

3R - 380

REPORTS

DATE:

FEB. 2006

BLAGG ENGINEERING, INC.

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

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

3R0380

2006 FEB 16 PM 1 06

February 15, 2006

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

**Re: BP America Production Company (formerly BP Amoco)
Groundwater Monitoring Report
Gallegos Canyon Unit (GCU) # 214, Unit B, Sec. 16, T28N, R12W, NMPM
San Juan County, New Mexico**

Dear Mr. Von Gonten:

BP America Production Company (BP) has retained Blagg Engineering, Inc. (BEI) to conduct environmental monitoring of groundwater at the GCU # 214.

The last BEI correspondence concerning the above reference well site was a letter dated, March 7, 2001. Since then, BP has followed its NMOCD approved groundwater management plan and continues groundwater monitoring on an annual basis. No permanent closure is requested at this time.

If you have any questions concerning the enclosed documentation, please contact either myself or Jeffrey C. Blagg at the address or phone number listed above. Thank you for your cooperation and assistance.

Respectfully submitted:
Blagg Engineering, Inc.



Nelson J. Velez
Staff Geologist

Attachment: Groundwater Report

cc: Mr. Denny Foust, Environmental Geologist, NMOCD District III Office, Aztec, NM
Mr. Don Brooks, Environmental Coordinator, BP, Farmington, NM (without lab reports)

NJV/njv

GCU 214 02-15-06 CVL.WPD

3R 0380

BP AMERICA PRODUCTION CO.

SUPPLEMENTAL GROUNDWATER REMEDIATION REPORT

2001-2005

GCU #214

**(B) SECTION 16, T28N, R12W, NMPM
SAN JUAN COUNTY, NEW MEXICO**

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

DECEMBER 2005

**PREPARED BY:
BLAGG ENGINEERING, INC.**

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

**BP America Production Co.
GCU # 214 - Separator Pit
Nw/4 Ne/4 Sec. 16, T28N, R12W**

Monitor Well Sampling Dates:

06/26/01, 5/31/02, 5/29/03, 6/23/04, 6/23/05

Site Historic Summary:

A site separator pit was closed out beginning in July, 1994 by removing impacted soils by excavation. Documentation for this work and subsequent groundwater monitoring data for the site have previously been submitted for New Mexico Oil Conservation review. The reporting herein is for site monitoring from March, 2001 to the present.

Groundwater Monitor Well Sampling Procedures:

Groundwater samples were collected from site monitor wells (*Figure 1*) following US EPA: SW-846 protocol. Samples were collected using new disposable bailers and placed into new laboratory supplied 40 ml glass vials with teflon septa caps. The samples were preserved cool and with either mercuric chloride or hydrochloric acid and express delivered to a qualified laboratory for testing. Analytical procedures included benzene, toluene, ethyl-benzene and total xylenes (BTEX) per US EPA Method 8020 or 8021. Additional samples were collected into laboratory supplied containers for general water chemistry testing. Waste generated during monitor well sampling and development was disposed of utilizing the separator tank pit located on the well site.

Water Quality and Gradient Information:

Based on the enclosed site monitor well information, groundwater flow has been determined to be in the northeast direction. Groundwater gradient maps are displayed on *Figures 2 through Figure 6*. Presently only well MW #2R is reporting a contamination level in excess of New Mexico Water Quality Control Commission (NMWQCC) standards for closure. This is for the constituent benzene only. There are no known residual hydrocarbon impacts in excess of NMWQCC standards in other wells in the monitoring program.

Summary and/or Recommendations:

Continued site monitoring per the approved BP Ground Water Management Plan is recommended. Natural attenuation appears to be successfully reducing the remaining hydrocarbon impacts and additional remedial actions are not indicated.

BP AMERICA GROUNDWATER MONITOR WELL LABORATORY RESULTS

SUBMITTED BY BLAGG ENGINEERING, INC.

GCU #214 - SEPARATOR PIT
UNIT B, SEC. 16, T28N, R12W

REVISED DATE: DECEMBER 8, 2005

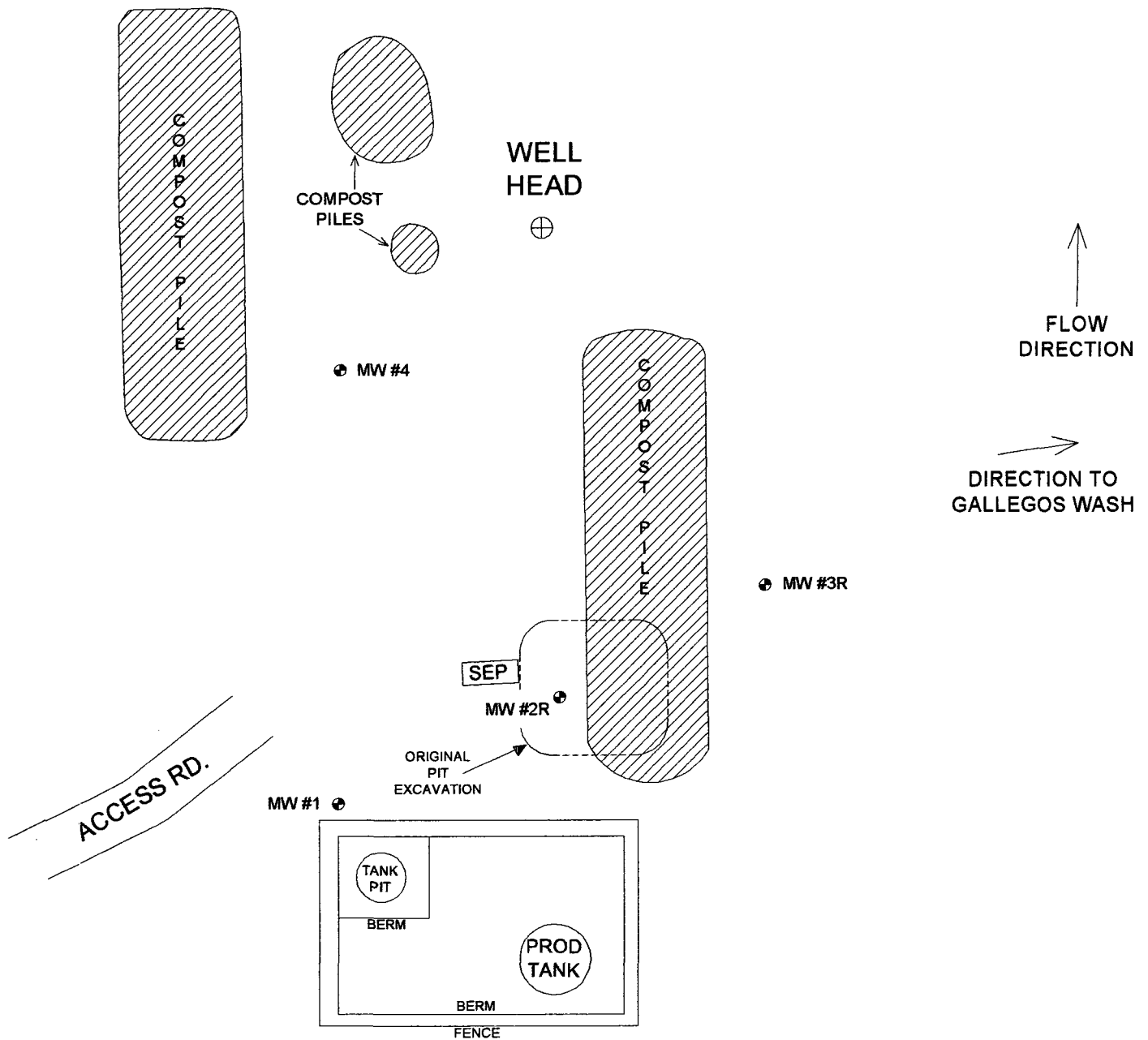
FILENAME: (214-2Q05.WK4) NJV

SAMPLE DATE	MONITOR WELL #	D.T.W. (ft)	T.D. (ft)	TDS mg/L	COND. (umhos/cm)	pH	PRODUCT (ft)	BTEX EPA METHOD 8021B (ppb)			
								Benzene	Toluene	Ethyl Benzene	Total Xylene
10-Jul-95	MW#1	17.53	20.00		4,800	7.4		0.3	43.7	0.64	4.03
07-Sep-95		17.27			4,000	7.8		ND	ND	ND	ND
06-Dec-95		17.96			3,200	7.5		ND	ND	ND	ND
18-Mar-96		18.10			2,000	7.9		ND	ND	ND	ND
04-Jun-96		17.95			3,000	7.4		ND	ND	ND	ND
10-Jul-95	MW#2	16.96	20.00		4,400	8.0		873	76.3	345	1,924
07-Sep-95		16.56			4,200	8.2		226	9.7	91.6	546.6
06-Dec-95		17.60			5,500	8.0		421	3.97	30.1	100
18-Mar-96		17.62			3,300	7.7		115	ND	ND	ND
04-Jun-96		17.34			4,600	7.2		175	ND	ND	7.06
25-Jun-97		16.65			3,000	8.2		164	0.6	59	35.1
08-Jun-98		16.96			3,300	7.2		236	7.6	17.4	67.9
28-May-99		16.87			3,500	7.2		221	10.6	11.1	22.6
22-May-00		16.63			3,100	7.9		79	ND	7.6	5
26-Jun-01	MW#2R	18.13	22.00		2,900	8.36		100	1	65	191
31-May-02		18.30			3,700	8.21		22	ND	1.8	1.8
29-May-03		19.97			2,600	8.05		15	0.99	1.8	5.3
23-Jun-04		18.21			3,300	7.74		16	ND	2.4	3.3
23-Jun-05		18.14			3,400	7.43		26	1.0	1.9	3.3
10-Jul-95	MW#3	12.20	15.00		5,500	7.4		0.36	22.8	0.44	1.76
07-Sep-95		11.55			6,000	7.8		1.6	1.1	ND	1.8
06-Dec-95		12.60			5,700	7.6		ND	ND	ND	ND
18-Mar-96		12.80			3,400	7.4		ND	ND	ND	ND
04-Jun-96		12.38			4,500	7.2		ND	ND	ND	ND
26-Jun-01	MW#3R	15.00	17.50		2,900	7.80		ND	ND	ND	ND
NMWQCC GROUNDWATER STANDARDS								10	750	750	620

NOTES: 1) RESULTS HIGHLIGHTED IN RED INDICATE EXCEEDING NMWQCC STANDARDS.

2) RESULTS HIGHLIGHTED IN BLUE INDICATE BELOW NMWQCC STANDARDS AFTER PROCEEDING RESULTS EXCEEDED.

FIGURE 1



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

1 INCH = 50 FEET

0 50 100 FT.

BP AMERICA PRODUCTION COMPANY

GCU 214

NW/4 NE/4 SEC. 16, T28N, R12W

SAN JUAN COUNTY, NEW MEXICO

BLAGG ENGINEERING, INC.

