

3R - 389

AGWMR

04/01/2009

BLAGG ENGINEERING, INC.

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

3R389

RECEIVED

2009 MAY 4 AM 9 44

May 1, 2009

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

**Re: BP America Production Company
Groundwater Monitoring Report
GCU # 194, Unit D, Sec. 5, T27N, R12W, NMPM
San Juan County, New Mexico**

NMOCD Administrative/Environmental Order #: 3RP-389-0

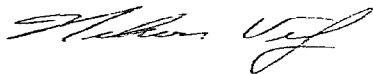
Dear Mr. von Gonten:

BP America Production Company (**BP**) has retained Blagg Engineering, Inc. (**BEI**) to conduct environmental monitoring of groundwater at the GCU # 194.

The last formal correspondence to NMOCD was conducted with letter dated, April 25, 2008. Since then, BP has followed its NMOCD approved groundwater management plan and continues to monitor the site. No permanent closure is requested at this time.

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

Respectfully submitted:
Blagg Engineering, Inc.



Nelson J. Velez
Staff Geologist

Attachment: Groundwater Report (2 copies)

cc: Mr. Brandon Powell, Environmental Specialist, NMOCD District III Office, Aztec, NM
Mr. Larry Schlotterback, Environmental Coordinator, BP, Farmington, NM

3R389

BP AMERICA PRODUCTION CO

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2009 MAY 4 AM 9 44

GROUNDWATER REMEDIATION REPORT

**GCU # 194
(D) SECTION 5, T27N, R12W, NMPM
SAN JUAN COUNTY, NEW MEXICO**

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

APRIL 2009

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

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

BP AMERICA PRODUCTION COMPANY
GCU # 194 - Dehydrator Pit
NW/4 NW/4, Sec. 5, T27N, R12W

Monitor Well Installation Date: 7/6/06 (MW #4)

Monitor Well Sampling Dates: 4/14/08, 6/9/08, 8/26/08

Site History:

A site dehydrator pit closure was initiated in April 2002. Potential groundwater impacts were identified within the source area from sampling and testing of the exposed groundwater via excavation. A secondary source area was discovered during installation of a groundwater monitor well (MW #3) in December 2002; and thereafter, sampling and testing verified groundwater impacts. During quarterly sampling in March 2004, free phase product was observed within MW #3 and continues to be present. Documentation of this work and subsequent groundwater monitoring data for the site have previously been submitted for New Mexico Oil Conservation Division (NMOCD) review. Further site delineation and limited excavation of the secondary source area was suggested within the report. The reporting herein is for site monitoring in 2008 only.

Groundwater Monitor Well Sampling Procedures:

Monitor well MW #4 was developed by hand-bailing, using new disposable bailers after installation. Prior to sample collections, MW #4 was purged approximately three (3) well bore volumes with new disposable bailers. The groundwater samples were collected following US EPA: SW-846 protocol, were placed into laboratory supplied containers with appropriate preservative, and stored in an ice chest for express delivery to an analytical laboratory for testing under strict chain-of-custody procedures. Analytical testing for benzene, toluene, ethylbenzene, and total xylenes (BTEX) by US EPA Method 8021B or 8260 was conducted.

Fluids generated during monitor well development and purging was managed by discarding into the separator below-grade tank (BGT) located on the well site. The BGT contents are then disposed through approved NMOCD operational procedures for removal of produced fluids.

Groundwater Quality & Flow Direction Information:

Since June 2007, monitor well MW #4 has been sampled primarily on a quarterly basis. Fluctuations above and below the New Mexico Water Quality Control Commission (NMWQCC) standards has been recorded. Source area monitor well MW#3 has continued to reveal the presence of free phase product. A historical summary of laboratory analytical BTEX results is included within the table on the following page. Field data sheets, laboratory reports, and laboratory quality assurance/quality control information are also included.

Groundwater contour maps of relative water table elevations have consistently been measure to flow in the north direction, parallel to the nearby Gallegos Canyon wash (Figure 2 through Figure 4).

Summary and/or Recommendations:

The well site is located in a very remote area of San Juan County. Bi-annual monitoring of MW #3 and sampling of MW #4 is currently suggested. The presence of free phase product within monitor well MW #3 indicates long term monitoring will be necessary if proactive remediation efforts are not undertaken. Shallow groundwater suggests excavation of the secondary source area will likely be the best available reclamation technology. Alternative technologies such as air sparging may be suitable for remediation of lower dissolved concentrations of BTEX and/or the secondary source area.

BP AMERICA PROD. CO. GROUNDWATER LAB RESULTS

SUBMITTED BY BLAGG ENGINEERING, INC.

