

**BLAGG ENGINEERING, INC.**

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

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

January 30, 2012

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 # 153E, Unit C, Sec. 28, T29N, R12W, NMPM  
San Juan County, New Mexico**

**NMOCD Administrative/Environmental Order #: 3RP-17-0**

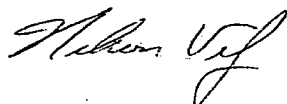
Dear Mr. von Gonten:

BP America Production Company (**BP**) has retained Blagg Engineering, Inc. (**BEI**) to conduct environmental monitoring of groundwater at the GCU # 153E.

The last formal correspondence to NMOCD was conducted with letter dated, February 1, 2011. 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, Inspection and Enforcement Supervisor, NMOCD District III Office, Aztec, NM  
Mr. Jeff Peace, Environmental Advisor, BP, Farmington, NM

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2012 JAN 31 P 1:53

**BP AMERICA PRODUCTION CO.**

**GROUNDWATER REMEDIATION REPORT**

**GCU #153E  
(C) SECTION 28, T29N, R12W, NMPM  
SAN JUAN COUNTY, NEW MEXICO**

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

**DECEMBER 2011**

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

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

**BP AMERICA PRODUCTION COMPANY**  
**GCU # 153E**  
**NE $\frac{1}{4}$  NW $\frac{1}{4}$ , Sec. 28, T29N, R12W**

**Monitor Well Sampling Dates:** 02/23/11, 06/01/11, 09/29/11, 12/21/11

**Pit Closure & Background:**

A site earthen dehydrator pit closure was initiated in December 1994 by removing impacted soils via excavation. Documentation for this work and subsequent groundwater monitoring data for the site was previously submitted to the New Mexico Oil Conservation Division (NMOCD) for review. The reporting herein is for site monitoring conducted in 2011.

**Groundwater Monitor Well Sampling Procedures:**

Groundwater monitor well MW#3R was purged of its well bore using a new disposable bailer, then given a sufficient amount of time to allow recovery prior to each sample collection. 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 was conducted.

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

**Water Quality and Gradient Information:**

Quarterly sampling of the groundwater monitor well MW#3R was conducted in 2011. A historical summary of laboratory analytical results is included within the table on the following pages and field/laboratory reports are included.

Groundwater contour maps (Figure 2 through Figure 5) reveal the relative elevations from the site wells have consistently shown an apparent southwest flow direction..

**Summary and/or Recommendations:**

Continued site monitoring per BP's NMOCD approved Ground Water Management Plan is recommended. Hydrocarbon impacts still remain above the New Mexico Water Quality Control Commission's groundwater standard for benzene within monitor well MW #3R. Oxygen release compound (ORC) filter socks were initially introduced within MW #3R on March 25, 2011. Dissolved oxygen, pH, and temperature readings were collected immediately after removal to create a baseline for future determination of continued use. The ORC filter socks were removed at a minimum of two (2) days prior to each sampling event. Currently, no definitive conclusion(s) can be ascertained as to the ORC effectiveness at this time.

# BP AMERICA PROD. CO. GROUNDWATER LAB RESULTS

SUBMITTED BY BLAGG ENGINEERING, INC.

GCU # 153E

UNIT C, SEC. 28, T29N, R12W

REVISED DATE: December 30, 2011

FILENAME: (15-4Q-11.WK4) NJV

SAMPLE DATE	MONITOR WELL No:	D.T.W. (ft)	T.D. (ft)	TDS (ft)	COND. (umhos/cm)	pH	PRODUCT (ft)	BTEX EPA METHOD 8021B (ppb)			
								Benzene	Toluene	Ethyl Benzene	Total Xylene
08-Mar-96	MW #1A	14.95	20.00	4,460	3,200	7.2		ND	0.73	ND	ND
12-Jan-93	MW #2A	11.50	15.83	4,460	5,700	6.6		11.5	12.1	ND	54.0
05-May-93		10.34			3,400	6.6		14.0	6.9	10.9	20.1
01-Sep-93		11.54			2,800	7.1		700	10.4	244	82.9
01-Dec-93		11.42			4,800	7.0		118	1.6	76.0	44.7
08-Mar-94		11.01			4,600	7.2		24.1	8.5	24.5	29.3
27-Jun-94		11.14			4,000	6.9		350	13.2	126	ND
21-Sep-94		11.80			3,500	6.9		328.7	13.3	140.8	1.5
16-Dec-94		11.55			3,800	7.1		6.7	9.6	1.1	8.7
15-Mar-95		11.15			4,400	6.8		1.7	5.0	ND	3.8
16-Jun-95		10.82			4,000	6.9		36.5	5.4	17.6	7.2
11-Sep-95		11.39			3,100	7.2		239	17.0	168	35.6
08-Dec-95		11.44			3,800	6.8		50.2	9.99	10.3	5.84
08-Mar-96		11.08			2,700	6.7		1.08	ND	2.71	0.87
17-Jun-96		11.30			2,700	6.9		230	10.2	77.7	32.54
25-Jun-97		10.52			2,600	6.8		522	6.6	82.6	44.6
12-Jun-98		10.59			2,400	7.3		125	7.3	22.7	44.7
28-May-99		10.05			2,700	6.8		185	47.8	44.1	73.4
26-May-00		10.10			3,500	7.0		220	ND	96	15
28-Jul-01		10.87			3,700	7.26		66	ND	24	31
11-Mar-02		10.80			4,600	6.86		ND	ND	2.1	ND
21-Jun-02		11.18			4,700	7.63		63	ND	28	29.8
30-Jun-03		10.74			2,900	6.81		41	5.3	30	36
25-Jun-04		10.78			2,900	6.81		7.6	ND	3.5	5.5
22-Dec-04		11.03			N/A	N/A		ND	ND	ND	ND
29-Mar-05		9.85			3,100	6.73		ND	ND	ND	ND
12-Jan-93	MW #3A	11.40			6,800	7.0		706,000	6,438,000	3,684,000	13,999,000
05-May-93		10.38			4,900	7.0		8,200	2,210	1,070	4,340
01-Sep-93		11.44	16.00		5,400	7.1		8,300	800	660	2,750
01-Dec-93		11.33					0.02				
08-Mar-94		11.03					0.03				
27-Jun-94							0.02				
21-Sep-94							0.01				
16-Dec-94		11.97					0.48				
28-Jun-95	WP #3B	11.73	15.00		6,500	7.4		1946.7	1734.5	434.3	3,150
11-Sep-95		12.14			8,400	7.8		752	102	427	1,386
08-Dec-95		12.15			4,800	6.2		772	70.1	208	2,070
08-Mar-96		11.78			4,000	6.1		775	156	259	2,480
17-Jun-96		11.77			4,800	6.4		764	196	184	1,515
25-Jun-97		11.25			3,400	6.3		1,940	167	143	727
12-Jun-98		11.22			3,700	6.6		276	68.4	85.3	457.8
28-May-99		11.56			3,900	6.5		178	98.0	50.5	250.3
NMWQCC GROUNDWATER STANDARDS								10	750	750	620

# BP AMERICA PROD. CO. GROUNDWATER LAB RESULTS

SUBMITTED BY BLAGG ENGINEERING, INC.