CONSULTING PETROLEUM / RECLAMATION SERVICES

P.O. BOX 87

BLOOMFIELD, NEW MEXICO 87413

PHONE: (505) 832-1199

PROJECT: MW SAMP.

DRAWN BY: NJV

FILENAME: 06-26-01-GW

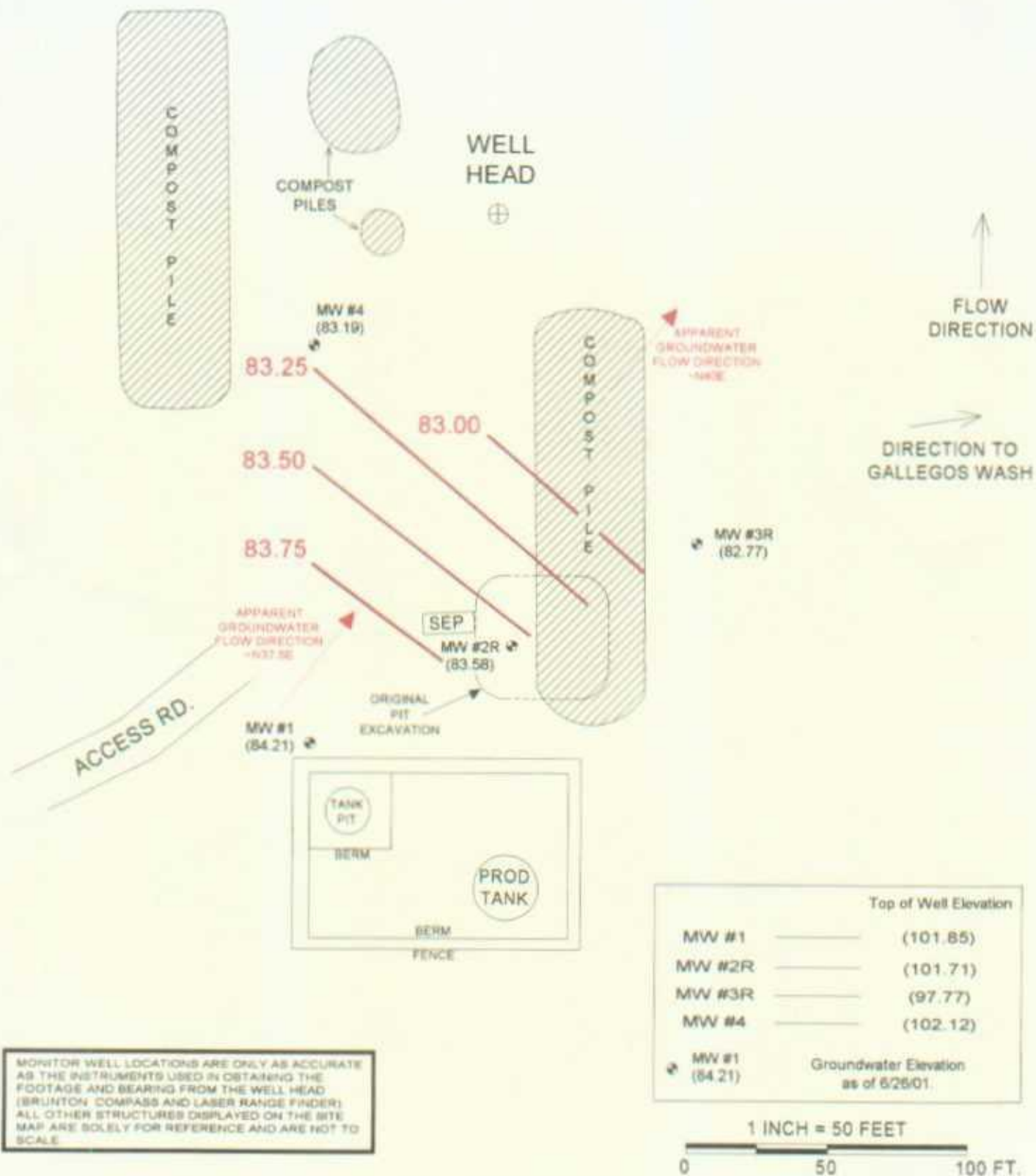
REVISED: 08-26-02 NJV

**SITE
MAP**

06/01



FIGURE 2
(2nd 1/4, 2001)



BP AMERICA PRODUCTION COMPANY

GCU 214

NW/4 NE/4 SEC. 16, T28N, R12W

SAN JUAN COUNTY, NEW MEXICO

B LAGG ENGINEERING, INC.

CONSULTING PETROLEUM / RECLAMATION SERVICES

P.O. BOX 87

BLOOMFIELD, NEW MEXICO 87413

PHONE: (505) 632-1199

PROJECT: MW SAMP.

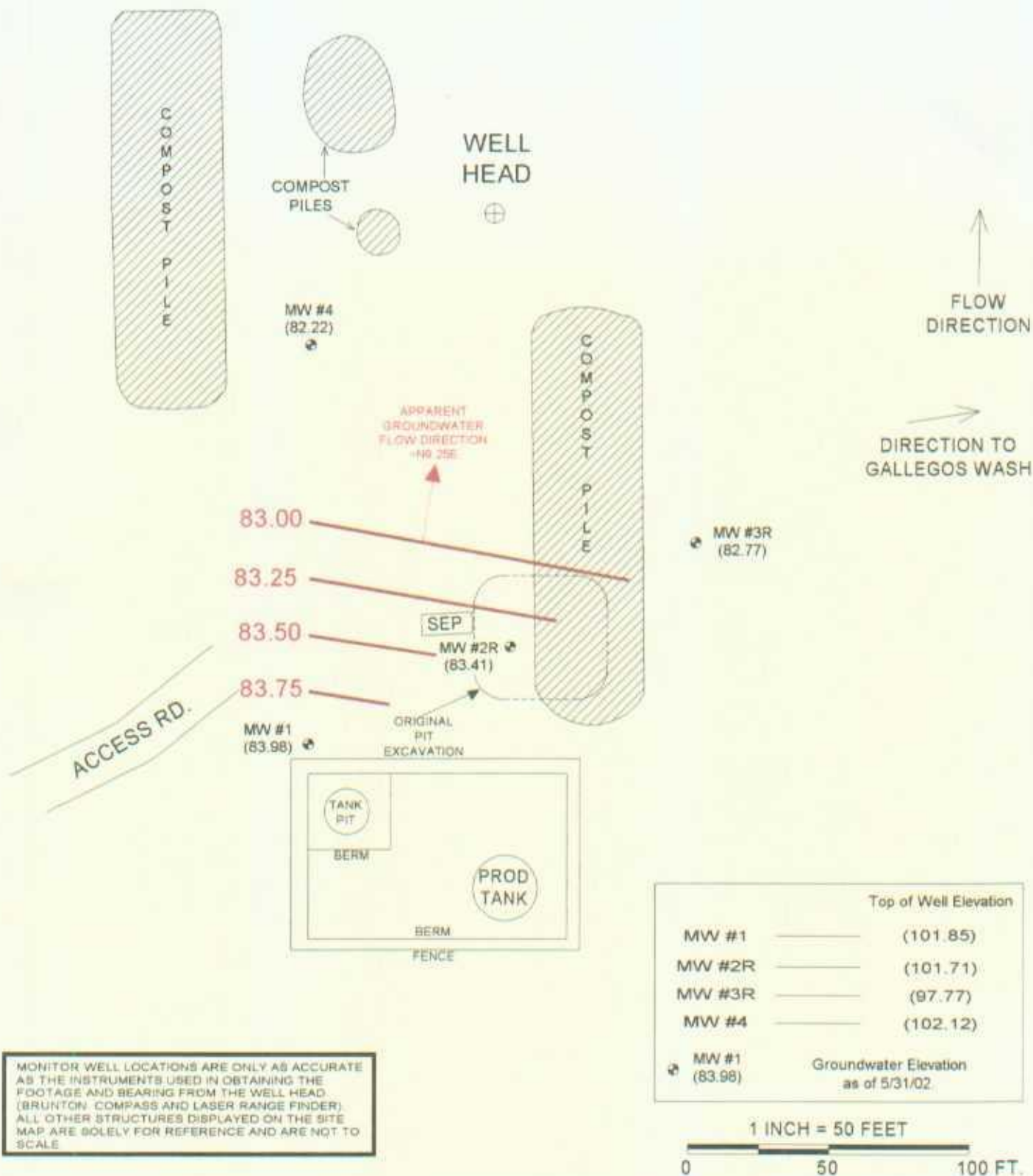
DRAWN BY: NJV

FILENAME: 06-26-01-GW

REVISED: 08-26-02 NJV

GROUNDWATER
CONTOUR
MAP
06/01

FIGURE 3
(2nd 1/4, 2002)



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

BP AMERICA PRODUCTION COMPANY

GCU 214

NW/4 NE/4 SEC. 16, T28N, R12W

SAN JUAN COUNTY, NEW MEXICO

B LAGG ENGINEERING, I NC.

CONSULTING PETROLEUM / RECLAMATION SERVICES

P.O. BOX 87

BLOOMFIELD, NEW MEXICO 87413

PHONE: (505) 832-1199

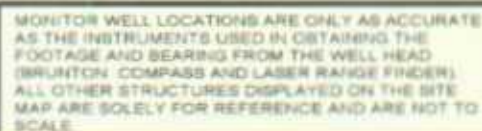
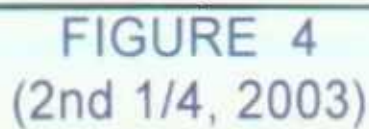
PROJECT: MW SAMP.

