bp

BP America Production Company
200 Energy Court
Farmington, NM 87401
Phone: (505) 326-9200

December 16, 2015

3R-015

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

Re: Request for Permanent Closure
Gallegos Canyon Unit 107
API No. 3004508131; Unit letter D, Section 19, T29N, R12W; GPS: 36.717218°, -108.144744°

Dear Mr. Von Gonten :

BP America Production Company has retained Blagg Engineering, Inc. to conduct environmental monitoring of groundwater at the Gallegos Canyon Unit (GCU) 107 associated with impacts from a historic earthen pit. The site is located on private property.

After the initial pit closure cleanup efforts at the site, an air sparge/vacuum extraction system was utilized in aggressively remediating on-site hydrocarbon contamination in groundwater. The system was designed to treat soils and groundwater that had not been remediated by excavation. The air sparge system was installed in the spring of 2010 to address groundwater contamination.

The attached report requesting site closure demonstrates groundwater contaminants below the New Mexico Water Quality Control Commission's standards for all required constituents for four consecutive quarters per the BP and NMOCD agreed Groundwater Management Plan of May 2013.

If you have any questions concerning this document, please contact either John Ritchie (john.ritchie@bp.com) or myself (steven.moskal@bp.com) at the address or phone number listed above. Thank you for your cooperation and assistance.

Sincerely,

Steve Moskal
Field Environmental Coordinator

cc: Mr. Cory Smith, Environmental Specialist, NMOCD District III Office, 1000 Rio Brazos Road Aztec, NM

107

BP AMERICA PRODUCTION CO.

GROUNDWATER REMEDIATION REPORT

GCU # 107
(D) SECTION 19, T29N, R12W, NMPM
SAN JUAN COUNTY, NEW MEXICO

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

NOVEMBER 2015

PREPARED BY:
BLAGG ENGINEERING, INC.

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

BP AMERICA PRODUCTION COMPANY
GCU # 107 - Separator Pit
NW¼ NW¼, Sec. 19, T29N, R12W

Pit Closure Date:	**March-April 1995**
Monitor Well Installation Date:	**October 2009**
Air Sparge Installation Dates:	**03/29/10, 03/30/10, 03/31/10, 04/02/10, 04/06/10**
Air Sparge Startup Date:	**08/16/11**
Monitor Well Sampling Dates:	**11/9/09, 03/04/10, 04/29/10, 07/21/10, 10/21/10, 02/22/11, 09/28/11, 12/14/11, 02/16/12, 06/25/12, 09/26/12, 11/28/12, 02/27/13, 05/31/13**

Pit Closure and Background:

The site's unlined earthen separator pit was located off-site and on private property (Figure 1). Specific closure information and succeeding monitoring activities to the end of 2010 was documented and submitted to the New Mexico Oil Conservation Division's (**NMOCD**) Santa Fe office in February 2011. BP elected to aggressively remediate the separator source area with an air sparge system due to the elevated total xylenes and toluene levels derived from the previous quarterly monitoring. The reporting herein is for site monitoring of two (2) of three (3) groundwater monitor wells, namely MW #2 and MW #3, from February 2011 to May 2013 (Figure 1).

Reclamation System Information:

An air sparge system was installed in March-April 2010 (Figure 1A). A total of eight (8) sparge points were completed using a mobile CME 95 drill rig. The lateral piping construction was completed on April 6, 2010. The system design was primarily based on the consistent groundwater flow direction and its relatively static depth. A simplistic schematic of an air sparge point is attached and can be viewed on the page following Figure 1A. All screen interval top slots were surveyed to approximately five (5) feet below the predetermined relatively groundwater elevation for each sparge point location. Installation of the blower unit was completed in August 2011 and the startup of the system was initiated on August 16, 2011. System operation checks were conducted on a weekly basis until December 2012, then monthly until June 2013.

Groundwater Monitor Well Sampling Procedures:

A two (2) inch dedicated submersible electrical pump with new, clear vinyl tubing was utilized during all ten (10) quarterly sampling events. 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 BTEX per US EPA Method 8021B was conducted.

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

Water Quality and Gradient Information:

BP initiated quarterly sampling and testing pursuant to BP's NMOCD approved Groundwater Management Plan (**GMP**). A historical summary of laboratory analytical BTEX results are included within the table on the following page. Field data sheets, laboratory reports, and laboratory quality assurance/quality control information are also included within this report.

Groundwater contour maps (Figure 2 through Figure 10) reveal the relative elevations from the site wells have consistently shown an apparent southwest flow direction toward MW #3.

Summary and/or Recommendations:

Hydrocarbon impacted soils and groundwater at the site appear to have been remediated via excavation, the utilization of an air sparge system, and possibly from natural attenuation. Monitor wells MW #2 and MW #3 tested at non-detectable or below the New Mexico Water Quality Controls Commission's groundwater BTEX standards for at least four (4) consecutive sampling events and met the requirements of section 2.1 of BP's GMP. MW #1 (background well) met the GMP requirements pursuant to section 2.3. Monitor wells MW #2 and MW #3 met section 2.2 of the GMP for anion constituents, dissolved iron, and total dissolved solids.

Permanent closure of the separator pit is recommended. By the request of the surface owner, all site monitor wells pursuant to section 6.2 of the GMP and surface piping associated with the air sparge system operation were abandoned in September 2015.

BP AMERICA PRODUCTION COMPANY

GROUNDWATER FIELD DATA & LAB BTEX RESULTS

GCU # 107 - Separator pit
UNIT D, SEC. 19, T29N, R12W

REVISED DATE: November 10, 2015
Submitted by Blagg Engineering, Inc.