GCU # 194 - SEPARATOR PIT
UNIT D, SEC. 5, T27N, R12W

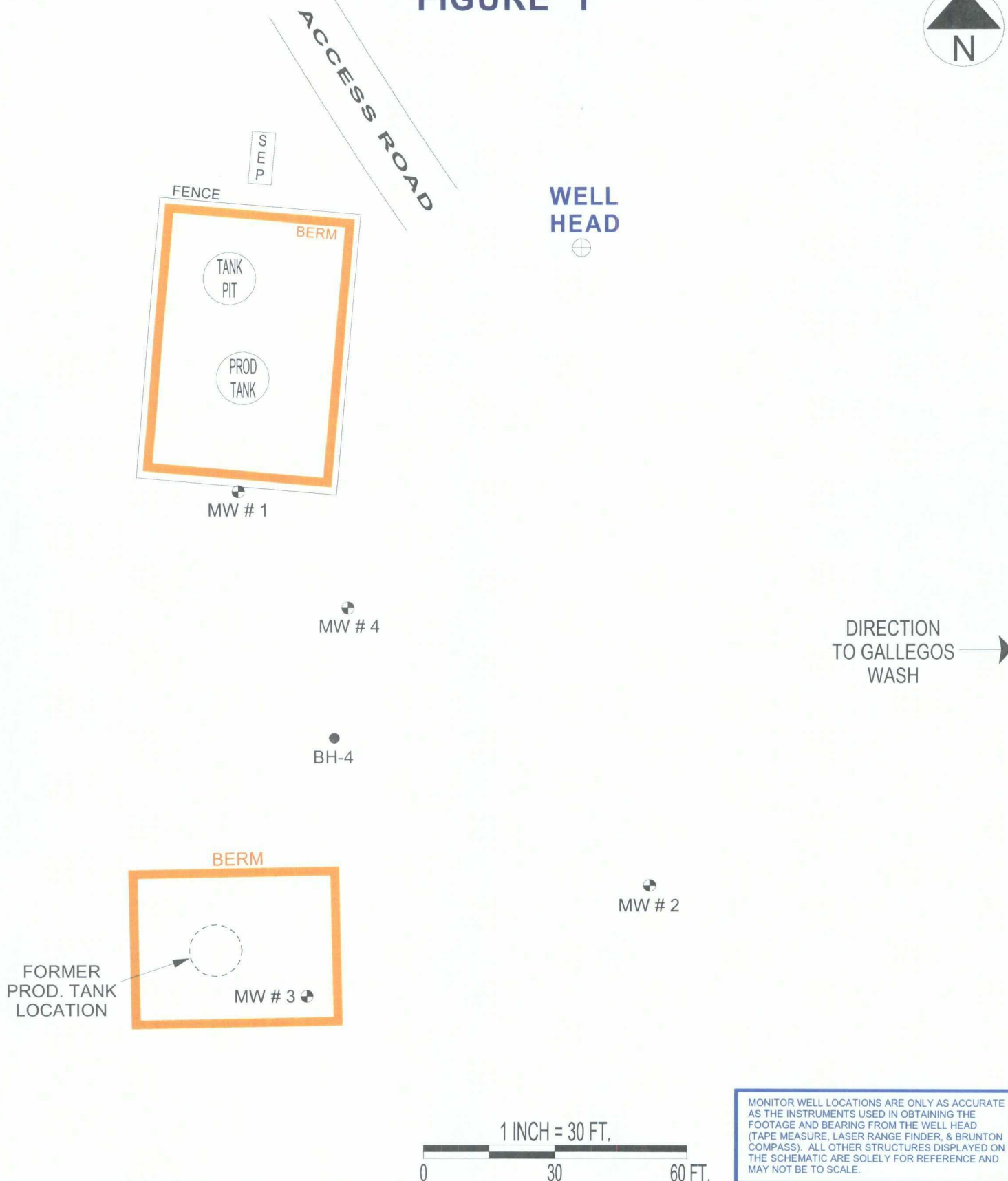
REVISED DATE: September 11, 2008

FILENAME: (194-3Q08.WK4) NJV

SAMPLE DATE	WELL NAME or No.	D.T.W. (ft)	T.D. (ft)	TDS (mg/L)	COND. umhos	pH	PRODUCT (ft)	BTEX EPA METHOD 8021B (ppb)			
								Benzene	Toluene	Ethyl Benzene	Total Xylene
23-Dec-02	MW #1	8.04	14.50	-	6,100	7.73	-	ND	ND	ND	ND
23-Dec-02	MW #2	7.84	14.50	-	7,100	7.94	-	6.8	0.5	14	8.0
24-Feb-03		7.72		-	6,900	8.03	-	5.4	ND	9.9	13
29-May-03		7.96			6,100	7.78		5.4	1.0	6.7	11
18-Aug-03		8.58			8,700	7.56		11	ND	17	19
18-Nov-03		8.20			7,900	7.66		2.3	ND	8.4	5.1
22-Mar-04		7.80			6,800	7.59		2.1	ND	5.8	7.6
23-Jun-04		8.43			8,000	7.49		3.5	ND	8.5	5.4
22-Dec-04		7.93			N/A	N/A		ND	ND	1.9	2.7
28-Mar-05		7.67			6,400	7.58		ND	ND	1.5	2.1
23-Dec-02	MW #3	8.69	14.00	-	8,800	7.80	-	180	34	220	2,130
29-May-03		8.81			7,700	7.40		8.6	7.6	8.5	17
18-Aug-03		9.46			9,500	7.25		13	ND	2.1	30
18-Nov-03		8.97			7,900	7.37		1,800	100	1,300	13,000
22-Mar-04							0.01				
23-Jun-04							0.45				
22-Dec-04							0.40				
28-Mar-05							0.01				
27-Jul-06							0.04				
25-Jun-07							0.10				
17-Sep-07							0.01				
14-Nov-07							0.01				
14-Apr-08							0.12				
09-Jun-08							0.02				
26-Aug-08							0.28				
03-Aug-06	MW #4	8.82	17.15		800	7.33		91	ND	130	ND
25-Jun-07		8.60			4,800	7.44		ND	ND	ND	ND
17-Sep-07		8.87			6,500	7.22		ND	ND	ND	ND
14-Nov-07		8.43			7,100	7.57		31	ND	26	ND
14-Apr-08		7.98			7,400	7.59		171	ND	197	ND
"	(dup.)	"			"	"		180	ND	216	ND
09-Jun-08		8.38			3,500	7.60		128	ND	191	ND
26-Aug-08		8.93			4,700	7.59		68	ND	300	ND
NMWQCC GROUNDWATER STANDARDS								10	750	750	620

- NOTES :
- 1) RESULTS IN BOLD RED TYPE INDICATE EXCEEDING NMWQCC STANDARDS .
 - 2) RESULTS IN BOLD BLUE TYPE INDICATE BELOW NMWQCC STANDARDS AFTER PREVIOUS RESULTS IN BOLD RED TYPE EXCEEDED .
 - 3) ND INDICATES NOT DETECTED AT THE REPORTING LIMITS (less than regulatory standards of at least a magnitude of 10) .

FIGURE 1



BP AMERICA PRODUCTION COMPANY

GCU # 194

NW/4 NW/4 SEC. 5, T27N, R12W, NMPM

SAN JUAN COUNTY, NEW MEXICO

BLAGG ENGINEERING, I NC.