DRAWN BY: NJV

FILENAME: 05-31-02-GW

REVISED: 08-27-02 NJV

GROUNDWATER
CONTOUR
MAP
05/02

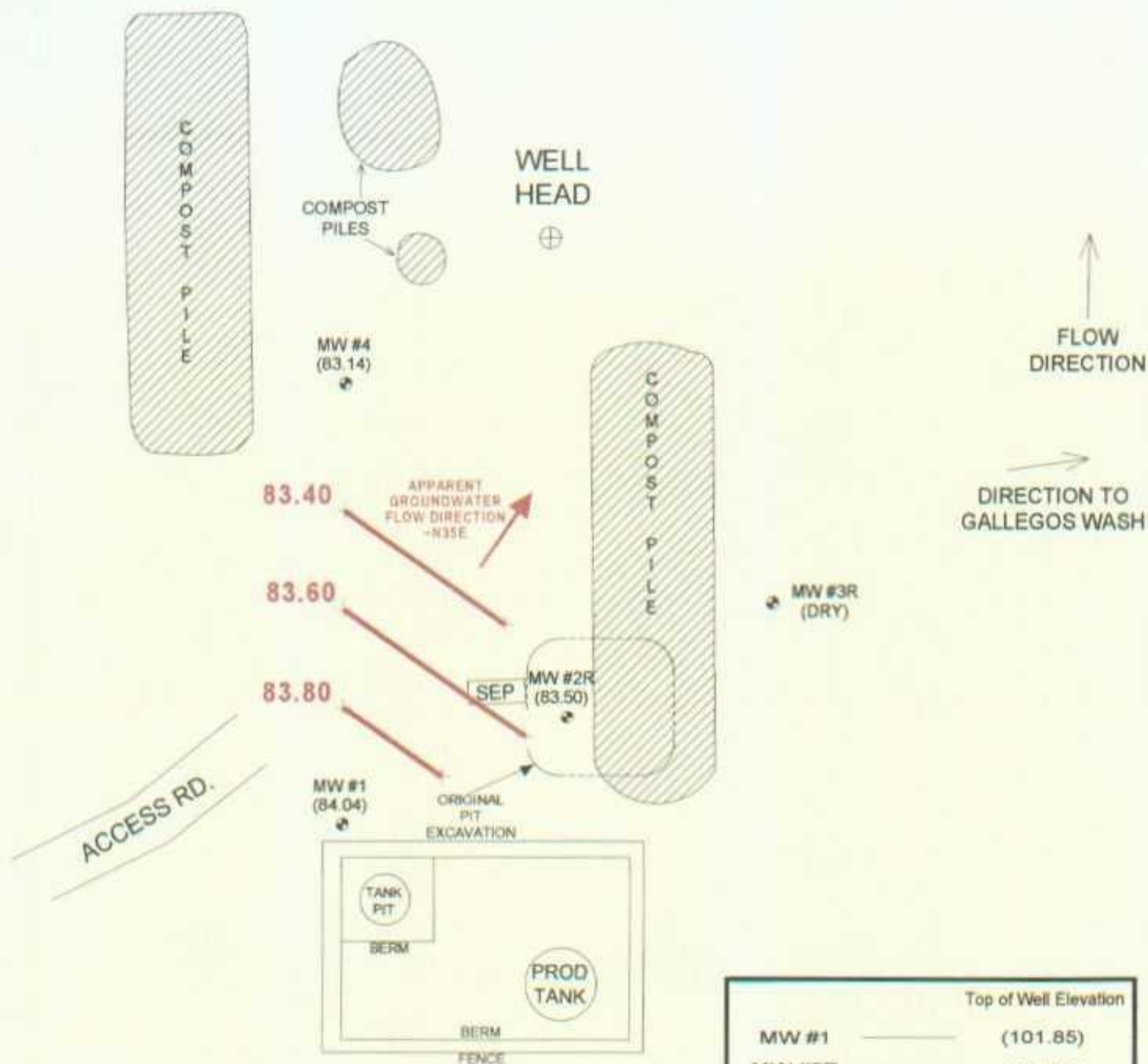


1 INCH = 50 FEET



GROUNDWATER
CONTOUR
MAP
05/03

FIGURE 5
2nd 1/4, 2004)



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.

Top of Well Elevation	
MW #1	(101.85)
MW #2R	(101.71)
MW #3R	(97.77)
MW #4	(102.12)
MW #1 (84.04)	Groundwater Elevation as of 6/23/04.

1 INCH = 50 FEET
0 50 100 FT.

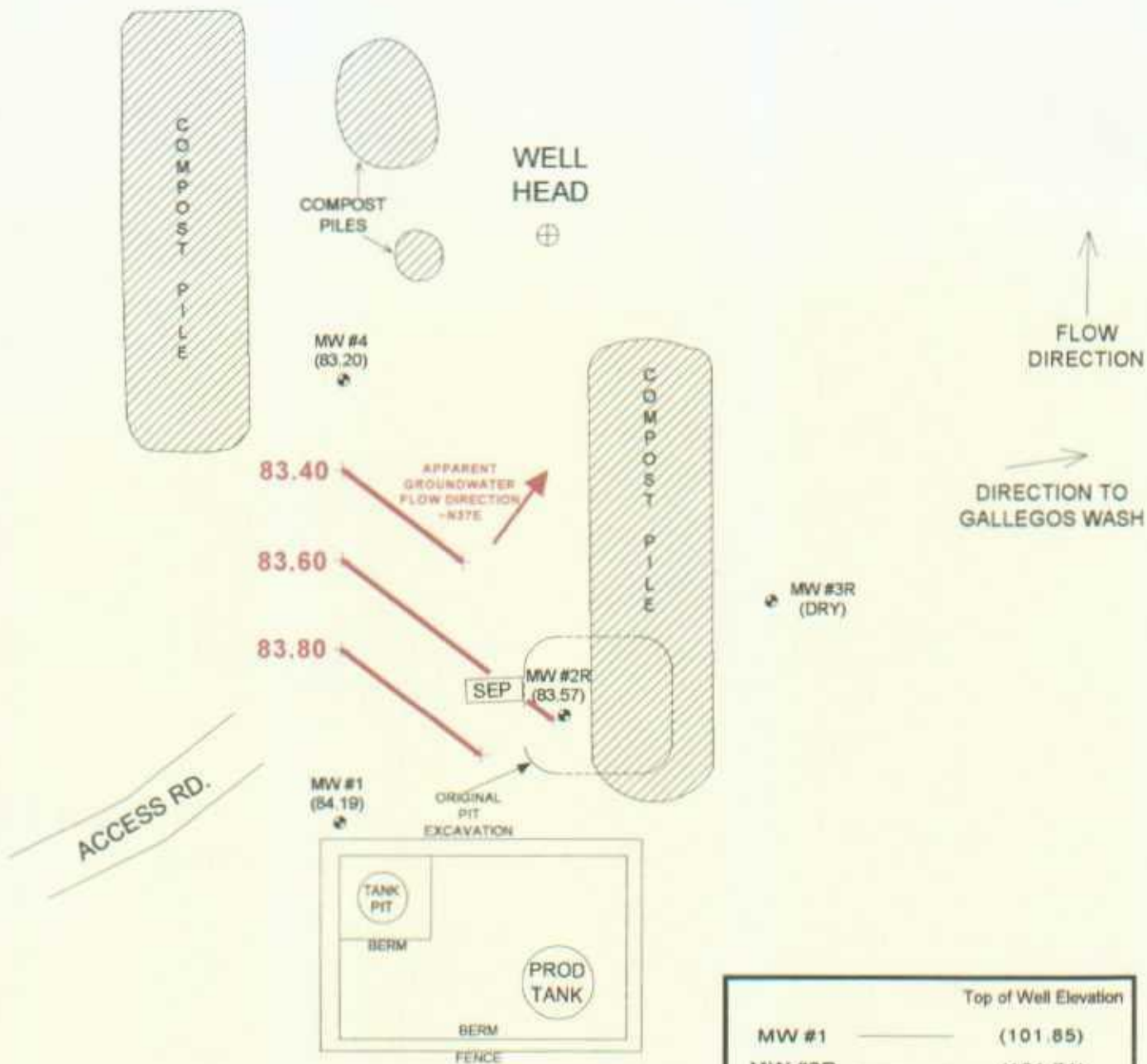
BP AMERICA PRODUCTION COMPANY
GCU 214
NW/4 NE/4 SEC. 18, T28N, R12W
SAN JUAN COUNTY, NEW MEXICO

BLAGG ENGINEERING, INC.
CONSULTING PETROLEUM / RECLAMATION SERVICES
P.O. BOX 87
BLOOMFIELD, NEW MEXICO 87413
PHONE: (505) 932-1190

PROJECT: MW SAMPLING
DRAWN BY: NJV
FILENAME: 06-23-04-GW
REVISED: 12-08-05 NJV

GROUNDWATER
CONTOUR
MAP
06/04

FIGURE 6
2nd 1/4, 2005)



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.

Top of Well Elevation	
MW #1	(101.85)
MW #2R	(101.71)
MW #3R	(97.77)
MW #4	(102.12)
Groundwater Elevation as of 6/23/05.	
MW #1 (84.19)	

1 INCH = 50 FEET

0 50 100 FT.

BP AMERICA PRODUCTION COMPANY

GCU 214

NW/4 NE/4 SEC. 16, T28N, R12W

SAN JUAN COUNTY, NEW MEXICO

BLAGG ENGINEERING, INC.

CONSULTING PETROLEUM / RECLAMATION SERVICES

P.O. BOX 87

BLOOMFIELD, NEW MEXICO 87413

PHONE (505) 832-1199

PROJECT: MW SAMPLING

DRAWN BY: NJV

FILENAME: 06-23-05-GW

REVISED: 12-08-05 NJV

GROUNDWATER
CONTOUR
MAP

06/05

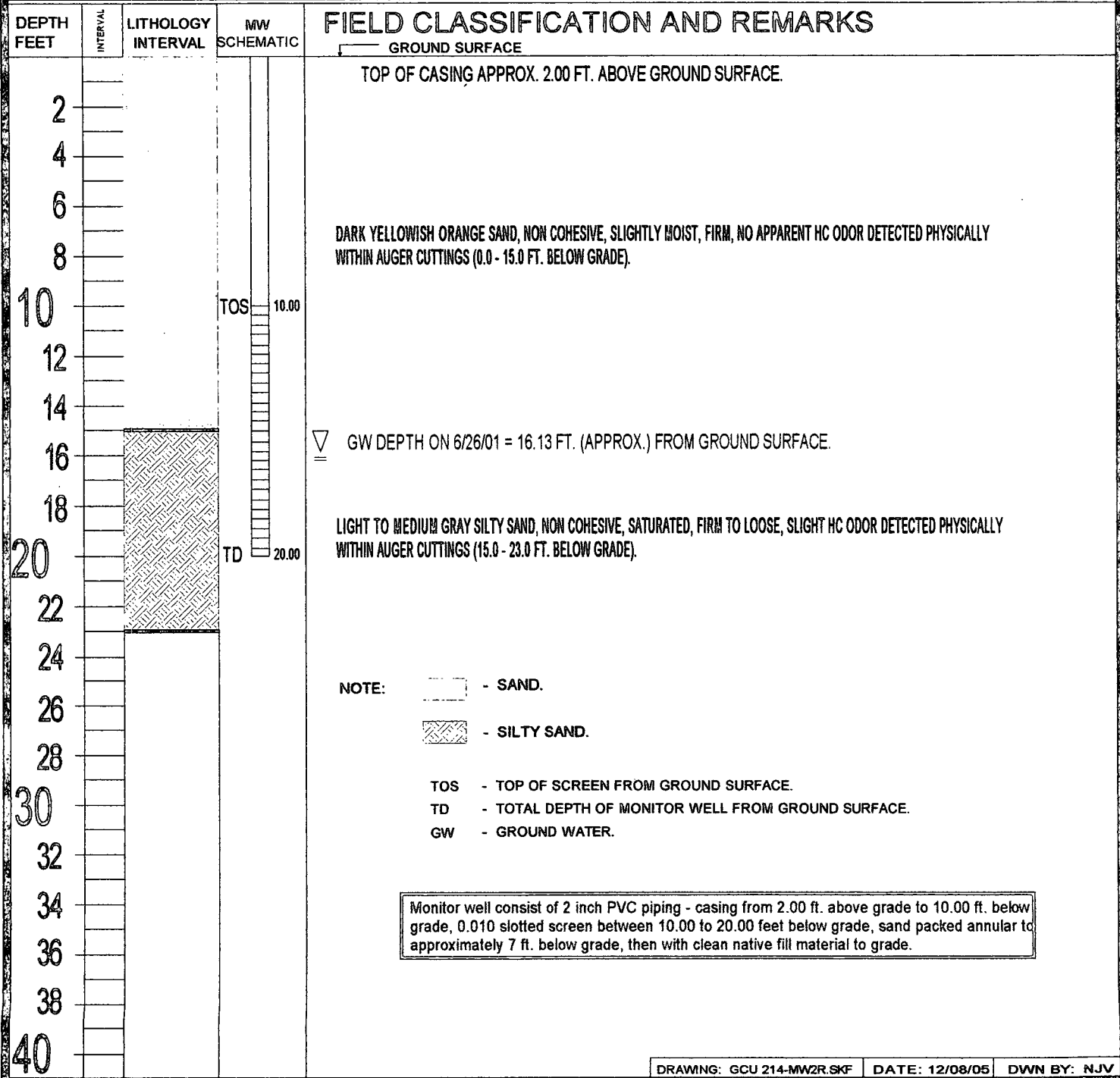
BLAGG ENGINEERING, INC.