GCU # 153E

UNIT C, SEC. 28, T29N, R12W

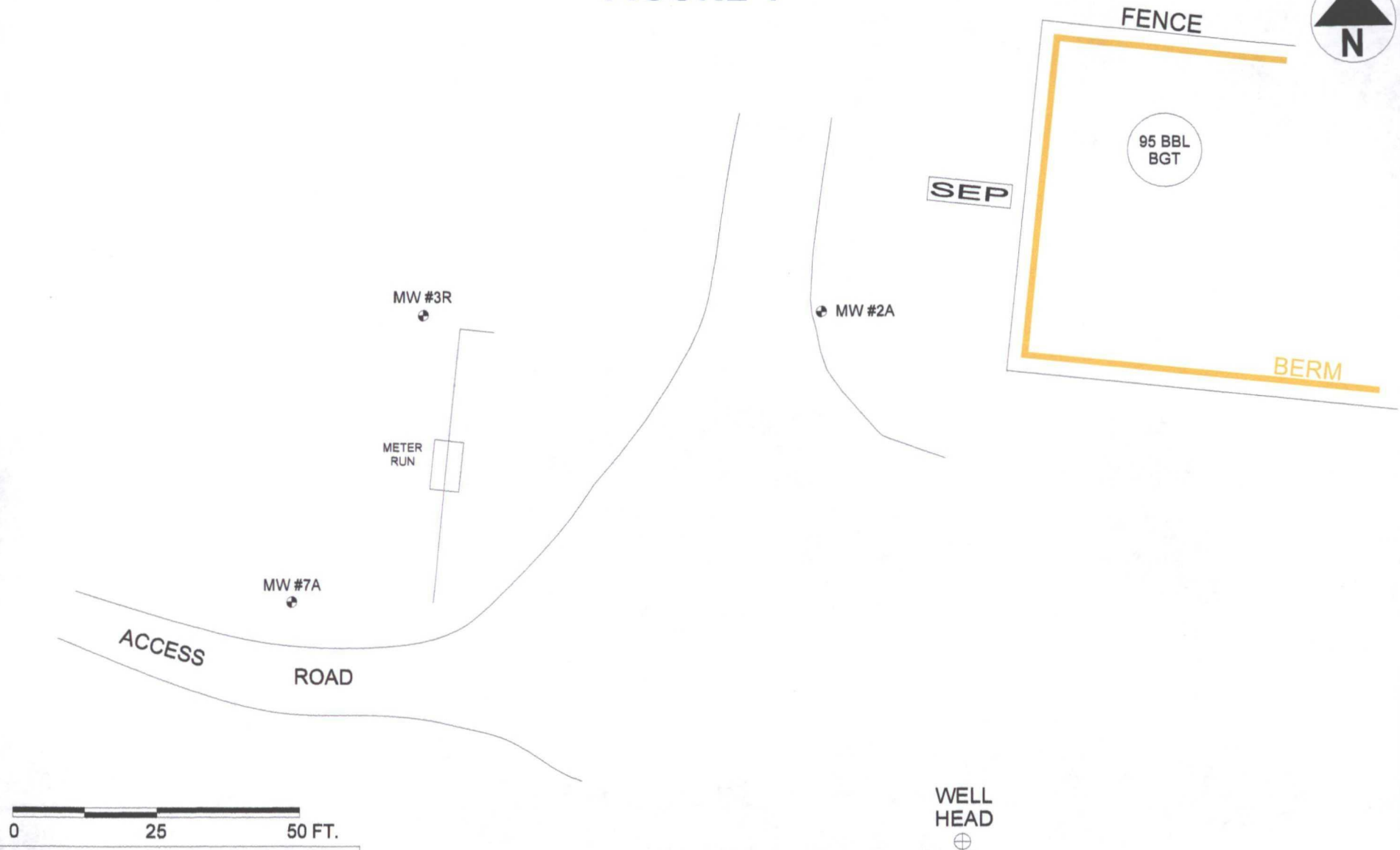
REVISED DATE: December 30, 2011

FILENAME: (15-4Q-11.WK4) NJV

SAMPLE DATE	MONITOR WELL No:	D.T.W. (ft)	T.D. (ft)	TDS (ft)	COND. (umhos/cm)	pH	PRODUCT (ft)	BTEX EPA METHOD 8021B (ppb)			
								Benzene	Toluene	Ethyl Benzene	Total Xylene
13-Jun-00	MW #3R	10.88	20.00		7,600	7.0		360	16	720	1,234
28-Jul-01		11.72			8,600	7.25		520	35	350	757
11-Mar-02		11.70			9,700	7.14		120	6.9	110	225
21-Jun-02		11.90			8,800	7.69		310	ND	300	551
30-Jun-03		11.39			5,200	7.11		300	ND	76	170
25-Jun-04		10.51			5,200	7.11		120	ND	44	63
27-Jun-05		10.78			6,200	7.00		160	12	54	84
29-Jun-06		11.51			7,800	6.93		470	39	170	180
25-Jun-07		10.70			6,000	6.94		180	ND	24	24
09-Jun-08		10.66			3,300	7.24		71.6	5.9	9.1	13.6
27-Aug-08		11.47			6,000	7.37		58	ND	4.7	9.3
26-May-09		11.10			5,200	7.50		63	ND	ND	ND
28-Dec-09		11.70			5,600	7.52		8.3	ND	ND	ND
02-Mar-10		11.05			4,400	7.53		66	ND	ND	ND
10-May-10		10.57			4,700	7.49		47	ND	ND	ND
21-Jul-10		11.45			7,900	7.48		38	ND	2.3	6.3
21-Oct-10		12.18			6,400	7.15		11	ND	1.6	3.3
23-Feb-11		11.43			3,600	7.45		3.8	ND	ND	2.9
01-Jun-11		11.33			8,900	7.41		160	10	25	37
29-Sep-11		12.23			8,900	7.39		47	ND	6.6	12
21-Dec-11		11.73			6,400	7.78		20	4.3	5.4	6.2
08-Mar-96	MW #4A	10.59	13.05		3,600	7.4		ND	ND	ND	ND
08-Mar-96	MW #5A	11.75	14.04		12,300	7.8		ND	1.14	ND	ND
12-Jan-93	MW #7A	12.42			12,400	7.3		ND	0.5	ND	1.1
05-May-93		10.56			10,600	7.5		ND	ND	ND	0.5
01-Sep-93		11.90	16.60		10,700	7.5		0.2	ND	ND	0.8
08-Mar-94		11.10			16,800	7.3		ND	ND	ND	ND
27-Jun-94		11.23			13,700	7.3		ND	ND	ND	ND
21-Sep-94		12.30			13,100	7.3		0.8	1	ND	2.2
16-Dec-94		11.69			9,600	7.5		ND	ND	ND	ND
15-Mar-95		11.21			18,400	7.5		ND	ND	ND	ND
16-Jun-95		10.88			12,200	7.4		ND	ND	ND	ND
11-Sep-95		11.64			11,200	7.7		1.1	0.6	0.5	1.0
08-Dec-95		11.50			10,800	7.4		ND	ND	ND	ND
08-Mar-96		11.18			8,300	7.3		ND	ND	ND	ND
17-Jun-96		11.28			9,000	7.4		ND	ND	ND	ND
28-Jul-01		10.87			8,300	7.59		ND	ND	ND	ND
08-Mar-96	MW #11A	12.10	20.17		3,100	6.9		ND	ND	ND	ND
08-Mar-96	MW #12A	10.76	19.79		2,800	7.0		ND	ND	ND	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).
  - 4) NMWQCC INDICATES NEW MEXICO WATER QUALITY CONTROL COMMISSION.

