5%	88	116	1974	0.8%	6	

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

On Site Technologies, LTD.

Date: 15-Dec-00

CLIENT: Blagg Engineering
 Work Order: 0011050
 Project: BP - GCU Com F #162

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS WATER	Batch ID: GC-1_001205	Test Code: SW8021B	Units: µg/L	Analysis Date 12/5/2000	Prep Date:
Client ID: 0011050	Run ID: GC-1_001205A	PQL	SPK value	SeqNo: 33205	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	38.45	0.5	40	0	96.1% 96 111
Ethylbenzene	38.65	0.5	40	0.0771	96.4% 96 111
m,p-Xylene	77.64	1	80	0.2174	96.8% 92 105
Methyl tert-Butyl Ether	38.91	1	40	0	97.3% 93 113
o-Xylene	39.21	0.5	40	0.2053	97.5% 97 110
Toluene	39.05	0.5	40	0	97.6% 97 109

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

On Site Technologies, LTD.

Date: 15-Dec-00

QC SUMMARY REPORT

Continuing Calibration Verification Standard

CLIENT: Blagg Engineering
 Work Order: 0011050
 Project: BP - GCU Com F #162

Sample ID: CCV1 BTEX_0010	Batch ID: GC-1_001205	Test Code: SW8021B	Units: µg/L	Analysis Date 12/5/2000	Prep Date:
Client ID: 0011050	Run ID: GC-1_001205A	PQL	SPK value	SeqNo: 33202	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	20.34	0.5	20	0	101.7% 85 115
Ethylbenzene	21.73	0.5	20	0	108.7% 85 115
m,p-Xylene	42.14	1	40	0	105.3% 85 115
Methyl tert-Butyl Ether	20.24	1	20	0	101.2% 85 115
o-Xylene	20.94	0.5	20	0	104.7% 85 115
Toluene	20.71	0.5	20	0	103.5% 85 115
1,4-Difluorobenzene	73.54	0	80	0	91.9% 70 130
4-Bromochlorobenzene	80.05	0	80	0	100.1% 70 130
Fluorobenzene	73.2	0	80	0	91.5% 70 130

Sample ID: CCV2 BTEX_0010	Batch ID: GC-1_001205	Test Code: SW8021B	Units: µg/L	Analysis Date 12/5/2000	Prep Date:
Client ID: 0011050	Run ID: GC-1_001205A	PQL	SPK value	SeqNo: 33203	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	19.51	0.5	20	0	97.6% 85 115
Ethylbenzene	19.8	0.5	20	0	99.0% 85 115
m,p-Xylene	39.72	1	40	0	99.3% 85 115
Methyl tert-Butyl Ether	19.93	1	20	0	99.7% 85 115
o-Xylene	20.17	0.5	20	0	100.9% 85 115
Toluene	19.77	0.5	20	0	98.9% 85 115
1,4-Difluorobenzene	73.34	0	80	0	91.7% 70 130
4-Bromochlorobenzene	82.12	0	80	0	102.7% 70 130
Fluorobenzene	73.54	0	80	0	91.9% 70 130

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

CLIENT: Blagg Engineering
Work Order: 0011050
Project: BP - GCU Com F #162

QC SUMMARY REPORT
 Continuing Calibration Verification Standard

Sample ID: CCV3 BTEX_0010		Batch ID: GC-1_001205	Test Code: SW8021B	Units: µg/L	Analysis Date 12/5/2000		Prep Date:				
Client ID:		0011050	Run ID:	GC-1_001205A	SeqNo:	33204					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	40.45	0.5	40	0	101.1%	85	115				
Ethylbenzene	40.3	0.5	40	0	100.8%	85	115				
m,p-Xylene	80.27	1	80	0	100.3%	85	115				
Methyl tert-Butyl Ether	41.06	1	40	0	102.7%	85	115				
o-Xylene	40.79	0.5	40	0	102.0%	85	115				
Toluene	40.68	0.5	40	0	101.7%	85	115				
1,4-Difluorobenzene	72.99	0	80	0	91.2%	70	130				
4-Bromochlorobenzene	82.48	0	80	0	103.1%	70	130				
Fluorobenzene	73.06	0	80	0	91.3%	70	130				

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

CLIENT: Blagg Engineering
Work Order: 0011050
Project: BP - GCU Com F #162
Test No: SW8021B

QC SUMMARY REPORT SURROGATE RECOVERIES

Aromatic Volatiles by GC/PID

Sample ID	14FBZ	4BCBZ	FLBZ					
0011047-01A	91.1	102	90.4					
0011048-01A	90.2	98.1	89.6					
0011048-02A	92.4	99.9	92.4					
0011048-03A	92.3	101	94.2					
0011048-04A	91.3	100	91.8					
0011049-01A	93.7	103	92.6					
0011049-02A	92	100	92.3					
0011049-03A	91.5	99.6	91.8					
0011049-04A	91.9	100	91					
0011050-01A	88.1	96	87.6					
0011050-02A	91.9	101	91.2					
0011050-03A	89.2	99.6	92.3					
0011050-04A	93.4	103	92.3					
0012001-01A	91.2	101	91.6					
0012002-01A	92.5	102	92.4					
0012002-02A	92.8	102	93.1					
0012002-03AMS	90.9	104	91.2					
0012002-03AMSD	91	104	91					
CCV1 BTEX_00100	91.9	100	91.5					
CCV2 BTEX_00100	91.7	103	91.9					
CCV3 BTEX_00100	91.2	103	91.3					
LCS WATER	91	96.4	91.2					
MBI	92.5	95.4	92.2					

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

* Surrogate recovery outside acceptance limits