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

BORE / TEST HOLE REPORT

CLIENT: BP AMERICA PRODUCTION COMPANY
LOCATION NAME: GCU #214 - SEPARATOR PIT, UNIT B, SEC. 16, T28N, R12W
CONTRACTOR: BLAGG ENGINEERING, INC.
EQUIPMENT USED: MOBILE DRILL RIG (EARTHPROBE 200)
BORING LOCATION: 146 FT., S2E FEET FROM WELL HEAD.

BORING #..... BH - 6
MW #..... 2R
PAGE #..... 6
DATE STARTED 6/22/01
DATE FINISHED 6/22/01
OPERATOR..... JCB
PREPARED BY NJV



BLAGG ENGINEERING, INC.

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

BORE / TEST HOLE REPORT

BORING #..... BH - 5
MW #..... 3R
PAGE #..... 5
DATE STARTED 4/20/01
DATE FINISHED 4/20/01
OPERATOR..... JCB
PREPARED BY NJV

CLIENT: BP AMERICA PRODUCTION COMPANY
LOCATION NAME: GCU #214 - SEPARATOR PIT, UNIT B, SEC. 16, T28N, R12W
CONTRACTOR: BLAGG ENGINEERING, INC.
EQUIPMENT USED: MOBILE DRILL RIG (EARTHPROBE 200)
BORING LOCATION: 132 FT., S32E FEET FROM WELL HEAD.

DEPTH FEET	INTERVAL	LITHOLOGY INTERVAL	MW SCHEMATIC	FIELD CLASSIFICATION AND REMARKS
				GROUND SURFACE
2				TOP OF CASING APPROX. 1.90 FT. ABOVE GROUND SURFACE.
4				
6			TOS 5.60	
8				DARK YELLOWISH ORANGE SAND TO SILTY SAND, NON COHESIVE, SLIGHTLY MOIST TO SATURATED (AT WATER TABLE), FIRM, NO APPARENT HC ODOR DETECTED PHYSICALLY WITHIN AUGER CUTTINGS (0.0 - 20.0 FT. BELOW GRADE).
10				
12				▽ GW DEPTH ON 6/26/01 = 13.10 FT. (APPROX.) FROM GROUND SURFACE.
14				
16			TD 15.60	
18				
20				
22				
24				
26				
28				
30				
32				
34				
36				
38				
40				

NOTE: - SAND TO SILTY SAND

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

Monitor well consist of 2 inch PVC piping - casing from 1.90 ft. above grade to 5.60 ft. below grade, 0.010 slotted screen between 5.60 to 15.60 feet below grade, sand packed annular to grade.

BLAGG ENGINEERING, INC.

P.O. BOX 87

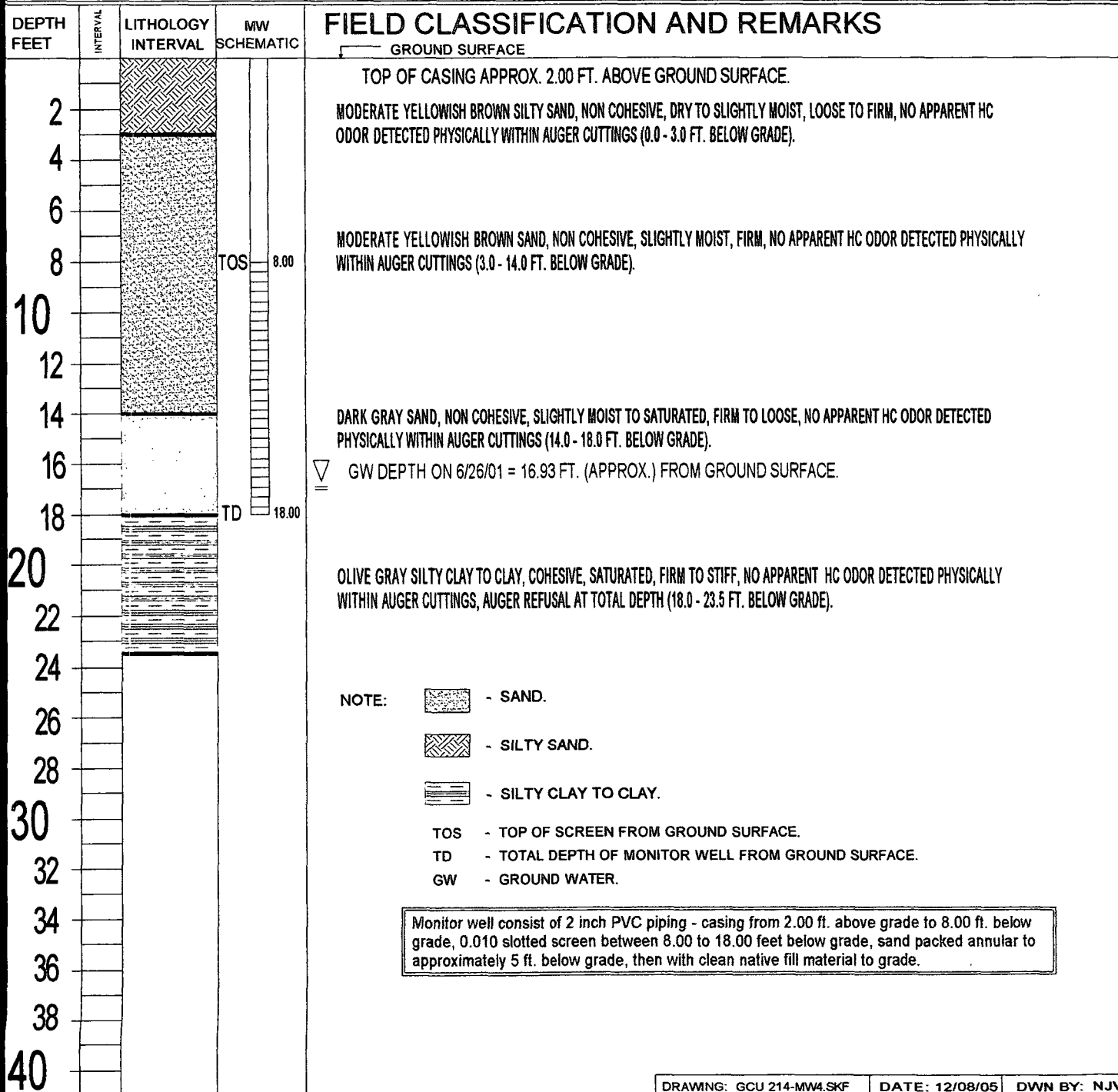
BLOOMFIELD, NM 87413

(505) 632-1199

BORE / TEST HOLE REPORT

CLIENT: BP AMERICA PRODUCTION COMPANY
LOCATION NAME: GCU #214 - SEPARATOR PIT, UNIT B, SEC. 16, T28N, R12W
CONTRACTOR: BLAGG ENGINEERING, INC.
EQUIPMENT USED: MOBILE DRILL RIG (EARTHPROBE 200)
BORING LOCATION: 78 FT., S55W FEET FROM WELL HEAD.

BORING #..... BH - 4
MW #..... 4
PAGE #..... 4
DATE STARTED 4/20/01
DATE FINISHED 4/20/01
OPERATOR..... JCB
PREPARED BY NJV



DRAWING: GCU 214-MW4.SKF

DATE: 12/08/05

DWN BY: NJV

BLAGG ENGINEERING, INC.

MONITOR WELL SAMPLING DATA

CLIENT : BP AMOCOCHAIN-OF-CUSTODY # : 11148

GCU # 214 - SEPARATOR PIT
UNIT B, SEC. 16, T28N, R12W

LABORATORY (S) USED : ON - SITE TECH.Date : June 26, 2001SAMPLER : N J VFilename : 06-26-01.WK4PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	VOLUME PURGED (gal.)	FREE PRODUCT (ft)
1	101.85	84.21	17.64	-	-	-	-	-	-
2R	101.71	83.58	18.13	22.00	0905	8.36	2,900	4.50	-
3R	97.77	82.77	15.00	17.50	0830	7.80	2,900	1.25	-
4	102.12	83.19	18.93	20.00	-	-	-	-	-

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".

MW # 3R installed on 4 / 20 / 01 , MW # 2R on 6 / 22 / 01 . 10 ft. 0.020 screen in both MW 's .

MW # 3R - TOC = 1.90 ft. AGS , MW # 2R - TOC = 2.00 ft. AGS . Collected BTEX samples from

MW #'s 2R & 3R only .

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



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

ANALYTICAL REPORT

Date: 10-Jul-01

Client:	Blagg Engineering	Client Sample Info:	GCU #214
Work Order:	0106042	Client Sample ID:	MW #2R
Lab ID:	0106042-01A	Matrix:	AQUEOUS
Project:	BP Amoco: GCU #214	Collection Date:	6/26/2001 9:05:00 AM
		COC Record:	11148

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DM		
Benzene	100	0.5		µg/L	1	7/2/2001
Toluene	1	0.5		µg/L	1	7/2/2001
Ethylbenzene	65	0.5		µg/L	1	7/2/2001
m,p-Xylene	180	1		µg/L	1	7/2/2001
o-Xylene	11	0.5		µg/L	1	7/2/2001

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

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

ANALYTICAL REPORT

Date: 10-Jul-01

Client:	Blagg Engineering	Client Sample Info:	GCU #214
Work Order:	0106042	Client Sample ID:	MW #3R
Lab ID:	0106042-02A	Matrix:	AQUEOUS
Project:	BP Amoco: GCU #214	Collection Date:	6/26/2001 8:30:00 AM
		COC Record:	11148

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: HR		
Benzene	ND	0.5		µg/L	1	7/1/2001
Toluene	ND	0.5		µg/L	1	7/1/2001
Ethylbenzene	ND	0.5		µg/L	1	7/1/2001
m,p-Xylene	ND	1		µg/L	1	7/1/2001
o-Xylene	ND	0.5		µg/L	1	7/1/2001

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

EMAIL: ONSITE@ONSITELTD.COM

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -



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

Date: _____

Page: _____ of _____

[illegible]

On Site Technologies, LTD.