# 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 MAY NOT BE TO SCALE.

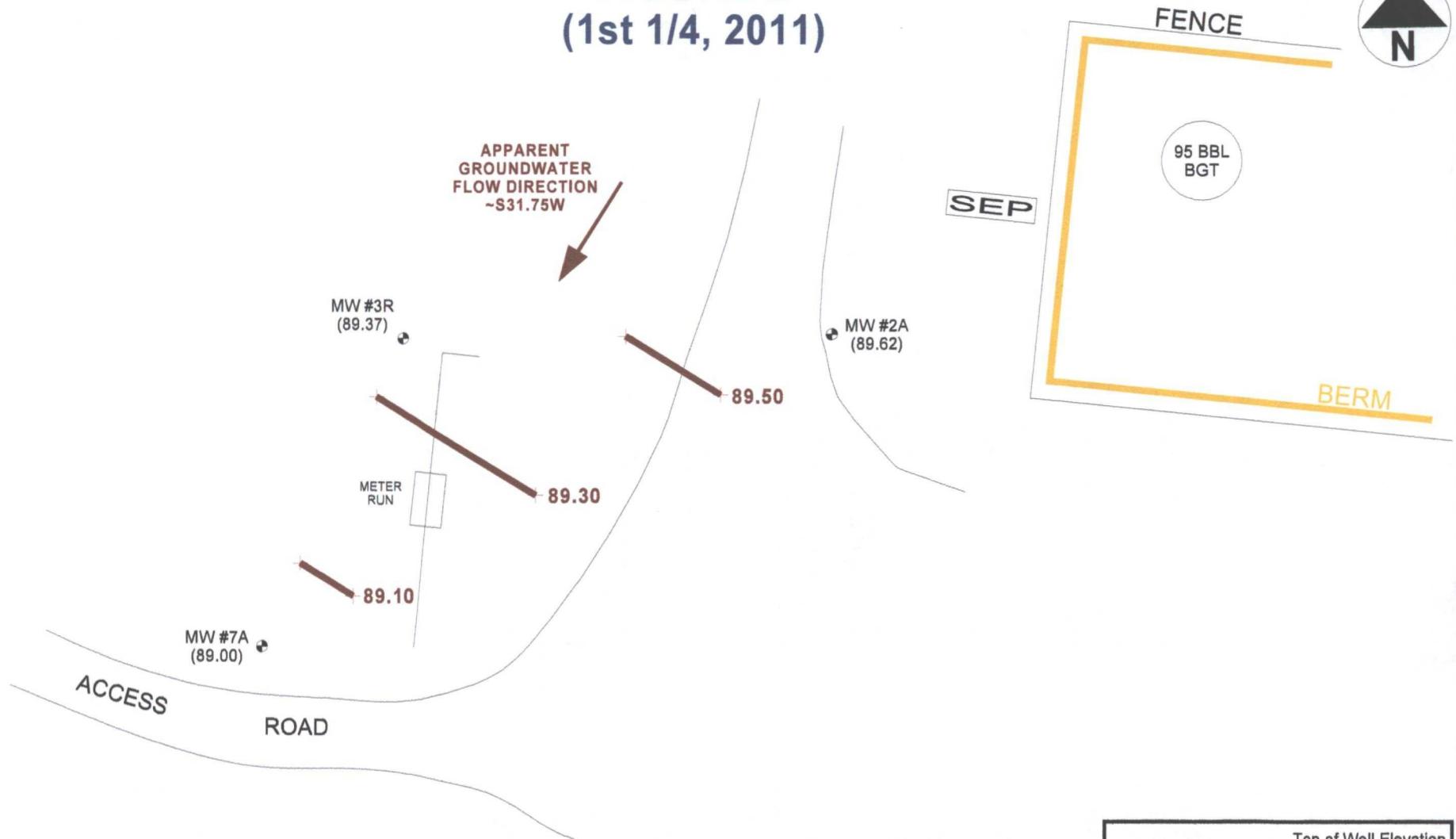
BP AMERICA PRODUCTION COMPANY  
GCU #153E  
NE/4 NW/4 SEC. 28, T29N, R12W  
SAN JUAN COUNTY, NEW MEXICO

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

PROJECT: MW SAMPLING  
DRAWN BY: NJV  
FILENAME: GCU153E-SM-02-11.SKF  
REVISED: 2/24/11 NJV

**SITE  
MAP**  
02/11

**FIGURE 2**  
(1st 1/4, 2011)



0 25 50 FT.

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

WELL HEAD ⊕

Top of Well Elevation	
WELL HEAD FLANGE	(100.00)
MW #2A	(100.40)
MW #3R	(100.80)
MW #7A	(99.72)
MW #2A (89.62)	Groundwater elevation as of 02/23/11.