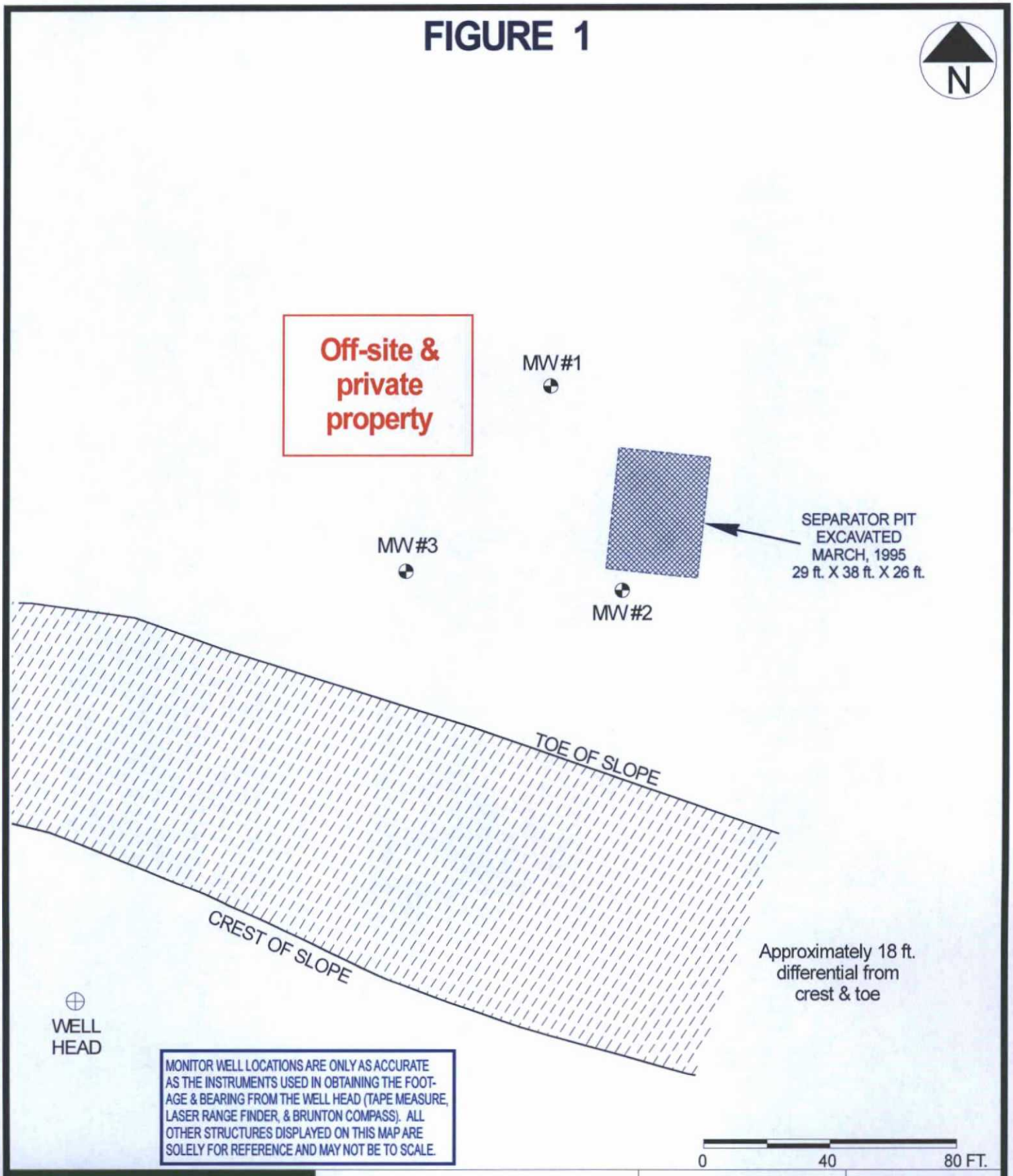
SAMPLE DATE	WELL NAME / NUMBER	DEPTH TO WATER (ft)	WELL DEPTH (ft)	TDS (mg/L)	CONDUCT. (umhos)	pH	FREE PHASE PRODUCT (ft)	BTEX US EPA METHOD 8021B BENZENE (ppb)	TOLUENE (ppb)	ETHYL BENZENE (ppb)	TOTAL XYLENES (ppb)
9-Nov-09	MW #1	29.13	36.08	3,300	1,800	6.92		ND	ND	ND	ND
9-Nov-09	MW #2	29.97	36.08	2,100	1,500	7.44		ND	1,900	560	4,100
	(dup.)							ND	1,900	570	4,100
4-Mar-10		29.59			1,600	7.47		ND	330	430	2,500
29-Apr-10		29.38			1,600	7.45		ND	180	350	1,300
21-Jul-10		29.44			1,800	7.55		1.6	220	440	1,000
21-Oct-10		29.25			1,900	7.36		ND	370	370	1,500
22-Feb-11		29.14			1,800	7.46		ND	430	430	2,400
31-May-11		29.25			2,000	7.50		ND	940	490	2,300
28-Sep-11		29.25			2,600	7.42		ND	ND	150	990
14-Dec-11		29.20			3,200	7.36		ND	ND	150	150
16-Feb-12		29.29			3,200	6.53		ND	140	170	1,300
25-Jun-12		29.82			3,800	6.88		ND	53	130	920
26-Sep-12		29.26			1,700	6.95		ND	ND	45	210
28-Nov-12		29.18			2,000	7.19		2.2	5.3	62	160
27-Feb-13		29.03			2,300	6.87		ND	3.2	48	140
31-May-13		29.07			2,200	7.22		10	2.0	59	420
9-Nov-09	MW #3	28.78	36.19	2,430	1,700	7.20		ND	ND	ND	ND
4-Mar-10		28.43			1,300	7.25		ND	ND	ND	ND
29-Apr-10		28.19			1,200	7.33		ND	ND	ND	ND
28-Sep-11		28.06			2,400	6.95		ND	ND	ND	ND
14-Dec-11		28.01			1,800	7.34		ND	ND	ND	ND
16-Feb-12		28.07			1,900	7.08		ND	ND	ND	ND
25-Jun-12		28.49			3,100	6.77		ND	ND	ND	ND
26-Sep-12		28.08			1,700	6.88		ND	ND	ND	ND
28-Nov-12		27.99			1,900	7.00		1.0	ND	ND	ND
31-May-13		27.91			1,300	7.29		ND	ND	ND	ND
							NMWQCC GROUNDWATER STANDARDS	10	750	750	620