Date: 10-Jul-01

CLIENT: Blagg Engineering
Work Order: 0106042
Project: BP Amoco: GCU #214

QC SUMMARY REPORT

Method Blank

Sample ID: MB1	Batch ID: GC-1_010701	Test Code: SW8021B	Units: µg/L	Analysis Date: 7/1/2001	Prep Date:
Client ID:	0106042	Run ID: GC-1_010701A		SeqNo: 39332	
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	.0976	0.5			J

Sample ID: MB1	Batch ID: GC-1_010702	Test Code: SW8021B	Units: µg/L	Analysis Date: 7/2/2001	Prep Date:
Client ID:	0106042	Run ID: GC-1_010702A		SeqNo: 39305	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Benzene	.0671	0.5			J
Ethylbenzene	ND	0.5			
m,p-Xylene	ND	1			
Methyl tert-Butyl Ether	ND	1			
o-Xylene	ND	0.5			
Toluene	.0772	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: 10-Jul-01

CLIENT: Blagg Engineering
Work Order: 0106042
Project: BP Amoco: GCU #214

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 0106047-02AMS	Batch ID: GC-1_010701	Test Code: SW8021B	Units: µg/L	Analysis Date 7/1/2001	Prep Date:
Client ID: 0106042	Run ID: GC-1_010701A	PQL	SPK value	SeqNo: 39333	
Analyte	Result		SPK Ref Val	LowLimit	HighLimit
Benzene	2305	10	800	1500	130
Ethylbenzene	1199	10	800	390	130
m,p-Xylene	2318	20	1600	770	130
Methyl tert-Butyl Ether	992.4	20	800	170	130
o-Xylene	898.1	10	800	75	130
Toluene	937.3	10	800	110	130
				%REC	RPD Limit
				100.7%	
				101.1%	
				96.8%	
				102.8%	
				102.9%	
				103.4%	

Sample ID: 0106047-02AMSD	Batch ID: GC-1_010701	Test Code: SW8021B	Units: µg/L	Analysis Date 7/1/2001	Prep Date:
Client ID: 0106042	Run ID: GC-1_010701A	PQL	SPK value	SeqNo: 39334	
Analyte	Result		SPK Ref Val	LowLimit	HighLimit
Benzene	2259	10	800	1500	130
Ethylbenzene	1177	10	800	390	130
m,p-Xylene	2278	20	1600	770	130
Methyl tert-Butyl Ether	990	20	800	170	130
o-Xylene	884.5	10	800	75	130
Toluene	917.6	10	800	110	130
				%REC	RPD Limit
				94.8%	
				98.3%	
				94.3%	
				102.5%	
				101.2%	
				101.0%	

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

CLIENT: Blagg Engineering
Work Order: 0106042
Project: BP Amoco: GCU #214

QC SUMMARY REPORT
 Sample Matrix Spike

Sample ID: 0106043-01AMS		Batch ID: GC-1_010702		Test Code: SW8021B		Units: µg/L		Analysis Date 7/2/2001		Prep Date:	
Client ID: 0106042		Run ID: GC-1_010702A		SeqNo: 39306							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	349.3	2.5	200	160.4	94.5%	70	130				
Ethylbenzene	248.7	2.5	200	76.15	86.3%	70	130				
m,p-Xylene	840.2	5	400	484.8	88.9%	70	130				
Methyl tert-Butyl Ether	207.8	5	200	6.308	100.7%	70	130				
o-Xylene	303.8	2.5	200	110.5	96.7%	70	130				
Toluene	726.7	2.5	200	538.6	94.0%	70	130				

Sample ID: 0106043-01AMSD		Batch ID: GC-1_010702		Test Code: SW8021B		Units: µg/L		Analysis Date 7/2/2001		Prep Date:	
Client ID:		0106042		Run ID:		GC-1_010702A		SeqNo: 39307			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	346.1	2.5	200	160.4	92.9%	70	130	349.3	0.9%	8	
Ethylbenzene	242	2.5	200	76.15	82.9%	70	130	248.7	2.8%	7	
m,p-Xylene	823.1	5	400	484.8	84.6%	70	130	840.2	2.0%	7	
Methyl tert-Butyl Ether	216	5	200	6.308	104.9%	70	130	207.8	3.9%	6	
o-Xylene	304	2.5	200	110.5	96.8%	70	130	303.8	0.1%	6	
Toluene	721.9	2.5	200	538.6	91.6%	70	130	726.7	0.7%	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.

CLIENT: Blagg Engineering
Work Order: 0106042
Project: BP Amoco: GCU #214

Date: 10-Jul-01

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS WATER		Batch ID: GC-1_010701	Test Code: SW8021B	Units: µg/L	Analysis Date 7/1/2001		Prep Date:				
Client ID:		0106042	Run ID: GC-1_010701A		SeqNo: 39331						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	40.63	0.5	40	0	101.6%	80	120				
Ethylbenzene	40.99	0.5	40	0	102.5%	80	120				
m,p-Xylene	80.18	1	80	0	100.2%	80	120				
Methyl tert-Butyl Ether	39.1	1	40	0	97.8%	80	120				
o-Xylene	41.18	0.5	40	0	102.9%	80	120				
Toluene	40.65	0.5	40	0.0976	101.4%	80	120				

Sample ID: LCS WATER		Batch ID: GC-1_010702	Test Code: SW8021B	Units: µg/L	Analysis Date 7/2/2001		Prep Date:				
Client ID:		0106042	Run ID: GC-1_010702A		SeqNo: 39304						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	41.64	0.5	40	0.0671	103.9%	80	120				
Ethylbenzene	42.33	0.5	40	0	105.8%	80	120				
m,p-Xylene	82.72	1	80	0	103.4%	80	120				
Methyl tert-Butyl Ether	41.32	1	40	0	103.3%	80	120				
o-Xylene	42.39	0.5	40	0	106.0%	80	120				
Toluene	41.83	0.5	40	0.0772	104.4%	80	120				

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

On Site Technologies, LTD.

Date: 10-Jul-01

CLIENT: Blagg Engineering
Work Order: 0106042
Project: BP Amoco: GCU #214

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1 BTEX_0105		Batch ID: GC-1_010701	Test Code: SW8021B	Units: µg/L		Analysis Date 7/1/2001		Prep Date:	
Client ID:		0106042	Run ID: GC-1_010701A			SeqNo: 39328			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	RPDLimit
Benzene	21.23	0.5	20	0	106.2%	85	115		
Ethylbenzene	21.43	0.5	20	0	107.1%	85	115		
m,p-Xylene	42.24	1	40	0	105.6%	85	115		
Methyl tert-Butyl Ether	20.17	1	20	0	100.9%	85	115		
o-Xylene	21.46	0.5	20	0	107.3%	85	115		
Toluene	21.3	0.5	20	0	106.5%	85	115		
1,4-Difluorobenzene	113	0	120	0	94.2%	70	130		
4-Bromochlorobenzene	123.1	0	120	0	102.6%	70	130		
Fluorobenzene	111.8	0	120	0	93.1%	70	130		

Sample ID: CCV2 BTEX_0105		Batch ID: GC-1_010701	Test Code: SW8021B	Units: µg/L		Analysis Date 7/1/2001		Prep Date:	
Client ID:		0106042	Run ID: GC-1_010701A			SeqNo: 39329			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	RPDLimit
Benzene	40.85	0.5	40	0	102.1%	85	115		
Ethylbenzene	41.12	0.5	40	0	102.8%	85	115		
m,p-Xylene	80.53	1	80	0	100.7%	85	115		
Methyl tert-Butyl Ether	40.07	1	40	0	100.2%	85	115		
o-Xylene	41.33	0.5	40	0	103.3%	85	115		
Toluene	41.12	0.5	40	0	102.8%	85	115		
1,4-Difluorobenzene	112.4	0	120	0	93.7%	70	130		
4-Bromochlorobenzene	120	0	120	0	100.0%	70	130		
Fluorobenzene	111.3	0	120	0	92.7%	70	130		

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: 0106042

Project: BP Amoco: GCU #214

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV3 BTEX_0105		Batch ID: GC-1_010701		Test Code: SW8021B		Units: µg/L		Analysis Date 7/1/2001		Prep Date:	
Client ID: 0106042		Run ID: GC-1_010701A		PQL		SPK value		SeqNo: 39330			
Analyte	Result			SPK Ref Val		%REC		LowLimit		HighLimit	
Benzene	20.8	0.5		20		0		104.0%		85	
Ethylbenzene	20.67	0.5		20		0		103.4%		85	
m,p-Xylene	41.01	1		40		0		102.5%		85	
Methyl tert-Butyl Ether	20.64	1		20		0		103.2%		85	
o-Xylene	20.95	0.5		20		0		104.8%		85	
Toluene	20.74	0.5		20		0		103.7%		85	
1,4-Difluorobenzene	111.9	0		120		0		93.3%		70	
4-Bromochlorobenzene	117.5	0		120		0		97.9%		70	
Fluorobenzene	112.6	0		120		0		93.9%		70	
								RPD Ref Val		%RPD	
								RPDLimit		Qual	

Sample ID: CCV1 BTEX_0105		Batch ID: GC-1_010702	Test Code: SW8021B	Units: µg/L	Analysis Date 7/2/2001		Prep Date:					
Client ID: 0106042		Run ID: GC-1_010702A	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Analyte	Result											
Benzene	21.85		0.5	20	0	109.3%	85	115				
Ethylbenzene	22.33		0.5	20	0	111.6%	85	115				
m,p-Xylene	44.01		1	40	0	110.0%	85	115				
Methyl tert-Butyl Ether	21.24		1	20	0	106.2%	85	115				
o-Xylene	22.3		0.5	20	0	111.5%	85	115				
Toluene	22.06		0.5	20	0	110.3%	85	115				
1,4-Difluorobenzene	113.5		0	120	0	94.6%	70	130				
4-Bromochlorobenzene	122.9		0	120	0	102.4%	70	130				
Fluorobenzene	113.7		0	120	0	94.7%	70	130				