CONSULTING PETROLEUM / RECLAMATION SERVICES

P.O. BOX 87

BLOOMFIELD, NEW MEXICO 87413

PHONE: (505) 632-1199

PROJECT: MW INSTALLATION

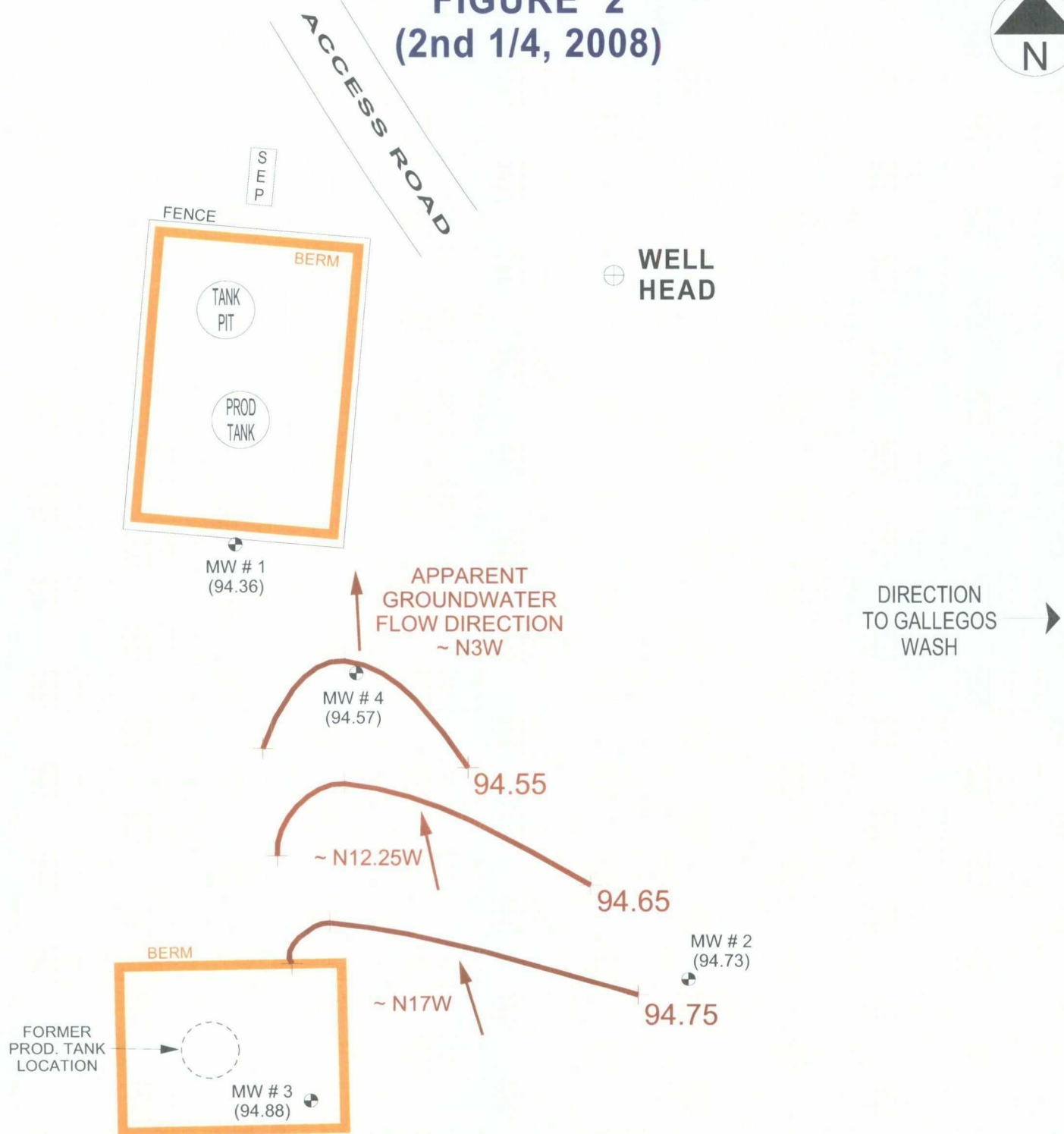
DRAWN BY: NJV

FILENAME: 07-06-06-SM2.SKF

SITE
MAP

07/06

FIGURE 2
(2nd 1/4, 2008)



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

Top of Well Elevation	
MW #1	(102.35)
MW #2	(102.47)
MW #3	(103.43)
MW #4	(102.55)
Groundwater Elevation as of 4/14/08.	

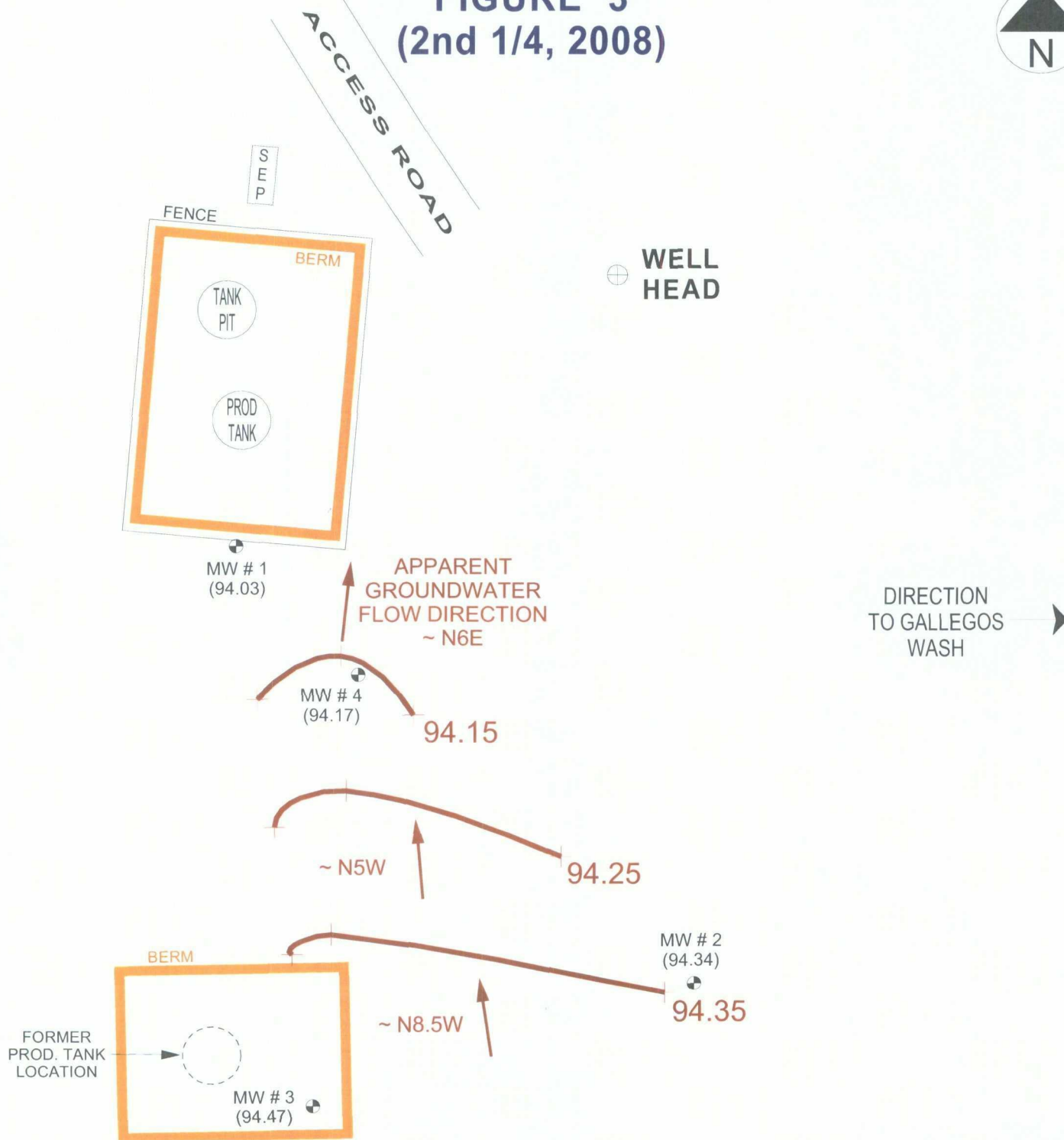
BP AMERICA PRODUCTION COMPANY
GCU # 194
NW/4 NW/4 SEC. 5, T27N, R12W, NMPM
SAN JUAN COUNTY, NEW MEXICO