BP AMERICA PRODUCTION COMPANY  
GCU #153E  
NE/4 NW/4 SEC. 28, T29N, R12W  
SAN JUAN COUNTY, NEW MEXICO

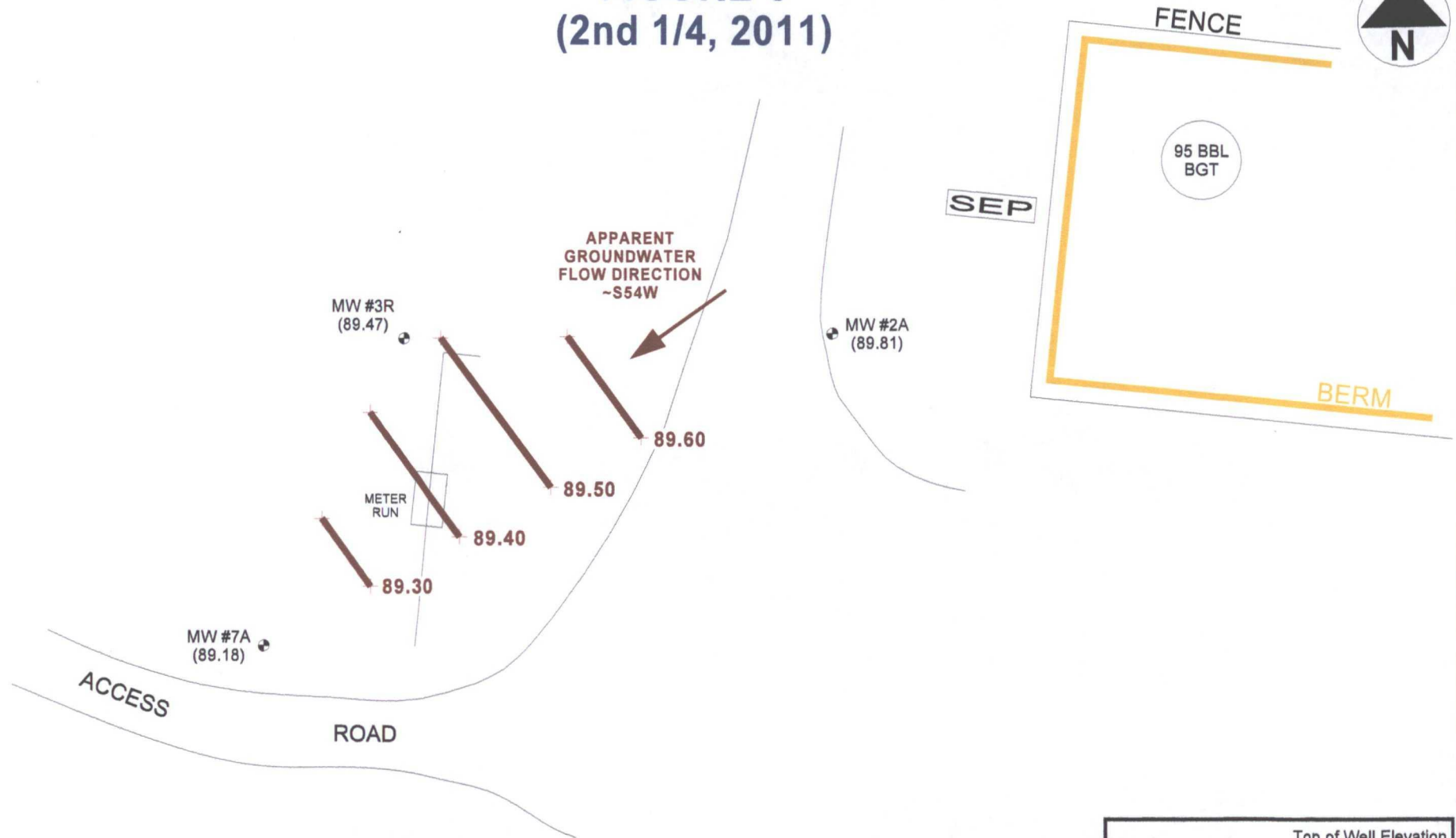
**BLAGG ENGINEERING, INC.**  
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P.O. BOX 87  
BLOOMFIELD, NEW MEXICO 87413  
PHONE: (505) 632-1199

PROJECT: MW SAMPLING  
DRAWN BY: NJV  
FILENAME: 02-23-11-GW.SKF  
REVISED: 02/24/11 NJV

**GROUNDWATER GRADIENT MAP**  
02/11



**FIGURE 3**  
**(2nd 1/4, 2011)**



0 25 50 FT.

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

WELL HEAD ⊕

	Top of Well Elevation
WELL HEAD FLANGE	(100.00)
MW #2A	(100.40)
MW #3R	(100.80)
MW #7A	(99.72)
MW #2A (89.81)	Groundwater elevation as of 06/01/11.

BP AMERICA PRODUCTION COMPANY  
GCU #153E  
NE/4 NW/4 SEC. 28, T29N, R12W  
SAN JUAN COUNTY, NEW MEXICO

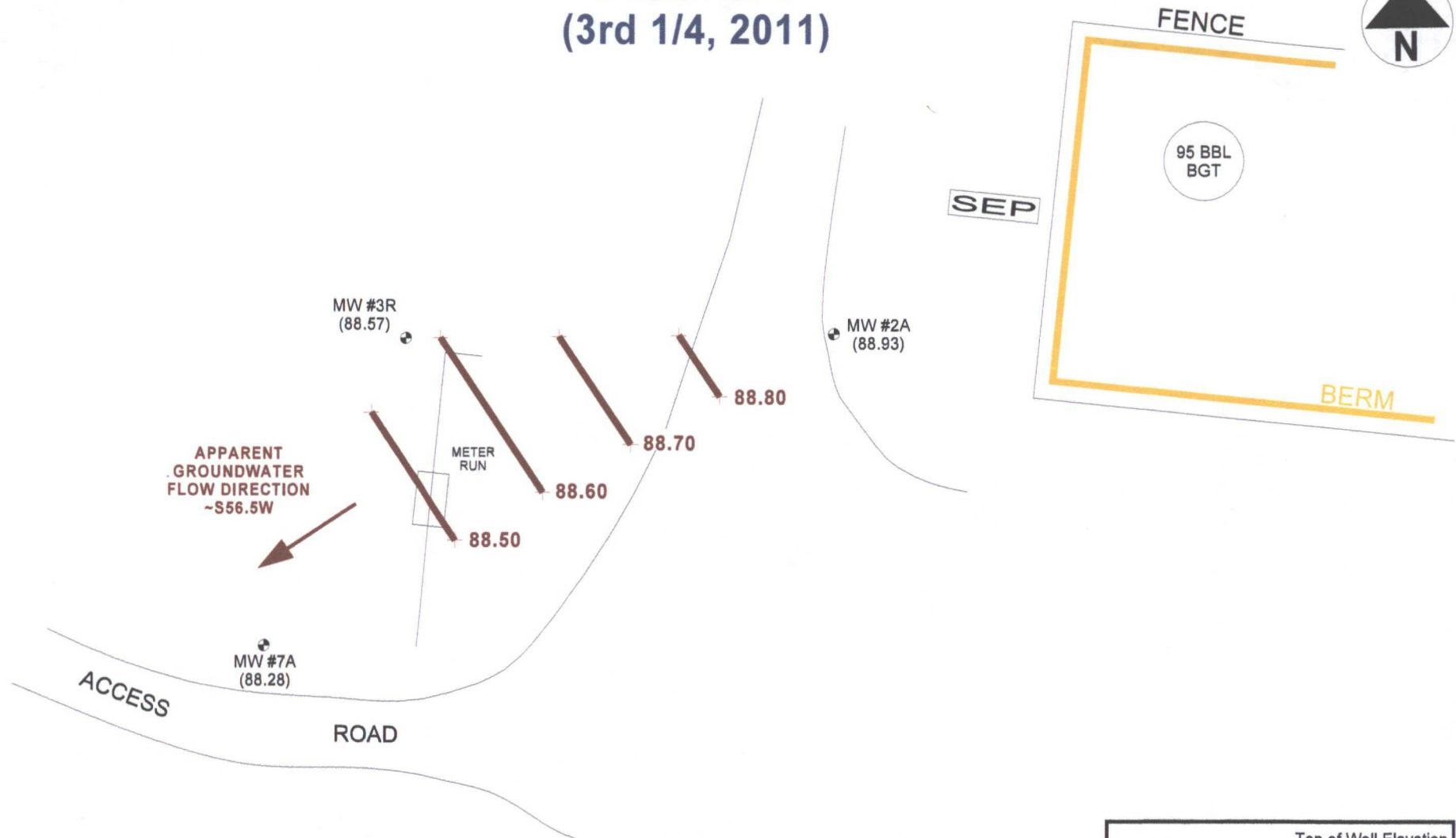
**BLAGG ENGINEERING, INC.**  
CONSULTING PETROLEUM / RECLAMATION SERVICES  
P.O. BOX 87  
BLOOMFIELD, NEW MEXICO 87413  
PHONE: (505) 632-1199

PROJECT: MW SAMPLING  
DRAWN BY: NJV  
FILENAME: 06-01-11-GW.SKF  
REVISED: 06/01/11 NJV

**GROUNDWATER  
GRADIENT  
MAP  
06/11**



**FIGURE 4**  
(3rd 1/4, 2011)



0 25 50 FT.