SAMPLE DATE	WELL NAME /NUMBER	Fluoride (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Nitrate-N (mg/L)	Iron (mg/L)	TDS (mg/L)
11/09/09	MW #1	0.60	170	1,500	ND	ND	3,300
11/09/09	MW #2	1.2	190	830	ND	0.12	2,100
11/09/09	MW #3	0.81	210	1,200	8.0	ND	2,430
NMWQCC GROUNDWATER STANDARDS		1.60	250	600	10	1.0	1,000

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.
5) pH NMWQCC standards range between 6 -9
6) TDS - Total Dissolved Solids
7) ppb - Parts per billion
8) mg/L - Milligrams per liter

FIGURE 1



BP AMERICA PRODUCTION CO.

GCU # 107

NW/4 NW/4 SEC. 19, 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 INSTALLATIONS

DRAWN BY: NJV

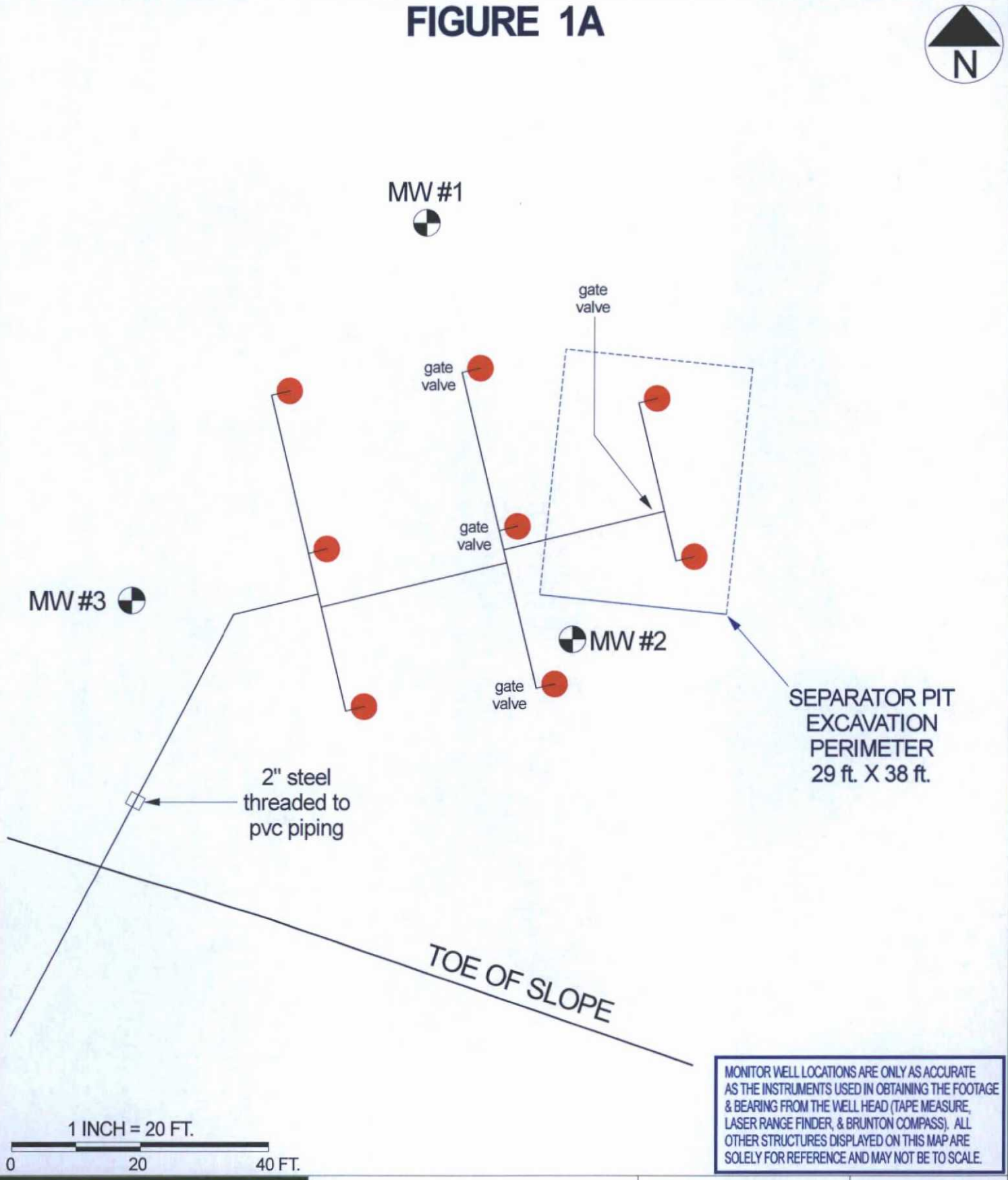
FILENAME: GCU 107-SM4.SKF

REVISED: 05-23-12 NJV

SITE MAP

10/09

FIGURE 1A



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

BP AMERICA PRODUCTION CO.

GCU # 107

NW/4 NW/4 SEC. 19, 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: GW REMED.