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

PROJECT: MW SAMPLING
DRAWN BY: NJV
FILENAME: 04-14-08-GW.SKF
REVISED: 4-16-08 NJV

**GROUNDWATER
CONTOUR
MAP
04/08**

FIGURE 3
(2nd 1/4, 2008)



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

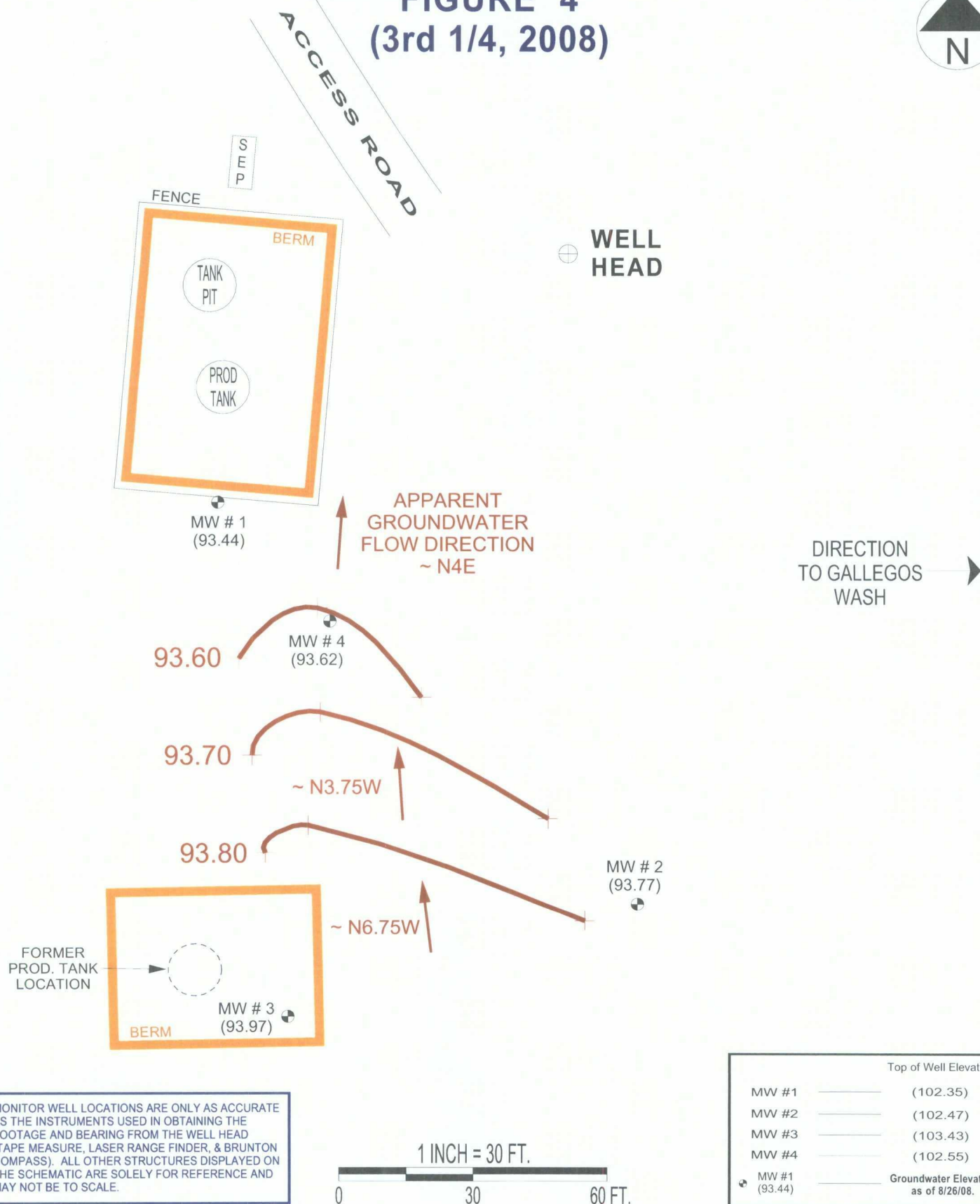
BP AMERICA PRODUCTION COMPANY
GCU # 194
NW/4 NW/4 SEC. 5, T27N, R12W, NMPM
SAN JUAN COUNTY, NEW MEXICO

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

PROJECT: MW SAMPLING
DRAWN BY: NJV
FILENAME: 06-09-08-GW.SKF
REVISED: 6-18-08 NJV

**GROUNDWATER
CONTOUR
MAP**
06/08

FIGURE 4
(3rd 1/4, 2008)



BP AMERICA PRODUCTION COMPANY
GCU # 194
NW/4 NW/4 SEC. 5, T27N, R12W, NMPM
SAN JUAN COUNTY, NEW MEXICO

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

PROJECT: MW SAMPLING
DRAWN BY: NJV
FILENAME: 08-26-08-GW.SKF
REVISED: 8-26-08 NJV

**GROUNDWATER
CONTOUR
MAP
08/08**

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

CLIENT : **BP AMERICA PROD. CO.**

CHAIN-OF-CUSTODY # : **156392**

GCU # 194 - SEPARATOR PIT
UNIT D, SEC. 5, T27N, R12W

LABORATORY (S) USED : **HALL ENVIRONMENTAL**

Date : **April 14, 2008**

SAMPLER : **N J V**

Filename : **04-14-08.WK4**

PROJECT MANAGER : **N J V**

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)	
1	102.35	94.36	7.99	14.50	-	-	-	-	-	
2	102.47	94.73	7.74	14.50	-	-	-	-	-	
3	103.43	94.88 *	8.55	15.00	-	-	-	-	-	
DEPTH TO PRODUCT (FT.) =			8.51	DEPTH TO WATER (FT.) =			8.63	PRODUCT THICKNESS (FT.) =		0.12
4	102.55	94.57	7.98	17.15	1150	7.59	7,400	19.2	4.50	

INSTRUMENT CALIBRATIONS =

4.01/7.00/10.00	2,800
04/14/08	0800

DATE & TIME =

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:

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

Comments or note well diameter if not standard 2".

* INDICATES PRODUCT SPECIFIC GRAVITY ASSUMED TO = 0.65 .

Product thickness measured with disposable bailer .