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: 0106042

Project: BP Amoco: GCU #214

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV2 BTEX_0105		Batch ID: GC-1_010702	Test Code: SW8021B	Units: µg/L	Analysis Date 7/2/2001		Prep Date:	
Client ID: 0106042		Run ID: GC-1_010702A	SeqNo: 39302		LowLimit HighLimit		RPDLimit	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPDLimit
Benzene	21	0.5	20	0	105.0%	85	115	
Ethylbenzene	21.32	0.5	20	0	106.6%	85	115	
m,p-Xylene	42.24	1	40	0	105.6%	85	115	
Methyl tert-Butyl Ether	21.53	1	20	0	107.6%	85	115	
o-Xylene	21.52	0.5	20	0	107.6%	85	115	
Toluene	21.19	0.5	20	0	105.9%	85	115	
1,4-Difluorobenzene	114	0	120	0	95.0%	70	130	
4-Bromochlorobenzene	120.8	0	120	0	100.6%	70	130	
Fluorobenzene	112.8	0	120	0	94.0%	70	130	

Sample ID: CCV3 BTEX_0105		Batch ID: GC-1_010702	Test Code: SW8021B	Units: µg/L	Analysis Date 7/2/2001		Prep Date:	
Client ID: 0106042		Run ID: GC-1_010702A	SeqNo: 39303		LowLimit HighLimit		RPDLimit	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPDLimit
Benzene	41.04	0.5	40	0	102.6%	85	115	
Ethylbenzene	41.46	0.5	40	0	103.7%	85	115	
m,p-Xylene	81.21	1	80	0	101.5%	85	115	
Methyl tert-Butyl Ether	41.07	1	40	0	102.7%	85	115	
o-Xylene	41.79	0.5	40	0	104.5%	85	115	
Toluene	41.39	0.5	40	0	103.5%	85	115	
1,4-Difluorobenzene	112.7	0	120	0	93.9%	70	130	
4-Bromochlorobenzene	119	0	120	0	99.1%	70	130	
Fluorobenzene	112.4	0	120	0	93.7%	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: 0106042
Project: BP Amoco: GCU #214
Test No: SW8021B

QC SUMMARY REPORT SURROGATE RECOVERIES

Aromatic Volatiles by GC/PID

Sample ID	14FBZ	4BCBZ	FLBZ				
0106038-01A	96	101	95.4				
0106040-07A	94.2	103	95.2				
0106040-08A	94.7	102	95.7				
0106040-09A	95.5	99.6	94.7				
0106040-10A	91.6	122	93.2				
0106040-11A	94.5	100	95.1				
0106040-12A	94.3	101	95.2				
0106040-13A	95.3	102	95.3				
0106040-14A	2.42 *	95.8	92.6				
0106040-15A	94.6	100	95.1				
0106040-16A	86.7	95.3	87.6				
0106042-01A	91.4	106	91.5				
0106042-02A	94.9	99.8	95				
0106043-01AMS	90.5	106	90.7				
0106043-01AMSD	90.6	104	92.3				
0106043-02A	95.4	99.8	94.9				
0106047-01A	94.8	100	95.2				
0106047-02A	92.4	98.8	91.9				
0106047-02AMS	91.2	98.8	91.9				
0106047-02AMSD	91.3	99.4	91.8				
0106047-03A	95.2	104	94.5				
0106048-01A	94.4	102	94				
0106048-02A	95.9	104	94.7				
0106048-03A	97.4	102	95				
0106054-01A	95.8	103	95				
0106054-02A	95.2	103	95.2				
0106054-03A	93.6	101	93.3				

Acronym**Surrogate****QC Limits**

14FBZ

= 1,4-Difluorobenzene

70-130

4BCBZ

= 4-Bromochlorobenzene

70-130

FLBZ

= Fluorobenzene

70-130

* Surrogate recovery outside acceptance limits

CLIENT: Blagg Engineering
Work Order: 0106042
Project: BP Amoco: GCU #214
Test No: SW8021B

QC SUMMARY REPORT SURROGATE RECOVERIES

Aromatic Volatiles by GC/PID

Sample ID	14FBZ	4BCBZ	FLBZ				
0106054-05A	95.7	94.9	95.3				
0106054-06A	94.9	101	94.8				
0106054-07A	93.5	99.4	93.6				
0106054-08A	91.8	100	92.8				
0106054-10A	95.1	103	94.8				
CCV1 BTEX_01052	94.6	102	94.7				
CCV2 BTEX_01052	95	101	94				
CCV3 BTEX_01052	93.9	99.1	93.7				
LCS WATER	94.1	104	94.4				
MBI	94.8	103	95.3				

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

* Surrogate recovery outside acceptance limits

BLAGG ENGINEERING, INC.

MONITOR WELL SAMPLING DATA

CLIENT : BP AMOCOCHAIN-OF-CUSTODY # : 11773

GCU # 214 - SEPARATOR PIT

LABORATORY (S) USED : ON - SITE TECH.

UNIT B, SEC. 16, T28N, R12W

Date : May 31, 2002SAMPLER : N J VFilename : 05-31-02.WK4PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	VOLUME PURGED (gal.)	FREE PRODUCT (ft)
1	101.85	83.98	17.87	-	-	-	-	-	-
2R	101.71	83.41	18.30	22.00	0640	8.21	3,700	2.00	-
3R	97.77	82.77	15.00	17.50	-	-	-	-	-
4	102.12	82.22	19.90	20.00	-	-	-	-	-

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 ".MW # 2R installed on 6 / 22 / 01 . 10 ft. 0.020 screen , TOC = 2.00 ft. AGS . CollectedBTEX samples from MW # 2R only .

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



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

ANALYTICAL REPORT

Date: 18-Jun-02

Client:	Blagg Engineering	Client Sample Info:	BP - GCU #214
Work Order:	0206001	Client Sample ID:	MW #2R
Lab ID:	0206001-01A	Matrix:	AQUEOUS
Project:	BP - GCU #214	Collection Date:	05/31/2002 6:40:00 AM
		COC Record:	11773

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B				Analyst: DWC
Benzene	22	0.5		µg/L	1	06/11/2002
Toluene	ND	0.5		µg/L	1	06/11/2002
Ethylbenzene	1.8	0.5		µg/L	1	06/11/2002
m,p-Xylene	1.8	1		µg/L	1	06/11/2002
o-Xylene	ND	0.5		µg/L	1	06/11/2002

Qualifiers:	PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
	ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted precision 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

EMAIL: ONSITE@ONSITELTD.COM

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -



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

Date: May 31, 2002

Page: 1 of 1

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

On Site Technologies, LTD.

Date: 18-Jun-02

CLIENT: Blagg Engineering
Work Order: 0206001
Project: BP - GCU #214

QC SUMMARY REPORT

Method Blank

Sample ID: MB_020611	Batch ID: GC-1_020610	Test Code: SW8021B	Units: µg/L	Analysis Date: 06/11/2002	Prep Date: 06/11/2002						
Client ID:	0206001	Run ID: GC-1_020610A		SeqNo: 51629							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.5									J
Ethylbenzene	ND	0.5									J
m,p-Xylene	.1219	1									J
o-Xylene	.0438	0.5									J
Toluene	.1198	0.5									J

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

On Site Technologies, LTD.

Date: 18-Jun-02

CLIENT: Blagg Engineering
Work Order: 0206001
Project: BP - GCU #214

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID: 0206002-01AMS		Batch ID: GC-1_020610		Test Code: SW8021B		Units: µg/L		Analysis Date: 06/11/2002			Prep Date: 06/11/2002	
Client ID: 0206001		Run ID: GC-1_020610A		SeqNo: 51630								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Benzene	224.3	2.5	200	32.2	96.1%	70	130					
Ethylbenzene	198.9	2.5	200	2.346	98.3%	70	130					
m,p-Xylene	413.5	5	400	24	97.4%	70	130					
o-Xylene	197.2	2.5	200	5.974	95.6%	70	130					
Toluene	209.4	2.5	200	18.41	95.5%	70	130					

Sample ID: 0206002-01AMS		Batch ID: GC-1_020610		Test Code: SW8021B		Units: µg/L		Analysis Date: 06/11/2002				Prep Date: 06/11/2002	
Client ID: 0206001		Run ID: GC-1_020610A		SeqNo: 51631									
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Benzene	221.4	2.5	200	32.2	94.6%	70	130	224.3	1.3%	15			
Ethylbenzene	196	2.5	200	2.346	96.8%	70	130	198.9	1.5%	15			
m,p-Xylene	407.2	5	400	24	95.8%	70	130	413.5	1.5%	15			
o-Xylene	194.9	2.5	200	5.974	94.5%	70	130	197.2	1.2%	15			
Toluene	206.3	2.5	200	18.41	93.9%	70	130	209.4	1.5%	15			

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

On Site Technologies, LTD.

Date: 18-Jun-02

CLIENT: Blagg Engineering
Work Order: 0206001
Project: BP - GCU #214

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: LCS_020611	Batch ID: GC-1_020610	Test Code: SW8021B	Units: µg/L	Analysis Date: 06/11/2002	Prep Date: 06/11/2002						
Client ID: 0206001	Run ID: GC-1_020610A			SeqNo: 51627							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	37.31	0.5	40	0	93.3%	80	120				
Ethylbenzene	38.48	0.5	40	0	96.2%	80	120				
m,p-Xylene	76.48	1	80	0.1219	95.4%	80	120				
o-Xylene	37.39	0.5	40	0.0438	93.4%	80	120				
Toluene	37.02	0.5	40	0.1198	92.2%	80	120				

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

On Site Technologies, LTD.

Date: 18-Jun-02

CLIENT: Blagg Engineering

Work Order: 0206001

Project: BP - GCU #214

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV1_020611		Batch ID: GC-1_020610		Test Code: SW8021B		Units: µg/L		Analysis Date: 06/11/2002		Prep Date: 06/11/2002	
Client ID: 0206001		Run ID: GC-1_020610A		SeqNo: 51622							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	18.82	0.5	20	0	94.1%	85	115				
Ethylbenzene	19.6	0.5	20	0	98.0%	85	115				
m,p-Xylene	38.8	1	40	0	97.0%	85	115				
o-Xylene	18.88	0.5	20	0	94.4%	85	115				
Toluene	18.74	0.5	20	0	93.7%	85	115				
1,4-Difluorobenzene	106.6	0	110	0	96.9%	70	130				
4-Bromochlorobenzene	108.7	0	110	0	98.9%	70	130				
Fluorobenzene	108	0	110	0	98.2%	70	130				

Sample ID: CCV2_020611		Batch ID: GC-1_020610		Test Code: SW8021B		Units: µg/L		Analysis Date: 06/11/2002		Prep Date: 06/11/2002	
Client ID: 0206001		Run ID: GC-1_020610A		SeqNo: 51623							
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	19.58	0.5	20	0	97.9%	85	115				
m,p-Xylene	39.22	1	40	0	98.1%	85	115				
o-Xylene	19.06	0.5	20	0	95.3%	85	115				
Toluene	18.9	0.5	20	0	94.5%	85	115				
1,4-Difluorobenzene	107.1	0	110	0	97.4%	70	130				
4-Bromochlorobenzene	122.2	0	110	0	111.1%	70	130				
Fluorobenzene	108.6	0	110	0	98.8%	70	130				