DRAWN BY: NJV

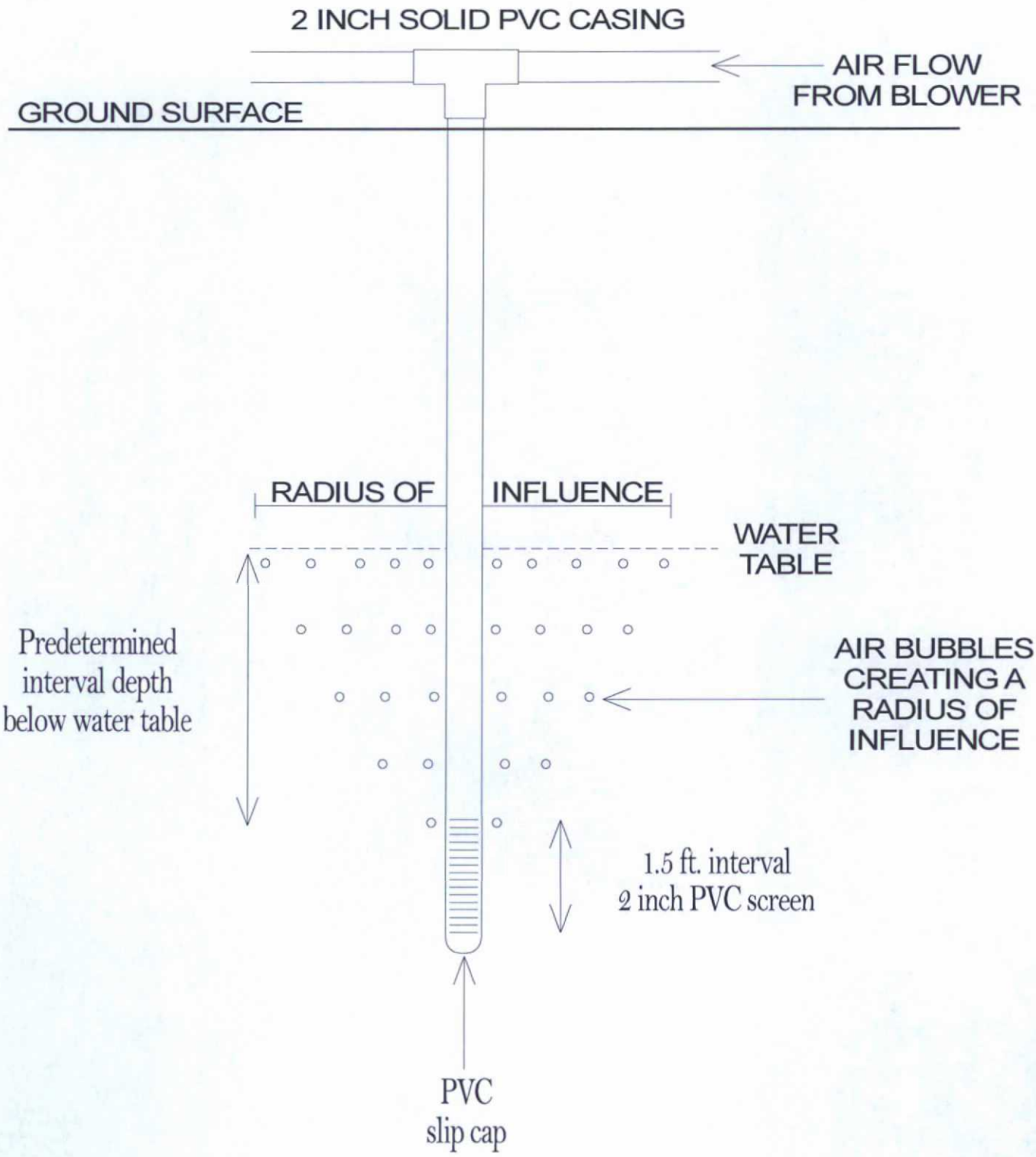
FILENAME: 08-17-11-ASSL.SKF

REVISED: 11-11-15

AIR SPARGE SYSTEM LAYOUT

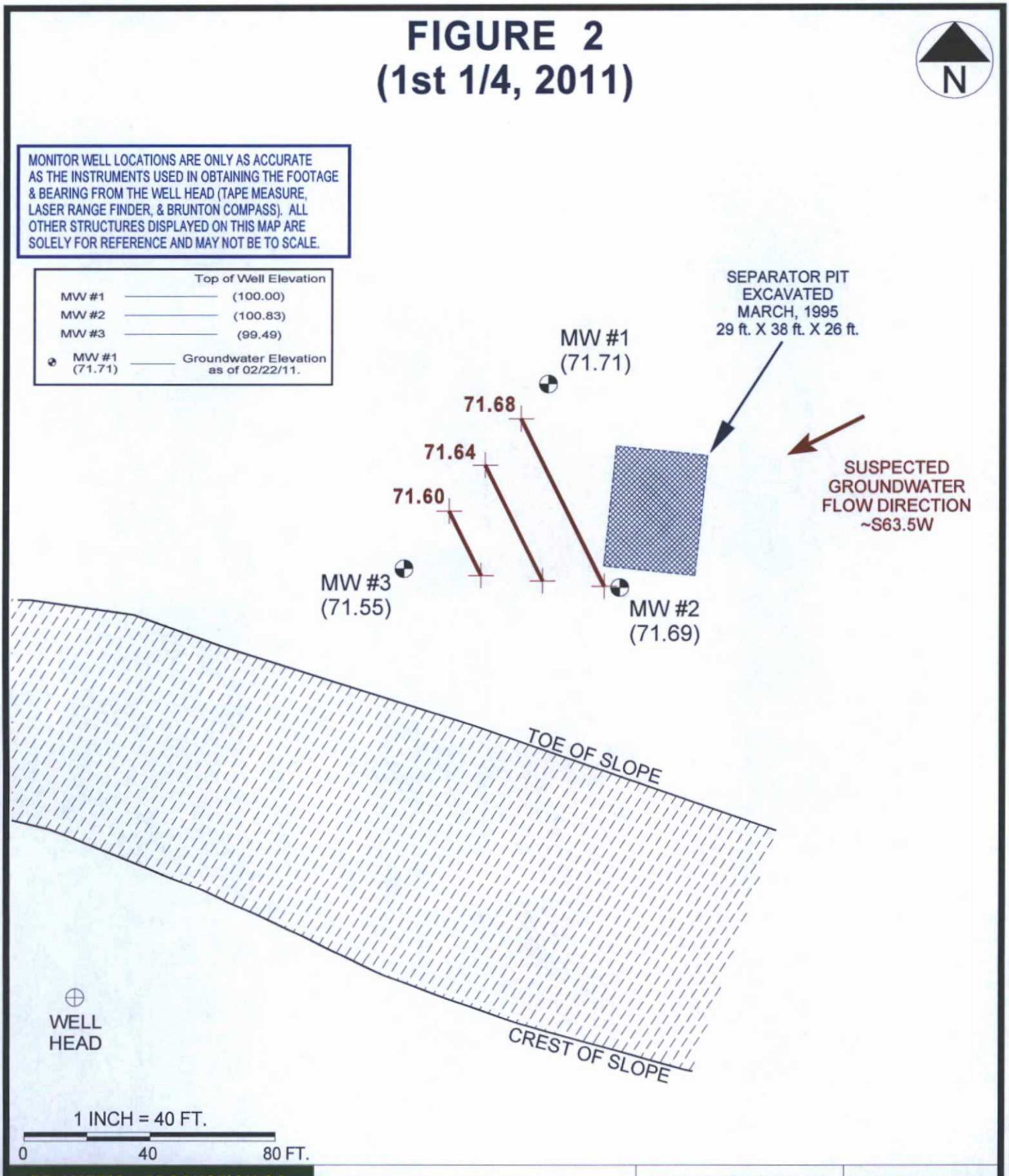
04/10

SIDE VIEW OF A TYPICAL AIR SPARGE POINT



BP AMERICA PRODUCTION CO. GALLEGOS CANYON UNIT 107 NW/4 NW/4, SEC. 19, T29N, 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) 632-1199	DRAWN BY: NJV FILENAME: ASPS.SKF REVISED: 11/10/2015	AIR SPARGE POINT SCHEMATIC

FIGURE 2
(1st 1/4, 2011)

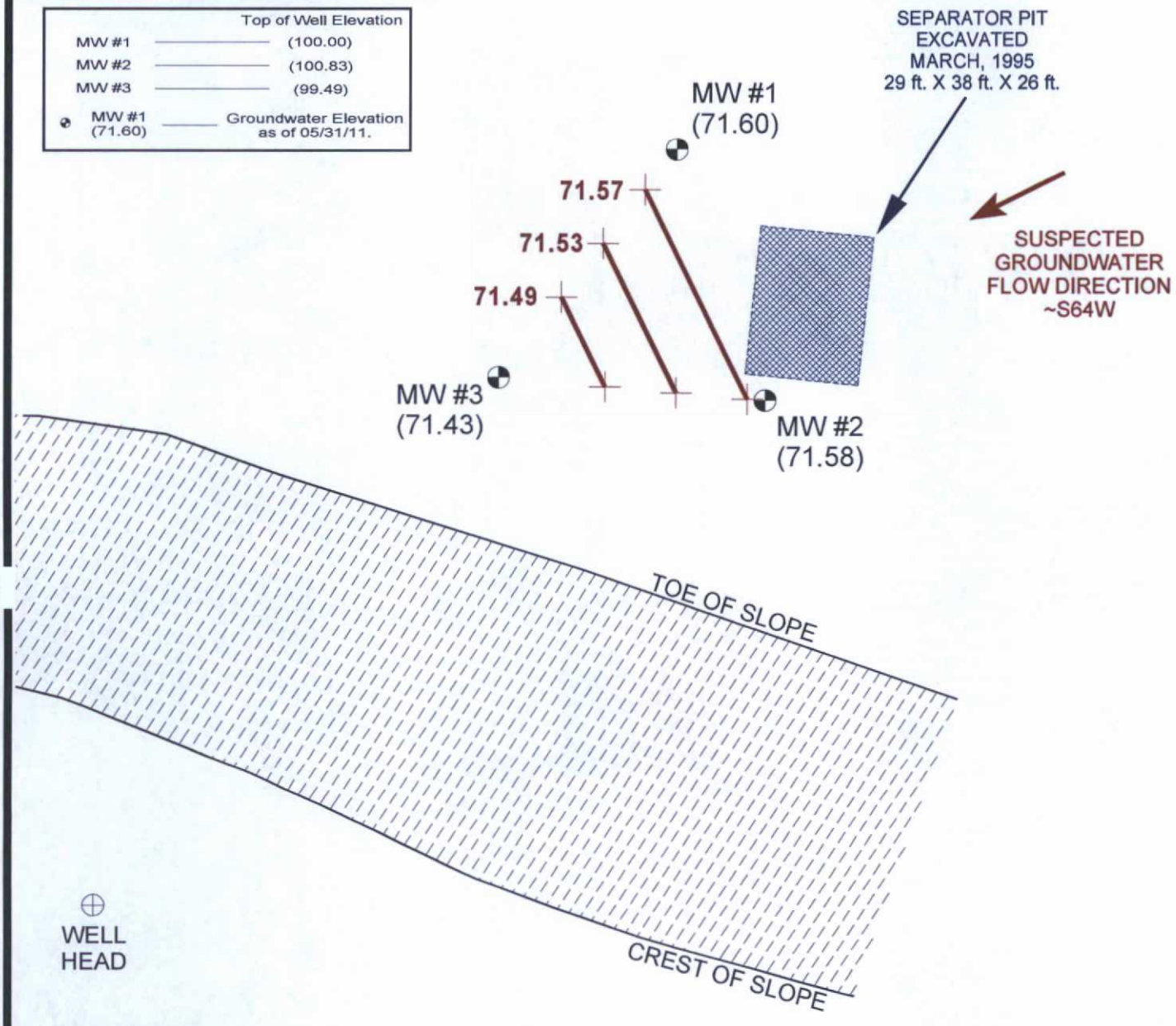


BP AMERICA PRODUCTION CO. GCU # 107 NW/4 NW/4 SEC. 19, T29N, R12W SAN JUAN COUNTY, NEW MEXICO	BLAGG ENGINEERING, INC. CONSULTING PETROLEUM / RECLAMATION SERVICES P.O. BOX 87 BLOOMFIELD, NEW MEXICO 87413 PHONE: (505) 632-1199	PROJECT: MW SAMPLING DRAWN BY: NJV FILENAME: 02-22-11-GW.SKF REVISED: 02-22-11 NJV	GROUNDWATER CONTOUR MAP 02/11

FIGURE 3
(2nd 1/4, 2011)

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

	Top of Well Elevation
MW #1	(100.00)
MW #2	(100.83)
MW #3	(99.49)
MW #1 (71.60)	Groundwater Elevation as of 05/31/11.