Excellent recovery in MW # 4 . Murky brown in appearance . Collected sample from MW # 4 for BTEX analysis only . Duplicate sample collected from MW # 4 and labeled on chain of custody as MW # 14 (time on COCR = 1115) .

Top of casing MW # 1 ~ 2.40 ft. , MW # 2 ~ 2.55 ft. , MW # 3 ~ 2.40 ft. , MW # 4 ~ 2.60 ft. above grade .

ANALYTICAL RESULTS

Project: GCU #194

Pace Project No.: 6038710

Sample: MW #4		Lab ID: 6038710001		Collected: 04/14/08 11:50		Received: 04/16/08 08:30		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water		Analytical Method: EPA 8260							
Benzene	171 ug/L		1.0	1		04/18/08 17:33	71-43-2		
Ethylbenzene	197 ug/L		1.0	1		04/18/08 17:33	100-41-4		
Toluene	ND ug/L		1.0	1		04/18/08 17:33	108-88-3		
Xylene (Total)	ND ug/L		3.0	1		04/18/08 17:33	1330-20-7		
Dibromofluoromethane (S)	96 %		85-114	1		04/18/08 17:33	1868-53-7		
Toluene-d8 (S)	105 %		82-114	1		04/18/08 17:33	2037-26-5		
4-Bromofluorobenzene (S)	96 %		85-119	1		04/18/08 17:33	460-00-4		
1,2-Dichloroethane-d4 (S)	98 %		81-118	1		04/18/08 17:33	17060-07-0		
Preservation pH	1.0		1.0	1		04/18/08 17:33			

Date: 04/23/2008 04:48 PM

REPORT OF LABORATORY ANALYSIS

Page 5 of 9

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156392

Chain of Custody Record

Project Name:

GCM #194

BP BU/AR Region/Enfos Segment:

SAN JUAN OC SOUTH

State or Lead Regulatory Agency:

NMOSD/BLM/NEPA

Requested Due Date (mm/dd/yy):

4/28/08

Page 1 of 1

On-site Time: 10:50 Temp: 66°F

Off-site Time: 11:12 Temp: 71°F

Sky Conditions: SUNNY

Meteorological Events:

Wind Speed: 0-5 Direction: WEST

Lab Name: PACE ANALYTICAL		BP/AR Facility No.: WR 192509		Consultant/Contractor: BRGG/URS		
Address: 9608 LOIRET BLVD.		BP/AR Facility Address:		Address: 110 N. FOURTH ST.		
City: LENEXA, KS 66219		Site Lat/Long:		City: BLOOMFIELD, NM 87413		
Lab PM: MARY JANE WALLS		California Global ID No.:		Consultant/Contractor Project No.: 41008749		
Tele/Fax: (913) 599-5665 FAX: (913) 599-1759		Enfos Project No.: 0018R		Consultant/Contractor PM: NELSON VELEZ		
BP/AR PM Contact: MIKE WHEELAP, PG		Provision or RCOP (circle one)		Tele/Fax: (505) 632-1199 FAX: (505) 632-3903		
Address: 501 WESTLAKE PARK BLVD.		Phase/WBS:		Report Type & QC Level: STANDARD		
Rm. 28.144B Houston, TX 77079		Sub Phase/Task:		E-mail EDD To: 61999-njc@yahoo.com		
Tele/Fax: (281) 366-7485 FAX: (281) 366-7094		Cost Element: 01		Invoice to: Consultant or BP of Atlantic Richfield Co. (circle one)		
Lab Bottle Order No.: 5752		Matrix		Requested Analysis		
Item No.	Sample Description	Time	Date	Soil/Solid	Water/Liquid	Air
1	MW # 4	1150	4/14/08	✓	✓	✓
2	MW # 14	1115	4/14/08	✓	✓	✓
3						
4						
5						
6						
7						
8						
9						
10						
Sampler's Name: NELSON VELEZ		Relinquished By / Affiliation		Date		Time
Sampler's Company: BLAEG ENGINEERING, INC.		Signature: <i>Nelson Velez</i>		4/15/08		1540
Shipment Date: APRIL 15, 2008						
Shipment Method: FED EX OVERNITE						
Shipment Tracking No.: 4994348726						
Special Instructions: REPORT BTEX CONSTITUENTS ONLY. SAN JUAN COUNTY, NM						
Custody Seals In Place Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Temp Blank Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Cooler Temperature on Receipt 6.7 °F Trip Blank Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>						

SAMPLE SUMMARY

Project: GCU #194
Pace Project No.: 6038710

Lab ID	Sample ID	Matrix	Date Collected	Date Received
6038710001	MW #4	Water	04/14/08 11:50	04/16/08 08:30
6038710002	MW #14	Water	04/14/08 11:15	04/16/08 08:30

REPORT OF LABORATORY ANALYSIS

Page 2 of 9

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SAMPLE ANALYTE COUNT

Project: GCU #194
Pace Project No.: 6038710

Lab ID	Sample ID	Method	Analysts	Analytes Reported
6038710001	MW #4	EPA 8260	GEZ	9
6038710002	MW #14	EPA 8260	GEZ	9

REPORT OF LABORATORY ANALYSIS

Page 3 of 9

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PROJECT NARRATIVE

Project: GCU #194
Pace Project No.: 6038710

Method: EPA 8260
Description: 8260 MSV UST, Water
Client: BP-Blagg Engineering
Date: April 23, 2008

General Information:

2 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

Page 4 of 9

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ANALYTICAL RESULTS

Project: GCU #194
Pace Project No.: 6038710

Sample: MW #14		Lab ID: 6038710002	Collected: 04/14/08 11:15	Received: 04/16/08 08:30	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
8260 MSV UST, Water		Analytical Method: EPA 8260							
Benzene	180	ug/L	1.0	1		04/18/08 17:50	71-43-2		
Ethylbenzene	216	ug/L	1.0	1		04/18/08 17:50	100-41-4		
Toluene	ND	ug/L	1.0	1		04/18/08 17:50	108-88-3		
Xylene (Total)	ND	ug/L	3.0	1		04/18/08 17:50	1330-20-7		
Dibromofluoromethane (S)	92	%	85-114	1		04/18/08 17:50	1868-53-7		
Toluene-d8 (S)	111	%	82-114	1		04/18/08 17:50	2037-26-5		
4-Bromofluorobenzene (S)	111	%	85-119	1		04/18/08 17:50	460-00-4		
1,2-Dichloroethane-d4 (S)	93	%	81-118	1		04/18/08 17:50	17060-07-0		
Preservation pH	1.0		1.0	1		04/18/08 17:50			

Date: 04/23/2008 04:48 PM

REPORT OF LABORATORY ANALYSIS

Page 6 of 9

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QUALITY CONTROL DATA

Project: GCU #194
Pace Project No.: 6038710

QC Batch: MSV/14089 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 6038710001, 6038710002