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: 0206001

Project: BP - GCU #214

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV3_020611		Batch ID: GC-1_020610		Test Code: SW8021B		Units: µg/L		Analysis Date: 06/11/2002		Prep Date: 06/11/2002	
Client ID: 0206001		Run ID: GC-1_020610A									
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	38.56	0.5	40	0	96.4%	85	115				
Ethylbenzene	39.34	0.5	40	0	98.3%	85	115				
m,p-Xylene	77.76	1	80	0	97.2%	85	115				
o-Xylene	38.17	0.5	40	0	95.4%	85	115				
Toluene	38.04	0.5	40	0	95.1%	85	115				
1,4-Difluorobenzene	106.2	0	110	0	96.6%	70	130				
4-Bromochlorobenzene	117.2	0	110	0	106.6%	70	130				
Fluorobenzene	107.8	0	110	0	98.0%	70	130				

Sample ID: CCV4_020611		Batch ID: GC-1_020610		Test Code: SW8021B		Units: µg/L		Analysis Date: 06/12/2002		Prep Date: 06/12/2002	
Client ID: 0206001		Run ID: GC-1_020610A						SeqNo: 51625			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	18.76	0.5	20	0	93.8%	85	115				
Ethylbenzene	19.45	0.5	20	0	97.3%	85	115				
m,p-Xylene	38.91	1	40	0	97.3%	85	115				
o-Xylene	18.83	0.5	20	0	94.2%	85	115				
Toluene	18.61	0.5	20	0	93.0%	85	115				
1,4-Difluorobenzene	107.8	0	110	0	98.0%	70	130				
4-Bromochlorobenzene	108.9	0	110	0	99.0%	70	130				
Fluorobenzene	109.3	0	110	0	99.4%	70	130				

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: 0206001

Project: BP - GCU #214

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: CCV5_020611		Batch ID: GC-1_020610		Test Code: SW8021B		Units: µg/L		Analysis Date: 06/12/2002			Prep Date: 06/12/2002	
Client ID:		0206001		Run ID:		GC-1_020610A		SeqNo: 51626				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Benzene	18.63	0.5	20	0	93.2%	85	115					
Ethylbenzene	18.96	0.5	20	0	94.8%	85	115					
m,p-Xylene	37.88	1	40	0	94.7%	85	115					
o-Xylene	18.32	0.5	20	0	91.6%	85	115					
Toluene	18.22	0.5	20	0	91.1%	85	115					
1,4-Difluorobenzene	107.4	0	110	0	97.7%	70	130					
4-Bromochlorobenzene	119.1	0	110	0	108.3%	70	130					
Fluorobenzene	109.6	0	110	0	99.6%	70	130					

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: 0206001
 Project: BP - GCU #214
 Test No: SW8021B

QC SUMMARY REPORT SURROGATE RECOVERIES

Aromatic Volatiles by GC/PID

Sample ID	14FBZ	4BCBZ	FLBZ					
0205047-01A	97.8	108	99.6					
0205047-02A	95.9	111	98					
0205047-03A	97.2	110	99					
0205049-01A	98	117	99.7					
0205049-02A	96.9	105	99.1					
0206001-01A	95.7	105	97.5					
0206002-01A	96.4	105	98.4					
0206002-01AMS	95.8	115	97.7					
0206002-01AMSD	95.9	112	97.4					
0206012-01A	96	103	98.4					
0206012-02A	97.8	102	99.7					
0206012-03A	97.8	107	100					
0206013-01A	97.8	106	99					
0206014-01A	96.7	106	98.6					
0206014-02A	97.1	106	99.9					
0206014-03A	98.2	107	101					
CCV1_020611	96.9	98.8	98.2					
CCV2_020611	97.4	111	98.8					
CCV3_020611	96.6	106	98					
CCV4_020611	98	99	99.4					
CCV5_020611	97.6	108	99.6					
LCS_020611	96.9	103	98.1					
MB_020611	98.4	105	99.5					

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

* Surrogate recovery outside acceptance limits

BLAGG ENGINEERING, INC.
MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY # : N / A

GCU # 214 - SEPARATOR PIT
UNIT B, SEC. 16, T28N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : May 29, 2003

SAMPLER : N J V

Filename : 05-29-03.WK4

PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	VOLUME PURGED (gal.)	FREE PRODUCT (ft)
1	101.85	84.35	17.50	-	-	-	-	-	-
2R	101.71	83.74	17.97	22.00	0825	8.05	2,600	2.00	-
3R	97.77	82.98	14.79	17.50	-	-	-	-	-
4	102.12	83.39	18.73	20.00	-	-	-	-	-

INSTRUMENT CALIBRATIONS =

7.00 2,800

DATE & TIME =

05/29/03 06:55

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".

Excellent recovery in MW #2R. Collected BTEX from MW #2R only.

Top of casing MW #1 ~ 2.40 ft., MW #2R ~ 2.00 ft., MW #3R ~ 1.90 ft., MW #4 ~ 2.20 ft. above grade.

Hall Environmental Analysis Laboratory

Date: 05-Jun-03

CLIENT: Blagg Engineering
Lab Order: 0305215
Project: GCU Lease
Lab ID: 0305215-03

Client Sample ID: GCU#214 MW#2R
Collection Date: 5/29/2003 8:25:00 AM

Matrix: AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	15	0.50		µg/L	1	6/3/2003 10:50:14 AM
Toluene	0.99	0.50		µg/L	1	6/3/2003 10:50:14 AM
Ethylbenzene	1.8	0.50		µg/L	1	6/3/2003 10:50:14 AM
Xylenes, Total	5.3	0.50		µg/L	1	6/3/2003 10:50:14 AM
Surr: 4-Bromofluorobenzene	95.3	74-118		%REC	1	6/3/2003 10:50:14 AM

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

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

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

Project Name:

604 2E95E

address: P.O. Box 87

Bloomfield Nm 87413

Project Manager:

Jeff Bagg

Sampler: Nelson Velez

Samples Cold? ☒ Yes ☐ No

Samples Cold? ☒ Yes ☐ No

Date _____

Time

Matrix

Sample I.D. No.

Number/Volume

QAMPA 1999

HEAL No.

BTX

BTEX +

TPH (M)

EDB (M)

8310 (P)

Catons

8081 Pe

8270 (S)

Air Bubb

5/29/03

5280

water

GCN #214 MW #22

2-40m1

✓

M

5/30/62

Time: 0750

Relinquished By: (Signature) 

7

Received By: (Signature)

2	2	2
---	---	---

Remarks:

7

1

7

1

7

7

1

7

Hall Environmental Analysis Laboratory

Date: 05-Jun-03

CLIENT: Blagg Engineering

Work Order: 0305215

Project: GCU Lease

QC SUMMARY REPORT

Method Blank

Sample ID	Reagent Blank 5m	Batch ID: R8430	Test Code: SW8021	Units: µg/L	Analysis Date	6/2/2003 9:34:55 AM	Prep Date				
Client ID:			Run ID: PIDFID_030602A		SeqNo:	190827					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.50									
Toluene	ND	0.50									
Ethylbenzene	ND	0.50									
Xylenes, Total	ND	0.50									
Surr: 4-Bromofluorobenzene	21.07	0	20	0	105	74	118	0			

Sample ID	Reagent Blank 5m	Batch ID: R8442	Test Code: SW8021	Units: µg/L	Analysis Date	6/3/2003 8:47:01 AM	Prep Date				
Client ID:			Run ID: PIDFID_030603A		SeqNo:	191050					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.50									
Toluene	ND	0.50									
Ethylbenzene	ND	0.50									
Xylenes, Total	ND	0.50									
Surr: 4-Bromofluorobenzene	19.87	0	20	0	99.3	74	118	0			

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limitsS - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limitsB - Analyte detected in the associated Method Blank
I

Hall Environmental Analysis Laboratory

Date: 05-Jun-03

CLIENT: Blagg Engineering

Work Order: 0305215

Project: GCU Lease

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID	BTEX Std 100ng	Batch ID: R8430	Test Code: SW8021	Units: µg/L	Analysis Date 6/2/2003 8:54:19 PM	Prep Date					
Client ID:			Run ID: PIDFID_030602A		SeqNo: 190886						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.02	0.50	20	0	100	81.3	121	0			
Toluene	20.35	0.50	20	0	102	84.9	118	0			
Ethylbenzene	20.23	0.50	20	0	101	53.8	149	0			
Xylenes, Total	61.24	0.50	60	0	102	83.1	122	0			

Sample ID	BTEX Std 100ng	Batch ID: R8430	Test Code: SW8021	Units: µg/L	Analysis Date 6/2/2003 10:32:32 PM	Prep Date					
Client ID:			Run ID: PIDFID_030602A		SeqNo: 190887						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.44	0.50	20	0	107	81.3	121	20.02	6.82	27	
Toluene	21.21	0.50	20	0	106	84.9	118	20.35	4.14	19	
Ethylbenzene	21.34	0.50	20	0	107	53.8	149	20.23	5.33	10	
Xylenes, Total	63.89	0.50	60	0	106	83.1	122	61.24	4.22	13	

Sample ID	BTEX Std 87.5ng	Batch ID: R8442	Test Code: SW8021	Units: µg/L	Analysis Date 6/3/2003 9:51:05 AM	Prep Date					
Client ID:			Run ID: PIDFID_030603A		SeqNo: 191064						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	19.05	0.50	20	0	95.3	81.3	121	0			
Toluene	18.9	0.50	20	0	94.5	84.9	118	0			
Ethylbenzene	18.89	0.50	20	0	94.5	53.8	149	0			
Xylenes, Total	56.74	0.50	60	0	94.6	83.1	122	0			

Qualifiers:

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

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

B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name **BLAGG**

Date and Time Receive

Work Order Number **0305215**

Received by **AMG**

Checklist completed by

Thompson
Signature

5/30/03
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 ☒
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☒
Chain of custody present?	Yes ☒	No ☐	
Chain of custody signed when relinquished and received?	Yes ☒	No ☐	
Chain of custody agrees with sample labels?	Yes ☒	No ☐	
Samples in proper container/bottle?	Yes ☒	No ☐	
Sample containers intact?	Yes ☒	No ☐	
Sufficient sample volume for indicated test?	Yes ☒	No ☐	
All samples received within holding time?	Yes ☒	No ☐	
Water - VOA vials have zero headspace?	No VOA vials submitted ☐	Yes ☒	No ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☒
Container/Temp Blank temperature?	23°	4° C ± 2 Acceptable	

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

BLAGG ENGINEERING, INC.
MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY # : N / A

GCU # 214 - SEPARATOR PIT
UNIT B, SEC. 16, T28N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : June 23, 2004

SAMPLER : N J V

Filename : 06-23-04.WK4

PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	VOLUME PURGED (gal.)	FREE PRODUCT (ft)
1	101.85	84.04	17.81	-	-	-	-	-	-
2R	101.71	83.50	18.21	22.00	1025	7.74	3,300	21.2	2.00
3R	97.77		DRY	17.50	-	-	-	-	-
4	102.12	83.14	18.98	20.00	-	-	-	-	-

INSTRUMENT CALIBRATIONS =

7.00 2,800

DATE & TIME =

06/23/04 0900

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".