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

WELL HEAD ⊕

Top of Well Elevation	
WELL HEAD FLANGE	(100.00)
MW #2A	(100.40)
MW #3R	(100.80)
MW #7A	(99.72)
MW #2A (88.93)	Groundwater elevation as of 09/29/11.

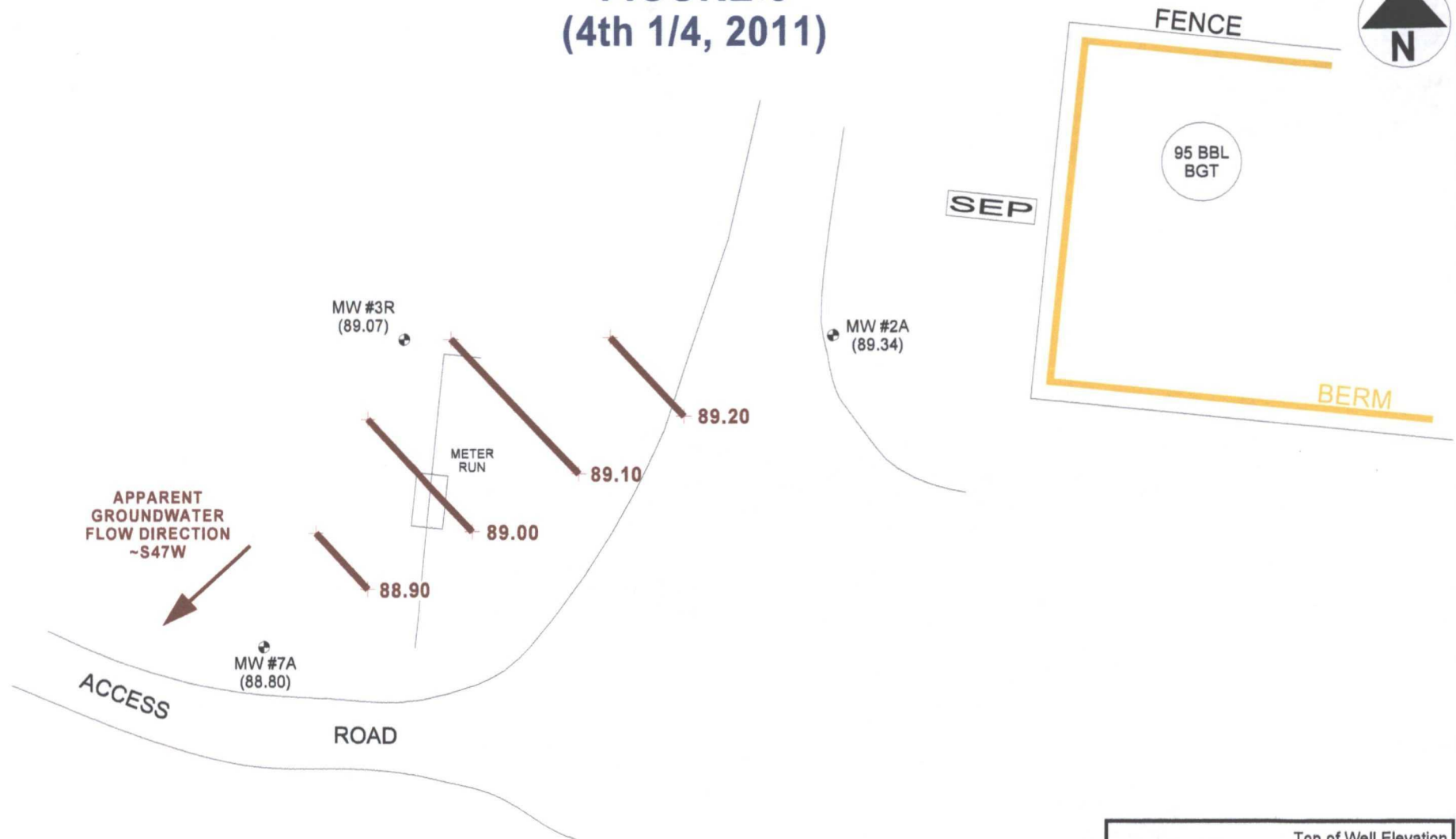
BP AMERICA PRODUCTION COMPANY  
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CONSULTING PETROLEUM / RECLAMATION SERVICES  
P.O. BOX 87  
BLOOMFIELD, NEW MEXICO 87413  
PHONE: (505) 632-1199

PROJECT: MW SAMPLING  
DRAWN BY: NJV  
FILENAME: 09-29-11-GW.SKF  
REVISED: 09/30/11 NJV

**GROUNDWATER  
GRADIENT  
MAP  
09/11**

**FIGURE 5**  
(4th 1/4, 2011)



0 25 50 FT.

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

WELL HEAD ⊕

Top of Well Elevation	
WELL HEAD FLANGE	(100.00)
MW #2A	(100.40)
MW #3R	(100.80)
MW #7A	(99.72)
MW #2A (89.34)	Groundwater elevation as of 12/21/11.

BP AMERICA PRODUCTION COMPANY  
GCU #153E  
NE/4 NW/4 SEC. 28, T29N, R12W  
SAN JUAN COUNTY, NEW MEXICO

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

PROJECT: MW SAMPLING  
DRAWN BY: NJV  
FILENAME: 12-21-11-GW.SKF  
REVISED: 12/21/11 NJV

**GROUNDWATER GRADIENT MAP**  
12/11

# BLAGG ENGINEERING, INC.

## MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

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

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

GCU # 153E

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

UNIT C, SEC. 28, T29N, R12W

Date : **February 23, 2011**

SAMPLER : **N J V**

Filename : **02-23-11.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.)
<b>2A</b>	100.40	89.62	10.78	15.83	-	-	-	-	-
<b>3R</b>	100.80	89.37	11.43	20.00	1040	7.45	3,600	12.3	2.00
<b>7A</b>	99.72	89.00	10.72	16.31	-	-	-	-	-

INSTRUMENT CALIBRATIONS =

4.01/7.00/10.00 2,800

DATE & TIME =

02/22/2011 1010

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 ".