METHOD BLANK: 314296

Associated Lab Samples: 6038710001, 6038710002

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Benzene	ug/L	ND	1.0	
Ethylbenzene	ug/L	ND	1.0	
Toluene	ug/L	ND	1.0	
Xylene (Total)	ug/L	ND	3.0	
1,2-Dichloroethane-d4 (S)	%	97	81-118	
4-Bromofluorobenzene (S)	%	92	85-119	
Dibromofluoromethane (S)	%	101	85-114	
Toluene-d8 (S)	%	101	82-114	

LABORATORY CONTROL SAMPLE: 314297

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	10	10.7	107	87-117	
Ethylbenzene	ug/L	10	11.1	111	84-123	
Toluene	ug/L	10	11.0	110	81-124	
Xylene (Total)	ug/L	30	32.4	108	83-125	
1,2-Dichloroethane-d4 (S)	%			95	81-118	
4-Bromofluorobenzene (S)	%			95	85-119	
Dibromofluoromethane (S)	%			99	85-114	
Toluene-d8 (S)	%			103	82-114	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 314298 314299

Parameter	Units	6038782001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
Benzene	ug/L	ND	10	10	10.3	9.7	101	96	30-162	6	22
Ethylbenzene	ug/L	ND	10	10	9.3	9.8	92	96	37-154	4	18
Toluene	ug/L	ND	10	10	9.8	10.6	93	101	49-143	8	20
Xylene (Total)	ug/L	ND	30	30	28.9	30.2	91	96	32-154	4	15
1,2-Dichloroethane-d4 (S)	%						113	115	81-118		
4-Bromofluorobenzene (S)	%						95	100	85-119		
Dibromofluoromethane (S)	%						106	108	85-114		
Toluene-d8 (S)	%						97	101	82-114		
Preservation pH		1.0			1.0	1.0				0	

QUALIFIERS

Project: GCU #194
Pace Project No.: 6038710

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: GCU #194
Pace Project No.: 6038710

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
6038710001	MW #4	EPA 8260	MSV/14089		
6038710002	MW #14	EPA 8260	MSV/14089		



Sample Condition Upon Receipt

Client Name: BP ELACG

Project # 6038710

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: _____

Custody Seal on Cooler/Box Present: ☒ yes ☐ no Seals intact: ☒ yes ☐ no

Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other _____

Thermometer Used T-168 / ~~T-169~~

Type of Ice: Wet Blue None

☐ Samples on ice, cooling process has begun

Cooler Temperature 0-7

Biological Tissue is Frozen: Yes No

Temp should be above freezing to 6°C

Comments:

Date and Initials of person examining contents: BW 4/16
S: 1511 E: 1522

Chain of Custody Present: ☒ Yes ☐ No ☐ N/A

1.

Chain of Custody Filled Out: ☒ Yes ☐ No ☐ N/A

2.

Chain of Custody Relinquished: ☒ Yes ☐ No ☐ N/A

3.

Sampler Name & Signature on COC: ☒ Yes ☐ No ☐ N/A

4.

Samples Arrived within Hold Time: ☒ Yes ☐ No ☐ N/A

5.

Short Hold Time Analysis (<72hr): ☐ Yes ☒ No ☐ N/A

6.

Rush Turn Around Time Requested: ☐ Yes ☒ No ☐ N/A

7.

Sufficient Volume: ☒ Yes ☐ No ☐ N/A

8.

Correct Containers Used: ☒ Yes ☐ No ☐ N/A

9.

-Pace Containers Used: ☒ Yes ☐ No ☐ N/A

Containers Intact: ☒ Yes ☐ No ☐ N/A

10.

Filtered volume received for Dissolved tests ☐ Yes ☒ No ☐ N/A

11.

Sample Labels match COC: ☒ Yes ☐ No ☐ N/A

12.

-Includes date/time/ID/Analysis Matrix: Wt

All containers needing preservation have been checked. ☐ Yes ☐ No ☒ N/A

13.

All containers needing preservation are found to be in compliance with EPA recommendation. ☐ Yes ☐ No ☒ N/A

exceptions: VOA coliform, TOC, O&G, WI-DRO (water) ☒ Yes ☐ No

Initial when completed

Lot # of added preservative

Samples checked for dechlorination: ☐ Yes ☐ No ☒ N/A

14.

Headspace in VOA Vials (>6mm): ☐ Yes ☒ No ☐ N/A

15.

Trip Blank Present: ☒ Yes ☐ No ☐ N/A

16.

Trip Blank Custody Seals Present ☒ Yes ☐ No ☐ N/A

Pace Trip Blank Lot # (if purchased): 031708

Client Notification/ Resolution:

Field Data Required?

Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: MW 4/17/08

Date: _____

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

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

CLIENT : **BP AMERICA PROD. CO.**

CHAIN-OF-CUSTODY # : **N / A**

GCU # 194 - SEPARATOR PIT
UNIT D, SEC. 5, T27N, R12W

LABORATORY (S) USED : **PACE ANALYTICAL**

Date : **June 9, 2008**

SAMPLER : **N J V**

Filename : **06-09-08.WK4**

PROJECT MANAGER : **N J V**

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	102.35	94.03	8.32	14.50	-	-	-	-	-
2	102.47	94.34	8.13	14.50	-	-	-	-	-
3	103.43	93.47 *	9.96	15.00	-	-	-	-	-
DEPTH TO PRODUCT (FT.) =			9.97	DEPTH TO WATER (FT.) =		9.95	PRODUCT THICKNESS (FT.) =		0.02
4	102.55	94.17	8.38	17.15	0710	7.60	3,500	11.6	4.25

INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800
DATE & TIME =	06/09/08	0700

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:

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

Comments or note well diameter if not standard 2 ".

* INDICATES PRODUCT SPECIFIC GRAVITY ASSUMED TO = 0.65 .

Excellent recovery in MW # 4 . Murky brown in appearance . Collected sample from MW # 4 for BTEX analysis only .