BP AMERICA PRODUCTION CO.

GCU # 107

NW/4 NW/4 SEC. 19, 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

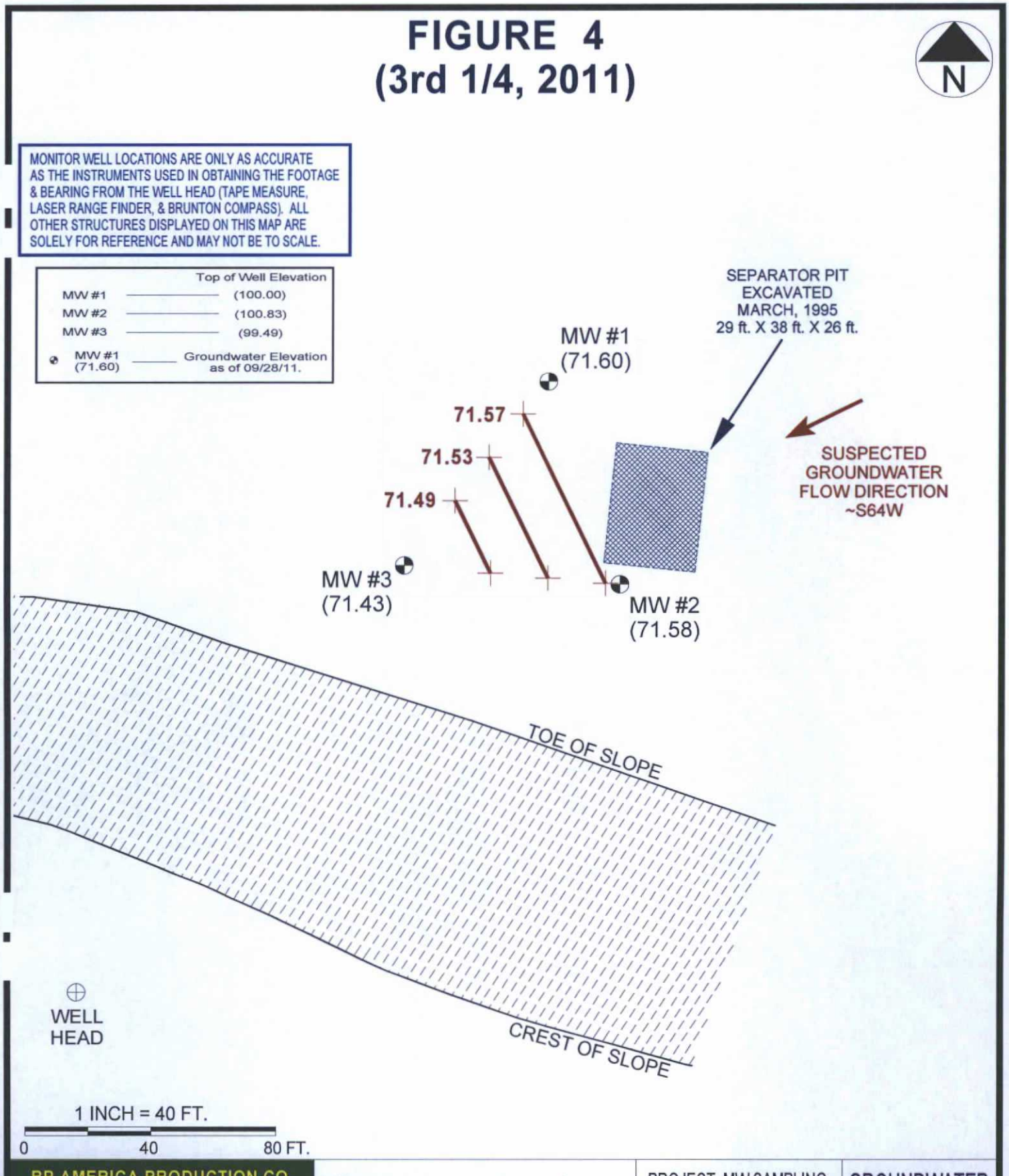
FILENAME: 05-31-11-GW.SKF

REVISED: 05-31-11 NJV

GROUNDWATER CONTOUR MAP

05/11

FIGURE 4
(3rd 1/4, 2011)