Poor / fair recovery in MW # 3R . Bailed MW # 3R to total depth , then allowed recovery to approx.

13.00 ft. prior to collecting sample . Collected sample for BTEX per US EPA Method 8021B from  
from MW # 3R only .

on-site	<b>9:47</b>	temp	<b>37 F</b>
off-site	<b>10:53</b>	temp	<b>43 F</b>
sky cond.	<b>Sunny</b>		
wind speed	<b>0 - 10</b>	direct.	<b>E</b>

**Hall Environmental Analysis Laboratory, Inc.**

Date: 03-Mar-11

**CLIENT:** Blagg Engineering  
**Lab Order:** 1102777  
**Project:** GCU #153E  
**Lab ID:** 1102777-01

**Client Sample ID:** MW #3R  
**Collection Date:** 2/23/2011 10:40:00 AM  
**Date Received:** 2/24/2011  
**Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Benzene	3.8	1.0		µg/L	1	3/1/2011 6:27:28 PM
Toluene	ND	1.0		µg/L	1	3/1/2011 6:27:28 PM
Ethylbenzene	ND	1.0		µg/L	1	3/1/2011 6:27:28 PM
Xylenes, Total	2.9	2.0		µg/L	1	3/1/2011 6:27:28 PM
Surr: 4-Bromofluorobenzene	105	81.3-151		%REC	1	3/1/2011 6:27:28 PM

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level  
E Estimated value  
J Analyte detected below quantitation limits  
NC Non-Chlorinated  
PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
MCL Maximum Contaminant Level  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits

# Chain-of-Custody Record

Client: BLAGE ENR. / BP AMERICA

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

Phone #: (505) 632-1199

email or Fax#:

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

Accreditation

☐ NELAP ☐ Other \_\_\_\_\_

☐ EDD (Type) \_\_\_\_\_

Turn-Around Time:

☒ Standard ☐ Rush

Project Name:

GCN #153E

Project #:

Project Manager:

NELSON VELEZ

Sampler:

NELSON VELEZ

On Ice ☒ Yes ☐ No

Sample Temperature:

0-9

Date

Time

Matrix

Sample Request ID

Container Type and #

Preservative Type

HEAT No.

2/23/11

1040

WATER

MW # 3R

40ml-2

HCl & COOL

-1

✓

BTEX + MTBE + TMBE (8021B)

BTEX + MTBE + TPH (Gas only)

TPH Method 8015B (Gas/Diesel)

TPH (Method 418.1)

EDB (Method 504.1)

8310 (PNA or PAH)

RCRA 8 Metals

Anions (F, Cl, NO<sub>3</sub>, NO<sub>2</sub>, PO<sub>4</sub>, SO<sub>4</sub>)

8081 Pesticides / 8082 PCB's

8260B (VOA)

8270 (Semi-VOA)

Air Bubbles (Y or N)

**HALL ENVIRONMENTAL ANALYSIS LABORATORY**

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

## Analysis Request

Date: 2/23/11 Time: 1450 Relinquished by: [Signature]

Received by: Christine Woelken Date: 2/23/11 Time: 1450

Remarks:

Date: 2/23/11 Time: 1600 Relinquished by: Christine Woelken

Received by: [Signature] Date: 2/24/11 Time: 1019

## QA/QC SUMMARY REPORT

Client: Blagg Engineering

Project: GCU #153E

Work Order: 1102777

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

Method: EPA Method 8021B: Volatiles

Sample ID: 5ML RB

MBLK

Batch ID: R43890 Analysis Date: 3/1/2011 8:56:15 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: R43890 Analysis Date: 3/1/2011 7:58:00 PM

Benzene 21.25 µg/L 1.0 20 0 106 93.4 120

Toluene 21.86 µg/L 1.0 20 0 109 96.2 122

Ethylbenzene 21.90 µg/L 1.0 20 0 109 95 121

Xylenes, Total 66.25 µg/L 2.0 60 0 110 97.6 122

Sample ID: 100NG BTEX LCSD

LCSD

Batch ID: R43890 Analysis Date: 3/1/2011 8:28:08 PM

Benzene 20.68 µg/L 1.0 20 0 103 93.4 120 2.74 10.1

Toluene 21.28 µg/L 1.0 20 0 106 96.2 122 2.69 14.3

Ethylbenzene 21.17 µg/L 1.0 20 0 106 95 121 3.40 15.5

Xylenes, Total 64.27 µg/L 2.0 60 0 107 97.6 122 3.02 10.4

## Qualifiers:

E Estimated value

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded

NC Non-Chlorinated

R RPD outside accepted recovery limits

# Hall Environmental Analysis Laboratory, Inc.

## Sample Receipt Checklist

Client Name **BLAGG**

Date Received:

2/24/2011

Work Order Number **1102777**

Received by: **AMG**

Checklist completed by:

Signature

Sample ID labels checked by:

Initials

Matrix:

Carrier name: Greyhound

Shipping container/cooler in good condition?

Yes ☒

No ☐

Not Present ☐

Custody seals intact on shipping container/cooler?

Yes ☒

No ☐

Not Present ☐

Not Shipped ☐

Custody seals intact on sample bottles?

Yes ☐

No ☐

N/A ☒

Chain of custody present?

Yes ☒

No ☐

Chain of custody signed when relinquished and received?

Yes ☒

No ☐

Chain of custody agrees with sample labels?

Yes ☒

No ☐

Samples in proper container/bottle?

Yes ☒

No ☐

Sample containers intact?

Yes ☒

No ☐

Sufficient sample volume for indicated test?

Yes ☒

No ☐

All samples received within holding time?

Yes ☒

No ☐

Water - VOA vials have zero headspace?

No VOA vials submitted ☐

Yes ☒

No ☐

Water - Preservation labels on bottle and cap match?

Yes ☐

No ☐

N/A ☒

Water - pH acceptable upon receipt?

Yes ☐

No ☐

N/A ☒

Container/Temp Blank temperature?

6.4°

<6° C Acceptable

If given sufficient time to cool.

Number of preserved  
bottles checked for  
pH:

<2 >12 unless noted  
below.

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 # 153E

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

UNIT C, SEC. 28, T29N, R12W

Date : **June 1, 2011**

SAMPLER : **N J V**

Filename : **06-01-11.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.)
2A	100.40	89.81	10.59	15.83	-	-	-	-	-
3R	100.80	89.47	11.33	20.00	1050	7.41	8,900	18.4	2.00
7A	99.72	89.18	10.54	16.31	-	-	-	-	-

INSTRUMENT CALIBRATIONS =

4.01/7.00/10.00 2,800

DATE & TIME =

05/31/2011 0855

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".