Top of casing MW # 1 ~ 2.40 ft. , MW # 2 ~ 2.55 ft. , MW # 3 ~ 2.40 ft. , MW # 4 ~ 2.60 ft. above grade .

on-site	6:33	temp	43
off-site	7:33	temp	46
sky cond.	sunny		
wind speed	0-5	direct.	East

ANALYTICAL RESULTS

Project: GCU 194
Pace Project No.: 6041669

Sample: MW#4 **Lab ID: 6041669001** Collected: 06/07/08 07:10 Received: 06/11/08 09:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water		Analytical Method: EPA 8260						
Benzene	128	ug/L	1.0	1		06/14/08 05:02	71-43-2	
Ethylbenzene	191	ug/L	1.0	1		06/14/08 05:02	100-41-4	
Toluene	ND	ug/L	1.0	1		06/14/08 05:02	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		06/14/08 05:02	1330-20-7	
Dibromofluoromethane (S)	98	%	85-114	1		06/14/08 05:02	1868-53-7	
Toluene-d8 (S)	100	%	82-114	1		06/14/08 05:02	2037-26-5	
4-Bromofluorobenzene (S)	111	%	85-119	1		06/14/08 05:02	460-00-4	
1,2-Dichloroethane-d4 (S)	109	%	81-118	1		06/14/08 05:02	17060-07-0	
Preservation pH	1.0		1.0	1		06/14/08 05:02		

Date: 06/24/2008 03:42 PM

REPORT OF LABORATORY ANALYSIS

Page 5 of 8

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Atlantic Richfield Company

A BP affiliated company

Chain of Custody Record

Project Name: GCU 194

BP BU/AR Region/Enfos Segment: SJOC SOUTH

State or Lead Regulatory Agency: NMOC/NEPA/BUM

Requested Due Date (mm/dd/yy): 6/20/08

On-site Time: 6:33 Temp: 43°F
Off-site Time: 7:33 Temp: 46°F
Sky Conditions: SUNNY
Meteorological Events:
Wind Speed: 0-5 Direction: EAST

Lab Name: Pace Analytical Services, Inc.				BP/AR Facility No.:				Consultant/Contractor: Blagg/URS							
Address: 9609 Loiret Blvd				BP/AR Facility Address:				Address: 110 N. Forth St.							
Lenexa, KS 66219				Site Lat/Long:				Bloomfield, NM 87413							
Lab PM: MJ Walls				California Global ID No.:				Consultant/Contractor Project No.:							
Tel/Fax: 913-563-1401				Enfos Project No.:				Consultant/Contractor PM: Nelson Velez							
BP/AR EMB: Mike Whelan				Provision or OOC (circle one)				Tel: (505) 632-1199 Fax: (505) 632-3903							
Address: 501 Westlake Park Blvd.				Phase/WBS:				Report Type & QC Level: STD							
Rm28, 144B Houston, TX 77079				Sub Phase/Task:				E-Mail EDD To: blagg-nv@yahoo.com							
Tel: (281) 366-7485 Fax: (281) 366-7094				Cost Element:				Invoice to: Consultant or BP or Atlantic Richfield Co. (circle one)							
Item No.	Sample Description	Time	Date	Matrix			Laboratory No.	No. of Containers	Preservative					Requested Analysis	Sample Point Lat/Long and Comments
				Water/Liquid	Soil/Solid	Air			Unpreserved	H ₂ SO ₄	HNO ₃	HCl	Methanol		
1	MW #4	07/04/08		✓			001	3	✓					✓	3(0694)
2															
3															
4															
5															
6															
7															
8															
9															
10															
Sampler's Name: NELSON Velez				Relinquished By / Affiliation: <i>Nelson Velez</i>				Date: 6/19/08				Time: 1540			
Sampler's Company: BLAGG ENER, INC.															
Shipment Date: JUNE 10, 2008															
Shipment Method: FEDEX															
Shipment Tracking No: 4994348682															
Special Instructions: REPORT BTEX CONSTITUENTS ONLY. JAR JUAN COUNTY, NM															
Custody Seals In Place (Yes/No)				Temp Blank (Yes/No)				Cooler Temp on Receipt: 51.2 °F (C)				Trip Blank (Yes/No)			
												MS/MSD Sample Submitted: Yes (No)			

SAMPLE SUMMARY

Project: GCU 194
Pace Project No.: 6041669

Lab ID	Sample ID	Matrix	Date Collected	Date Received
6041669001	MW#4	Water	06/07/08 07:10	06/11/08 09:10

REPORT OF LABORATORY ANALYSIS

Page 2 of 8

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SAMPLE ANALYTE COUNT

Project: GCU 194
Pace Project No.: 6041669

Lab ID	Sample ID	Method	Analysts	Analytes Reported
6041669001	MW#4	EPA 8260	JTK	9

REPORT OF LABORATORY ANALYSIS

Page 3 of 8

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PROJECT NARRATIVE

Project: GCU 194

Pace Project No.: 6041669

Method: EPA 8260

Description: 8260 MSV UST, Water

Client: BP-Blagg Engineering

Date: June 24, 2008

General Information:

1 sample was analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MSV/15178

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

Page 4 of 8

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QUALITY CONTROL DATA

Project: GCU 194
Pace Project No.: 6041669

QC Batch:	MSV/15178	Analysis Method:	EPA 8260
QC Batch Method:	EPA 8260	Analysis Description:	8260 MSV UST-WATER
Associated Lab Samples:	6041669001		

METHOD BLANK: 340016

Associated Lab Samples: 6041669001

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Benzene	ug/L	ND	1.0	
Ethylbenzene	ug/L	ND	1.0	
Toluene	ug/L	ND	1.0	
Xylene (Total)	ug/L	ND	3.0	
1,2-Dichloroethane-d4 (S)	%	98	81-118	
4-Bromofluorobenzene (S)	%	108	85-119	
Dibromofluoromethane (S)	%	94	85-114	
Toluene-d8 (S)	%	100	82-114	

LABORATORY CONTROL SAMPLE: 340017

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	10	11.3	113	87-117	
Ethylbenzene	ug/L	10	11.0	110	84-123	
Toluene	ug/L	10	10.8	108	81-124	
Xylene (Total)	ug/L	30	33.6	112	83-125	
1,2-Dichloroethane-d4 (S)	%			94	81-118	
4-Bromofluorobenzene (S)	%			105	85-119	
Dibromofluoromethane (S)	%			96	85-114	
Toluene-d8 (S)	%			100	82-114	

QUALIFIERS

Project: GCU 194
Pace Project No.: 6041669

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

BATCH QUALIFIERS

Batch: MSV/15178

[1] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: GCU 194

Pace Project No.: 6041669

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
6041669001	MW#4	EPA 8260	MSV/15178		



Sample Condition Upon Receipt

Client Name: BR BLAZE

Project # 0041669

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 8643 6005 2346

Custody Seal on Cooler/Box Present: ☒ yes ☐ no Seals intact: ☒ yes ☐ no

Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other _____

Thermometer Used T-169 / ~~TX79~~ Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 5.2

Biological Tissue is Frozen: Yes No

Temp should be above freezing to 6°C

Comments:

Optional	
Proj. Due Date:	
Proj. Name:	
Date and Initials of person examining contents: <u>EW 6/11</u>	
<u>S: 1010</u>	<u>E: 1015</u>