Excellent recovery in MW #2R. Collected BTEX from MW #2R only. MW #3R may contain abundant amount of solid material @ T.D. based on water probe only reaching 14.80 ft.

Top of casing MW #1 ~ 2.40 ft., MW #2R ~ 2.00 ft., MW #3R ~ 1.90 ft., MW #4 ~ 2.20 ft. above grade.

Hall Environmental Analysis Laboratory

Date: 07-Jul-04

CLIENT: Blagg Engineering
Project: GCU Lease

Lab Order: 0406245

Lab ID: 0406245-02
Client Sample ID: MW#2R-GCU#214

Collection Date: 6/23/2004 10:25:00 AM

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

EPA METHOD 8021B: VOLATILES

Analyst: NSB

Benzene	16	0.50		µg/L	1	7/2/2004 11:45:21 PM
Toluene	ND	0.50		µg/L	1	7/2/2004 11:45:21 PM
Ethylbenzene	2.4	0.50		µg/L	1	7/2/2004 11:45:21 PM
Xylenes, Total	3.3	0.50		µg/L	1	7/2/2004 11:45:21 PM
Surr: 4-Bromofluorobenzene	105	74-118		%REC	1	7/2/2004 11:45:21 PM

Qualifiers: ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level 1 / 4

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

**HALL ENVIRONMENTAL
ANALYSIS LABORATORY**

Client: BLAGG / BP AMERICA

Accreditation Applied:
NELAC ☐ USACE ☐

Other:

Project Name:

Gen LEASE

Project #:

Address: P.O. BOX 87

BLFO. NM 87413

Project Manager:

NTV

Sampler:

505-632-1199

Sample Temperature:

505-632-3903

Date _____

Time

Matrix

Sample I.D. No.

Number/Volume

HEAL No.

Preservative

$$\text{HgCl}_2 \quad \text{HNO}_3$$

6/23/04

5201

WATER

mw # 22 -

GCN #214

2-40m

✓

2

Date: _____

Time:

Beijngnished By: (Signature)

Received by: (Signature) , 6/24/04

Date: _____

Time: _____

Belinquished By: (Signature)

Received By: (Signature)

ANALYSIS REQUEST

(BTEX) + MTBE + TMB's (8021R)
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)
HCPA 8 Metals
Anions (F^- , Cl^- , NO_3^- , NO_2^- , PO_4^{3-} , SO_4^{2-})
8081 Pesticides / PCB's (8082)
8260B (VOA)
8270 (Semi-VOA)
Air Bubbles or Headspace ('Y' or 'N')

Remarks:

Hall Environmental Analysis Laboratory

Date: 07-Jul-04

QC SUMMARY REPORT

Method Blank

CLIENT: Blagg Engineering
 Work Order: 0406245
 Project: GCU Lease

Sample ID	Reagent Blank 5m	Batch ID: R12337	Test Code: SW8021	Units: µg/L	Analysis Date	7/2/2004 10:11:05 AM	Prep Date				
Client ID:			Run ID: PIDFID_040702A		SeqNo:	283891					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.5									
Toluene	ND	0.5									
Ethylbenzene	ND	0.5									
Xylenes, Total	ND	0.5									
Surr: 4-Bromofluorobenzene	19.72	0	20	0	98.6	74	118	0			

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

Hall Environmental Analysis Laboratory

Date: 07-Jul-04

CLIENT: Blagg Engineering
Work Order: 0406245
Project: GCU Lease

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID	BTEX std 100ng	Batch ID: R12337	Test Code: SW8021	Units: µg/L	Analysis Date	7/2/2004 11:11:40 AM	Prep Date					
Client ID:		Run ID:	PIDFID_040702A		SeqNo:	283917						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene		20.22	0.5	20	0	101	81.3	121	0			
Toluene		19.3	0.5	20	0	96.5	84.9	118	0			
Ethylbenzene		18.75	0.5	20	0	93.8	53.8	149	0			
Xylenes, Total		55.59	0.5	60	0	92.7	83.1	122	0			

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

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name BLAGG

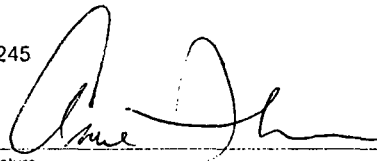
Date and Time Received:

6/24/2004

Work Order Number 0406245

Received by AT

Checklist completed by


Signature

6/24/04
Date

Matrix

Carrier name Greyhound

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

Container/Temp Blank temperature?

2°

4° C ± 2 Acceptable

If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

BLAGG ENGINEERING, INC.
MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY # : N / A

GCU # 214 - SEPARATOR PIT
UNIT B, SEC. 16, T28N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : June 23, 2005

SAMPLER : N J V

Filename : 06-23-05.WK4

PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	VOLUME PURGED (gal.)	FREE PRODUCT (ft)
1	101.85	84.19	17.66	-	-	-	-	-	-
2R	101.71	83.57	18.14	22.00	1350	7.43	3,400	24.0	1.00
3R	97.77	97.77	DRY	17.50	-	-	-	-	-
4	102.12	83.20	18.92	20.00	-	-	-	-	-

INSTRUMENT CALIBRATIONS =

DATE & TIME =

7.00	2,800
06/23/05	0630

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".

Fair / poor recovery in MW # 2R. Collected BTEX from MW # 2R only.

Top of casing MW # 1 ~ 2.40 ft. , MW # 2R ~ 2.00 ft. , MW # 3R ~ 1.90 ft. , MW # 4 ~ 2.20 ft. above grade .

Hall Environmental Analysis Laboratory

Date: 28-Jun-05

CLIENT: Blagg Engineering
Project: GCU Lease

Lab Order: 0506242

Lab ID: 0506242-01

Collection Date: 6/23/2005 1:50:00 PM

Client Sample ID: GCU #214-MW#2R

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

EPA METHOD 8021B: VOLATILES

Analyst: KTM

Benzene	26	0.50		µg/L	1	6/28/2005 12:32:46 AM
Toluene	1.0	0.50		µg/L	1	6/28/2005 12:32:46 AM
Ethylbenzene	1.9	0.50		µg/L	1	6/28/2005 12:32:46 AM
Xylenes, Total	3.3	0.50		µg/L	1	6/28/2005 12:32:46 AM
Surr: 4-Bromofluorobenzene	110	83.3-121		%REC	1	6/28/2005 12:32:46 AM

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

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

**HALL ENVIRONMENTAL
ANALYSIS LABORATORY**

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

USACE ☐ NELAC ☐

Project Name:

GCU LEASE

Project #:

BLFD. NM 87413

Project Manager:

22

Phone #: 632-1199

✓

Fax #: 632 - 3903

Sample Temperature:

20

Date _____

Time

Matrix

Sample I.D. No.

Number/Volume

Preservative

HgCl_2	HNO_3
-----------------	----------------

NO₂

HEAL No.

6/23/05

1350

water

6cu #214 -
new #28

2-40m

Date: _____

Time:

Relinquished By: (Signature)

Received By: (Signature)

Date: _____

Time:

Relinquished By: (Signature)

Received By: (Signature)

ANALYSIS REQUEST

[illegible]

Remarks:

Hall Environmental Analysis Laboratory

Date: 28-Jun-05

QC SUMMARY REPORT

Method Blank

CLIENT: Blagg Engineering
 Work Order: 0506242
 Project: GCU Lease

Sample ID	Reagent Blank 5m	Batch ID: R15814	Test Code: SW8021	Units: µg/L	Analysis Date 6/27/2005 10:15:08 AM	Prep Date					
Client ID:			Run ID: PIDFID_050627A		SeqNo: 374760						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.5									
Toluene	ND	0.5									
Ethylbenzene	ND	0.5									
Xylenes, Total	ND	0.5									
Surr: 4-Bromofluorobenzene	20.22	0	20	0	101	83.3	121	0			

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

Hall Environmental Analysis Laboratory

Date: 28-Jun-05

CLIENT: Blagg Engineering

Work Order: 0506242

Project: GCU Lease

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID	0506242-01a.ms	Batch ID: R15814	Test Code: SW8021	Units: µg/L	Analysis Date	6/28/2005 1:34:27 AM	Prep Date				
Client ID:	GCU #214-MW#2R	Run ID:	PIDFID_050627A	SeqNo:	374789						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	47.23	0.5	20	25.65	108	88.7	114	0			
Toluene	20.1	0.5	20	1.041	95.3	89.3	112	0			
Ethylbenzene	21.9	0.5	20	1.897	100	88.6	113	0			
Xylenes, Total	62.75	0.5	60	3.276	99.1	89.4	112	0			
Surr: 4-Bromofluorobenzene	25.09	0	24	0	105	83.3	121	0			

Sample ID	0506242-01a msd	Batch ID: R15814	Test Code: SW8021	Units: µg/L	Analysis Date	6/28/2005 2:05:14 AM	Prep Date				
Client ID:	GCU #214-MW#2R	Run ID:	PIDFID_050627A	SeqNo:	374790						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	45.69	0.5	20	25.65	100	88.7	114	47.23	3.33	27	
Toluene	19.63	0.5	20	1.041	93.0	89.3	112	20.1	2.34	19	
Ethylbenzene	21.23	0.5	20	1.897	96.7	88.6	113	21.9	3.09	10	
Xylenes, Total	61.06	0.5	60	3.276	96.3	89.4	112	62.75	2.73	13	
Surr: 4-Bromofluorobenzene	24.57	0	24	0	102	83.3	121	25.09	2.07	0	

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limitsS - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limitsB - Analyte detected in the associated Method Blank
/

Hall Environmental Analysis Laboratory

Date: 28-Jun-05

CLIENT: Blagg Engineering
Work Order: 0506242
Project: GCU Lease

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID	BTEX LCS 2.5ug	Batch ID: R15814	Test Code: SW8021	Units: µg/L	Analysis Date	6/27/2005 1:55:44 PM	Prep Date				
Client ID:		Run ID:	PIDFID_050627A		SeqNo:	374788					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.24	0.5	20	0	101	88.7	114	0			
Toluene	20.39	0.5	20	0	102	89.3	112	0			
Ethylbenzene	20.51	0.5	20	0	103	88.6	113	0			
Xylenes, Total	61.44	0.5	60	0	102	89.4	112	0			

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

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

B - Analyte detected in the associated Method Blank
/

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name **BLAGG**

Date and Time Received:

Work Order Number **0506242**

Received by **AMG**

Checklist completed by

Signature

Date

Matrix:

Carrier name: Greyhound

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

Container/Temp Blank temperature?

2°

4° C ± 2 Acceptable

If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____