Poor / fair recovery in MW #3R. Bailed MW #3R to total depth, then allowed recovery to approx. 12.00 ft. prior to collecting sample. Collected sample for BTEX per US EPA Method 8021B from from MW #3R only.

on-site	9:50	temp	73 F
off-site	11:00	temp	80 F
sky cond.	Mostly cloudy		
wind speed	0 - 10	direct.	SE

# Hall Environmental Analysis Laboratory, Inc.

Date: 10-Jun-11  
Analytical Report

CLIENT: Blagg Engineering  
Lab Order: 1106167  
Project: GCU #153E  
Lab ID: 1106167-01

Client Sample ID: MW #3R  
Collection Date: 6/1/2011 10:50:00 AM  
Date Received: 6/3/2011  
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: RAA
Benzene	160	5.0		µg/L	5	6/8/2011 7:11:00 PM
Toluene	10	1.0		µg/L	1	6/7/2011 12:34:47 AM
Ethylbenzene	25	1.0		µg/L	1	6/7/2011 12:34:47 AM
Xylenes, Total	37	2.0		µg/L	1	6/7/2011 12:34:47 AM
Surr: 4-Bromofluorobenzene	122	96.8-145		%REC	5	6/8/2011 7:11:00 PM

## Qualifiers:

\* Value exceeds Maximum Contaminant Level  
E Estimated value  
J Analyte detected below quantitation limits  
NC Non-Chlorinated  
PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
MCL Maximum Contaminant Level  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits



## QA/QC SUMMARY REPORT

Client: Blagg Engineering  
Project: GCU #153E

Work Order: 1106167

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

Method: EPA Method 8021B: Volatiles

Sample ID: 5ML RB

MBLK

Batch ID: R45761 Analysis Date: 6/6/2011 9:07:53 AM

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

Sample ID: 5ML RB

MBLK

Batch ID: R45808 Analysis Date: 6/8/2011 10:01:27 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: R45761 Analysis Date: 6/6/2011 11:31:42 AM

Benzene	20.26	µg/L	1.0	20	0	101	93.4	120
Toluene	20.49	µg/L	1.0	20	0	102	96.2	122
Ethylbenzene	20.51	µg/L	1.0	20	0	103	95	121
Xylenes, Total	61.59	µg/L	2.0	60	0	103	97.6	122

Sample ID: 100NG BTEX LCS

LCS

Batch ID: R45808 Analysis Date: 6/8/2011 12:26:07 PM

Benzene	18.42	µg/L	1.0	20	0	92.1	80	120
Toluene	18.66	µg/L	1.0	20	0	93.3	80	120
Ethylbenzene	18.82	µg/L	1.0	20	0	94.1	80	120
Xylenes, Total	56.36	µg/L	2.0	60	0	93.9	80	120

## Qualifiers:

E Estimated value  
J Analyte detected below quantitation limits  
ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded  
NC Non-Chlorinated  
R RPD outside accepted recovery limits

# Hall Environmental Analysis Laboratory, Inc.

## Sample Receipt Checklist

Client Name **BLAGG**

Date Received:

6/3/2011

Work Order Number **1106167**

Received by: **AMG**

Sample ID labels checked by:

*[Signature]*  
Initials

Checklist completed by:

*[Signature]*  
Signature

6/3/11  
Date

Matrix:

Carrier name: Greyhound

Shipping container/cooler in good condition?

Yes ☒

No ☐

Not Present ☐

Custody seals intact on shipping container/cooler?

Yes ☒

No ☐

Not Present ☐

Not Shipped ☐

Custody seals intact on sample bottles?

Yes ☐

No ☐

N/A ☒

Chain of custody present?

Yes ☒

No ☐

Chain of custody signed when relinquished and received?

Yes ☒

No ☐

Chain of custody agrees with sample labels?

Yes ☒

No ☐

Samples in proper container/bottle?

Yes ☒

No ☐

Sample containers intact?

Yes ☒

No ☐

Sufficient sample volume for indicated test?

Yes ☒

No ☐

All samples received within holding time?

Yes ☒

No ☐

Water - VOA vials have zero headspace?

No VOA vials submitted ☐

Yes ☒

No ☐

Water - Preservation labels on bottle and cap match?

Yes ☒

No ☐

N/A ☐

Water - pH acceptable upon receipt?

Yes ☐

No ☐

N/A ☒

Number of preserved  
bottles checked for  
pH:

            
<2 >12 unless noted  
below.

Container/Temp Blank temperature?

**1.6°**

<6° C 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 # 153E

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

UNIT C, SEC. 28, T29N, R12W

Date : **September 29, 2011**

SAMPLER : **N J V**

Filename : **09-29-11.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.)
2A	100.40	88.93	11.47	15.83	-	-	-	-	-
3R	100.80	88.57	12.23	20.00	1120	7.39	8,900	20.4	1.50
7A	99.72	88.28	11.44	16.31	-	-	-	-	-

INSTRUMENT CALIBRATIONS =

4.01/7.00/10.00 2,800

DATE & TIME =

09/28/2011 1030

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".

Poor / fair recovery in MW #3R. Bailed MW #3R to total depth, then allowed recovery to approx. 13.00 ft. prior to collecting sample. Collected sample for BTEX per US EPA Method 8021B from from MW #3R only.

Inserted 3 new ORC filter socks within MW #3R water column after sample collection.

on-site	10:30	temp	68 F
off-site	11:40	temp	76 F
sky cond.	Sunny		
wind speed	0 - 5	direct.	SE

# Hall Environmental Analysis Laboratory, Inc.

Date: 10-Oct-11

Analytical Report

CLIENT: Blagg Engineering

Client Sample ID: MW # 3R

Lab Order: 1109C36

Collection Date: 9/29/2011 11:20:00 AM

Project: GCU #153E

Date Received: 9/30/2011

Lab ID: 1109C36-01

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: RAA
Benzene	47	5.0		µg/L	5	10/6/2011 7:15:16 PM
Toluene	ND	5.0		µg/L	5	10/6/2011 7:15:16 PM
Ethylbenzene	6.6	5.0		µg/L	5	10/6/2011 7:15:16 PM
Xylenes, Total	12	10		µg/L	5	10/6/2011 7:15:16 PM
Surr: 4-Bromofluorobenzene	92.6	76.5-115		%REC	5	10/6/2011 7:15:16 PM

## Qualifiers:

\* Value exceeds Maximum Contaminant Level  
E Estimated value  
J Analyte detected below quantitation limits  
NC Non-Chlorinated  
PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
MCL Maximum Contaminant Level  
ND Not Detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits



Turn-Around Time:

☒ Standard    ☐ Rush

Project Name:

**GCU # 153E**

Project #:	
------------	--

Project Manager:

**NELSON VELEZ**

Sampler:	NELSON VELEZ	NV
----------	--------------	----

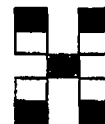
Sample Temperature 47

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

40 ml VOA - 2	HCl & Cool	1109C36 - 1
---------------	------------	-------------




Date:	Time:	Relinquished by:	Received by:	Date	Time	Remarks:
9/29/11	1320	[Signature]	Christine Waelen	9/29/11	1320	
Date:	Time:	Relinquished by:	Received by:	Date	Time	
9/29/11	1545	Christine Waelen	[Signature]	9/29/11	1300	<b>BILL DIRECTLY TO BP:</b> Jeff Peace, 200 Energy Court, Farmington, NM 87401 Work Order: <u>N1261901</u> Paykey: <u>ZPEACIDENV</u>