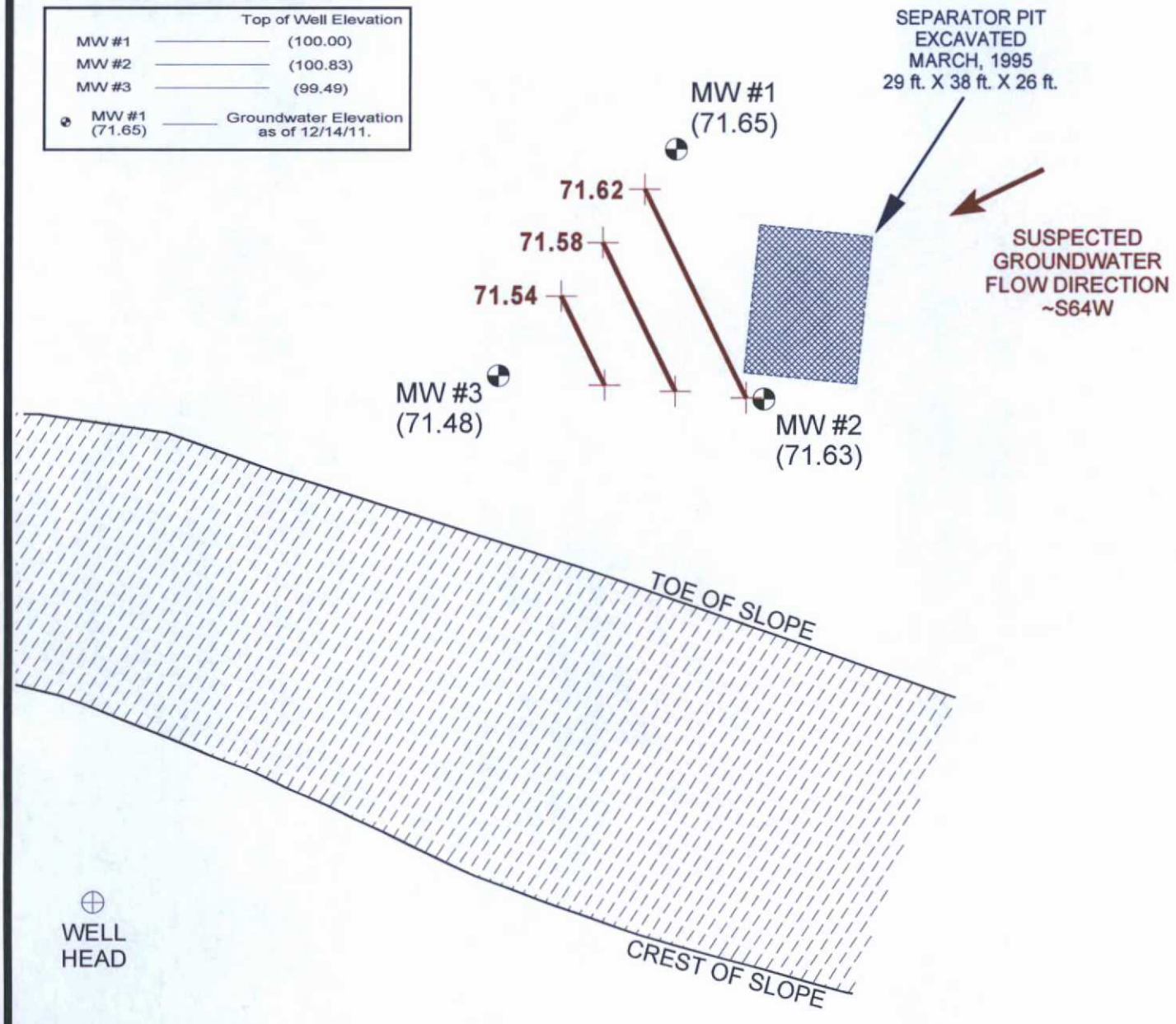


BP AMERICA PRODUCTION CO. GCU # 107 NW/4 NW/4 SEC. 19, T29N, R12W SAN JUAN COUNTY, NEW MEXICO	BLAGG ENGINEERING, INC. CONSULTING PETROLEUM / RECLAMATION SERVICES P.O. BOX 87 BLOOMFIELD, NEW MEXICO 87413 PHONE: (505) 632-1199	PROJECT: MW SAMPLING DRAWN BY: NJV FILENAME: 09-28-11-GW.SKF REVISED: 09-29-11 NJV	GROUNDWATER CONTOUR MAP 09/11

FIGURE 5
(4th 1/4, 2011)

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

	Top of Well Elevation
MW #1	(100.00)
MW #2	(100.83)
MW #3	(99.49)
MW #1 (71.65)	Groundwater Elevation as of 12/14/11.



BP AMERICA PRODUCTION CO.