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>WT</u>		
All containers needing preservation have been checked.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
exceptions: <u>VOA</u> , coliform, TOC, O&G, WI-DRO (water)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Initial when completed
		Lot # of added preservative
Samples checked for dechlorination:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	16.
Trip Blank Custody Seals Present	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): <u>051208</u>		

Client Notification/ Resolution: _____ Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: mw 6/12/08 Date: _____

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

CLIENT : **BP AMERICA PROD. CO.**

CHAIN-OF-CUSTODY # : **N / A**

GCU # 194 - SEPARATOR PIT
UNIT D, SEC. 5, T27N, R12W

LABORATORY (S) USED : **HALL ENVIRONMENTAL**

Date : **August 26, 2008**

SAMPLER : **N J V**

Filename : **08-26-08.WK4**

PROJECT MANAGER : **N J V**

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)	
1	102.35	93.44	8.91	14.50	-	-	-	-	-	
2	102.47	93.77	8.70	14.50	-	-	-	-	-	
3	103.43	93.97 *	9.46	15.00	-	-	-	-	-	
DEPTH TO PRODUCT (FT.) =			9.36	DEPTH TO WATER (FT.) =			9.64	PRODUCT THICKNESS (FT.) =		0.28
4	102.55	93.62	8.93	17.15	0750	7.57	4,700	18.7	4.00	

INSTRUMENT CALIBRATIONS =

DATE & TIME =

4.01/7.00/10.00	2,800
08/25/08	0730

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:

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

Comments or note well diameter if not standard 2".

* INDICATES PRODUCT SPECIFIC GRAVITY ASSUMED TO = 0.65 .

Excellent recovery in MW #4 . Murky brown in appearance . Collected sample from MW #4 for BTEX analysis only .

Top of casing MW #1 ~ 2.40 ft. , MW #2 ~ 2.55 ft. , MW #3 ~ 2.40 ft. , MW #4 ~ 2.60 ft. above grade .

on-site	7:16	temp	65
off-site	8:05	temp	68
sky cond.	Partly cloudy		
wind speed	0-5	direct.	East

Hall Environmental Analysis Laboratory, Inc.

Date: 09-Sep-08

CLIENT: Blagg Engineering
Lab Order: 0808451
Project: GCU #194
Lab ID: 0808451-01

Client Sample ID: MW #4
Collection Date: 8/26/2008 7:50:00 AM
Date Received: 8/28/2008
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Benzene	68	5.0		µg/L	5	9/8/2008 1:56:12 PM
Toluene	ND	1.0		µg/L	1	9/6/2008 1:10:56 PM
Ethylbenzene	300	5.0		µg/L	5	9/8/2008 1:56:12 PM
Xylenes, Total	ND	2.0		µg/L	1	9/6/2008 1:10:56 PM
Surr: 4-Bromofluorobenzene	115	65.9-130		%REC	1	9/6/2008 1:10:56 PM

Qualifiers: * Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
MCL Maximum Contaminant Level
RL Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Turn-Around Time:

☒ Standard ☐ Rush

Project Name:

662 #194

Project #:

email or Fax#:

QA/QC Package:

☒ Standard

☐ Other

☐ EDD (Type)

Project Manager:

Nicol Velez

Sampler:

Once	Yes
------	-----

Sample Temperature

Date _____

Sample Request ID

Container Type and #	Preservative Type
-------------------------	----------------------

HEAL No.:

mw #4

2-40m	K/cool
-------	--------

0808451

Date: /	Time:
---------	-------

Relinquished by: _____

Received by:	Remarks:
--------------	----------

Date: _____ Time: _____

Relinquished by:

Received by:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: GCU #194

Work Order: 0808451

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
---------	--------	-------	-----	------	----------	-----------	------	----------	------

Method: EPA Method 8021B: Volatiles

Sample ID: 5ML RB

MBLK

Batch ID: R30092 Analysis Date: 9/5/2008 9:01:25 AM

Benzene	ND	µg/L	1.0
Toluene	ND	µg/L	1.0
Ethylbenzene	ND	µg/L	1.0
Xylenes, Total	ND	µg/L	2.0

Sample ID: B

MBLK

Batch ID: R30121 Analysis Date: 9/8/2008 11:06:35 AM

Benzene	ND	µg/L	1.0
Toluene	ND	µg/L	1.0
Ethylbenzene	ND	µg/L	1.0
Xylenes, Total	ND	µg/L	2.0

Sample ID: 100NG BTEX LCS

LCS

Batch ID: R30092 Analysis Date: 9/6/2008 5:56:41 PM

Benzene	17.37	µg/L	1.0	86.9	85.9	113
Toluene	16.25	µg/L	1.0	81.2	86.4	113
Ethylbenzene	17.54	µg/L	1.0	87.7	83.5	118
Xylenes, Total	52.19	µg/L	2.0	87.0	83.4	122

S

Sample ID: 100NG BTEX LCSD

LCSD

Batch ID: R30092 Analysis Date: 9/6/2008 6:27:14 PM

Benzene	17.39	µg/L	1.0	87.0	85.9	113	0.115	27
Toluene	16.48	µg/L	1.0	82.4	86.4	113	1.39	19
Ethylbenzene	17.67	µg/L	1.0	88.4	83.5	118	0.738	10
Xylenes, Total	52.43	µg/L	2.0	87.4	83.4	122	0.455	13

S

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name **BLAGG**

Date Received:

8/28/2008

Work Order Number **0808451**

Received by: **AT**

Sample ID labels checked by:

Checklist completed by:

Signature

Date

Initials

Matrix:

Carrier name **UPS**

Shipping container/cooler in good condition?

Yes ☒

No ☐

Not Present ☐

Custody seals intact on shipping container/cooler?

Yes ☒

No ☐

Not Present ☐

Not Shipped ☐

Custody seals intact on sample bottles?

Yes ☐

No ☐

N/A ☒

Chain of custody present?

Yes ☒

No ☐

Chain of custody signed when relinquished and received?

Yes ☒

No ☐

Chain of custody agrees with sample labels?

Yes ☒

No ☐

Samples in proper container/bottle?

Yes ☒

No ☐

Sample containers intact?

Yes ☒

No ☐

Sufficient sample volume for indicated test?

Yes ☒

No ☐

All samples received within holding time?

Yes ☒

No ☐

Water - VOA vials have zero headspace?

No VOA vials submitted ☐

Yes ☒

No ☐

Water - Preservation labels on bottle and cap match?

Yes ☐

No ☐

N/A ☒

Water - pH acceptable upon receipt?

Yes ☐

No ☐

N/A ☒

Container/Temp Blank temperature?

1°

<6° C Acceptable

If given sufficient time to cool.

COMMENTS:

Client contacted

Date contacted:

Person contacted

Contacted by:

Regarding:

Comments:

Corrective Action