## HALL ENVIRONMENTAL ANALYSIS LABORATORY

[www.hallenvironmental.com](http://www.hallenvironmental.com)

4901 Hawkins NE - Albuquerque, NM 87109

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

## Analysis Request

[illegible]

Remarks:

**BILL DIRECTLY TO BP:**  
Jeff Peace, 200 Energy Court, Farmington, NM 87401

Work Order: N1261901 Paykey: ZPEACJDENV

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 #153E

Work Order: 1109C36

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

Method: EPA Method 8021B: Volatiles

Sample ID: 6ML-RB

MBLK

Batch ID: R48262 Analysis Date: 10/6/2011 10:14:00 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: R48262 Analysis Date: 10/6/2011 12:44:44 PM

Benzene	20.09	µg/L	1.0	20	0	100	80	120
Toluene	20.37	µg/L	1.0	20	0	102	80	120
Ethylbenzene	20.06	µg/L	1.0	20	0	100	80	120
Xylenes, Total	60.62	µg/L	2.0	60	0	101	80	120

## Qualifiers:

E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	NC	Non-Chlorinated
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits

# Hall Environmental Analysis Laboratory, Inc.

## Sample Receipt Checklist

Client Name **BLAGG**

Date Received:

9/30/2011

Work Order Number **1109C36**

Received by:

AMF

Checklist completed by:

Signature

Sample ID labels checked by:

Initials

Date

9/30/11

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

Number of preserved  
bottles checked for  
pH:

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 ☒

<2 >12 unless noted  
below.

Container/Temp Blank temperature?

4.7°

<6° C 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 # 153E

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

UNIT C, SEC. 28, T29N, R12W

Date : **December 21, 2011**

SAMPLER : **N J V**

Filename : **12-21-11.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.)
2A	100.40	89.34	11.06	15.83	-	-	-	-	-
3R	100.80	89.07	11.73	20.00	1230	7.78	6,400	13.9	2.00
7A	99.72	88.80	10.92	16.31	-	-	-	-	-

INSTRUMENT CALIBRATIONS =

4.01/7.00/10.00	2,800
12/21/2011	1100

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".

Poor / fair recovery in MW #3R. Bailed MW #3R to total depth, then allowed recovery to approx. 13.00 ft. prior to collecting sample. Collected sample for BTEX per US EPA Method 8021B from from MW #3R only.

Inserted 3 new ORC filter socks within MW #3R water column after sample collection.

on-site	12:54	temp	36 F
off-site	12:45	temp	36 F
sky cond.	Mostly cloudy		
wind speed	0 - 5	direct.	calm

**Hall Environmental Analysis Laboratory, Inc.**

Date: 29-Dec-11

Analytical Report

<b>CLIENT:</b>	Blagg Engineering	<b>Client Sample ID:</b>	MW #3R
<b>Lab Order:</b>	1112953	<b>Collection Date:</b>	12/21/2011 12:30:00 PM
<b>Project:</b>	GCU #153E	<b>Date Received:</b>	12/22/2011
<b>Lab ID:</b>	1112953-01	<b>Matrix:</b>	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: RAA
Benzene	20	1.0		µg/L	1	12/28/2011 1:59:36 AM
Toluene	4.3	1.0		µg/L	1	12/28/2011 1:59:36 AM
Ethylbenzene	5.4	1.0		µg/L	1	12/28/2011 1:59:36 AM
Xylenes, Total	6.2	2.0		µg/L	1	12/28/2011 1:59:36 AM
Surr: 4-Bromofluorobenzene	168	76.5-115	S	%REC	1	12/28/2011 1:59:36 AM

**Qualifiers:**

* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
E Estimated value	H Holding times for preparation or analysis exceeded
J Analyte detected below quantitation limits	MCL Maximum Contaminant Level
NC Non-Chlorinated	ND Not Detected at the Reporting Limit
PQL Practical Quantitation Limit	S Spike recovery outside accepted recovery limits

Client: **BLAGG ENGR. / BP AMERICA**

---

Mailing Address: **P.O. BOX 87**

---

**BLOOMFIELD, NM 87413**

---

Phone #: **(505) 632-1199**

---

email or Fax#:

---

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

---

Accreditation:

☐ NELAP ☐ Other \_\_\_\_\_

---

☐ EDD (Type) \_\_\_\_\_

Turn-Around Time:	
<input checked="" type="checkbox"/> Standard	<input type="checkbox"/> Rush
Project Name:	
GCU # 153E	
Project #:	
Project Manager:	
NELSON VELEZ	
Sampler:	NELSON VELEZ <i>mv</i>
On Ice:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Sample Temperature:	10



**www.hallenvironmental.com**

**4901 Hawkins NE - Albuquerque, NM 87109**

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

## Analysis Request

[illegible]

Date: 12/21/11 9:15	Time: 1505	Relinquished by: <i>[Signature]</i>	Received by: <i>[Signature]</i>	Date 12/22/11	Time 1505
Date: 12/22/11	Time: 1645	Relinquished by: <i>[Signature]</i>	Received by: <i>[Signature]</i>	Date 12/22/11	Time 1644

Remarks:

**BILL DIRECTLY TO BP:**

Jeff Peace, 200 Energy Court, Farmington, NM 87401

Work Order: N1261901 Paykey: ZPEACJDNV

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 #153E

Work Order: 1112953

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

Method: EPA Method 8021B: Volatiles

Sample ID: 5ML-RB

MBLK

Batch ID: R49831 Analysis Date: 12/27/2011 1:01:00 PM

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: R49831 Analysis Date: 12/27/2011 1:29:51 PM

Benzene	19.22	µg/L	1.0	20	0	96.1	80	120
Toluene	19.14	µg/L	1.0	20	0	95.7	80	120
Ethylbenzene	19.94	µg/L	1.0	20	0	99.7	80	120
Xylenes, Total	58.84	µg/L	2.0	60	0	98.1	78.6	121

## Qualifiers:

E Estimated value

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded

NC Non-Chlorinated

R RPD outside accepted recovery limits



# Hall Environmental Analysis Laboratory, Inc.

## Sample Receipt Checklist

Client Name **BLAGG**

Date Received:

12/22/2011

Work Order Number **1112953**

Received by: **AMG**

Checklist completed by:

Signature

Date

Sample ID labels checked by:

Initials

Matrix:

Carrier name: **Courier**

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

Number of preserved bottles checked for pH:

Container/Temp Blank temperature?

**1.0°**

<6° C Acceptable

If given sufficient time to cool.

<2 >12 unless noted below.

COMMENTS:

Client contacted \_\_\_\_\_ Date contacted: \_\_\_\_\_ Person contacted \_\_\_\_\_

Contacted by: \_\_\_\_\_ Regarding: \_\_\_\_\_

Comments: \_\_\_\_\_

Corrective Action \_\_\_\_\_