GCU # 107

NW/4 NW/4 SEC. 19, 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

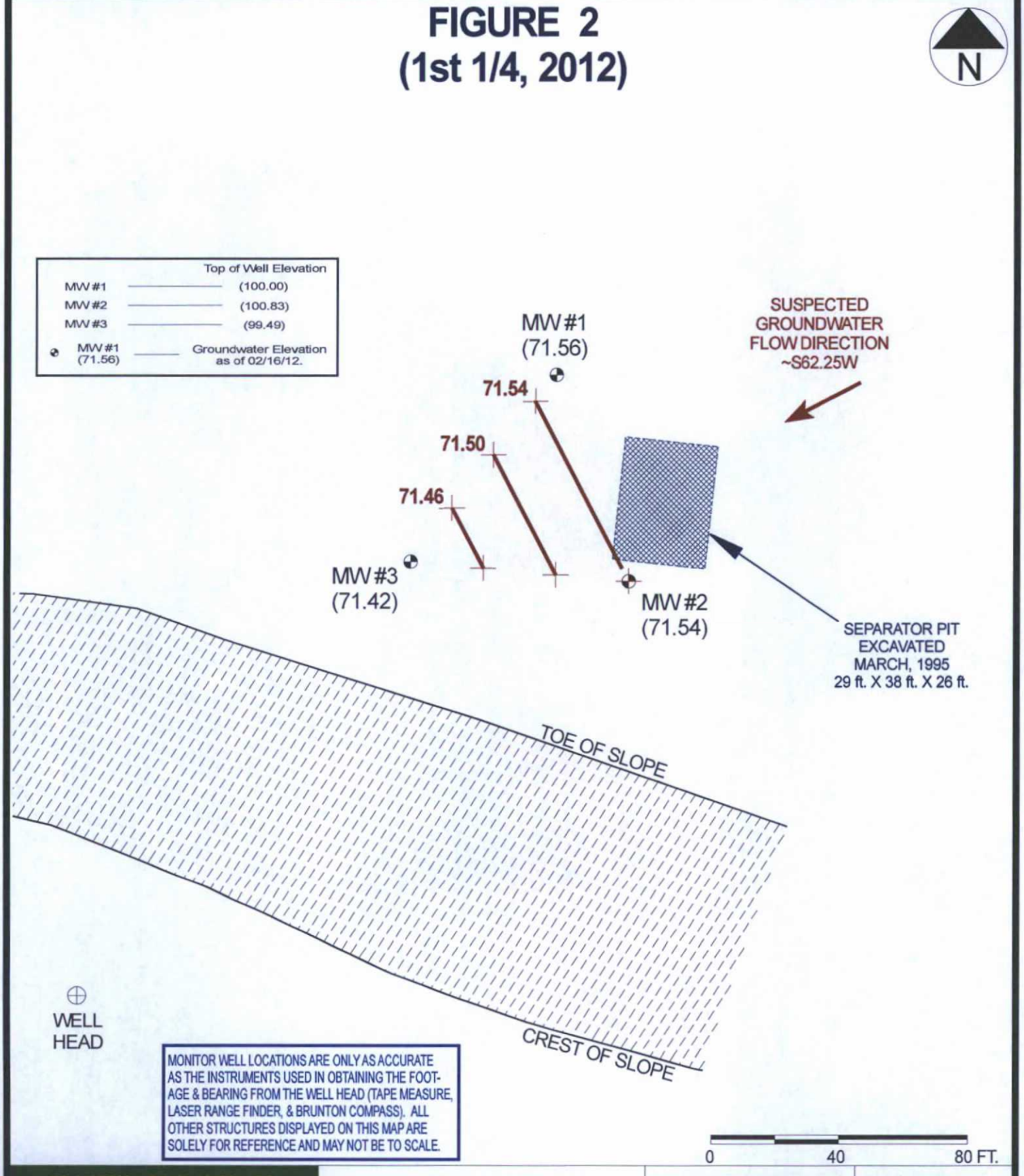
FILENAME: 12-14-11-GW.SKF

REVISED: 12-22-11 NJV

GROUNDWATER CONTOUR MAP

12/11

FIGURE 2
(1st 1/4, 2012)



BP AMERICA PRODUCTION CO.

GCU # 107

NW/4 NW/4 SEC. 19, T29N, R12W

SAN JUAN COUNTY, NEW MEXICO

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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

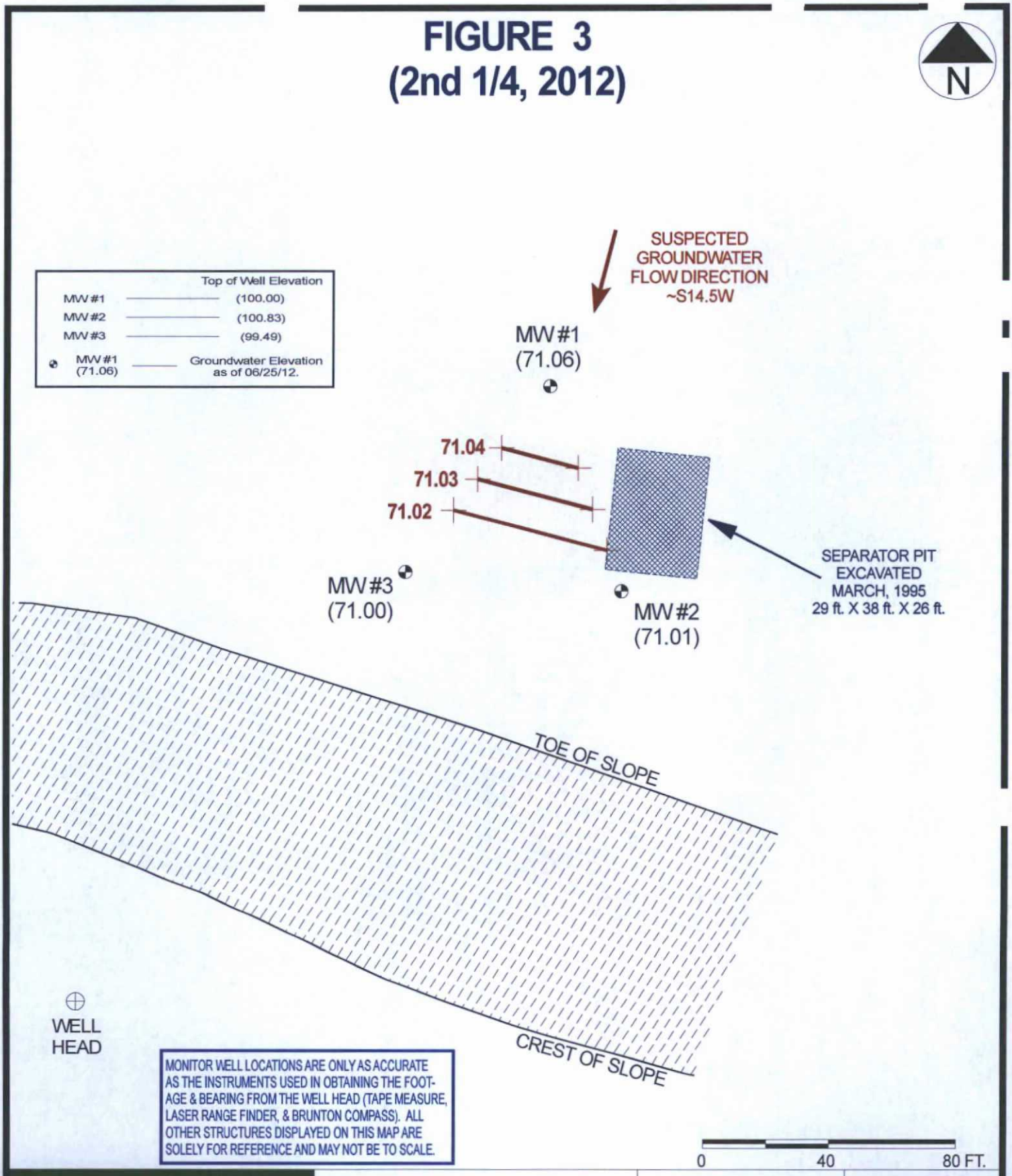
FILENAME: 02-16-12-GW.SKF

REVISED: 02-17-12 NJV

GROUNDWATER CONTOUR MAP

02/12

FIGURE 3
(2nd 1/4, 2012)



BP AMERICA PRODUCTION CO.

GCU # 107

NW/4 NW/4 SEC. 19, 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

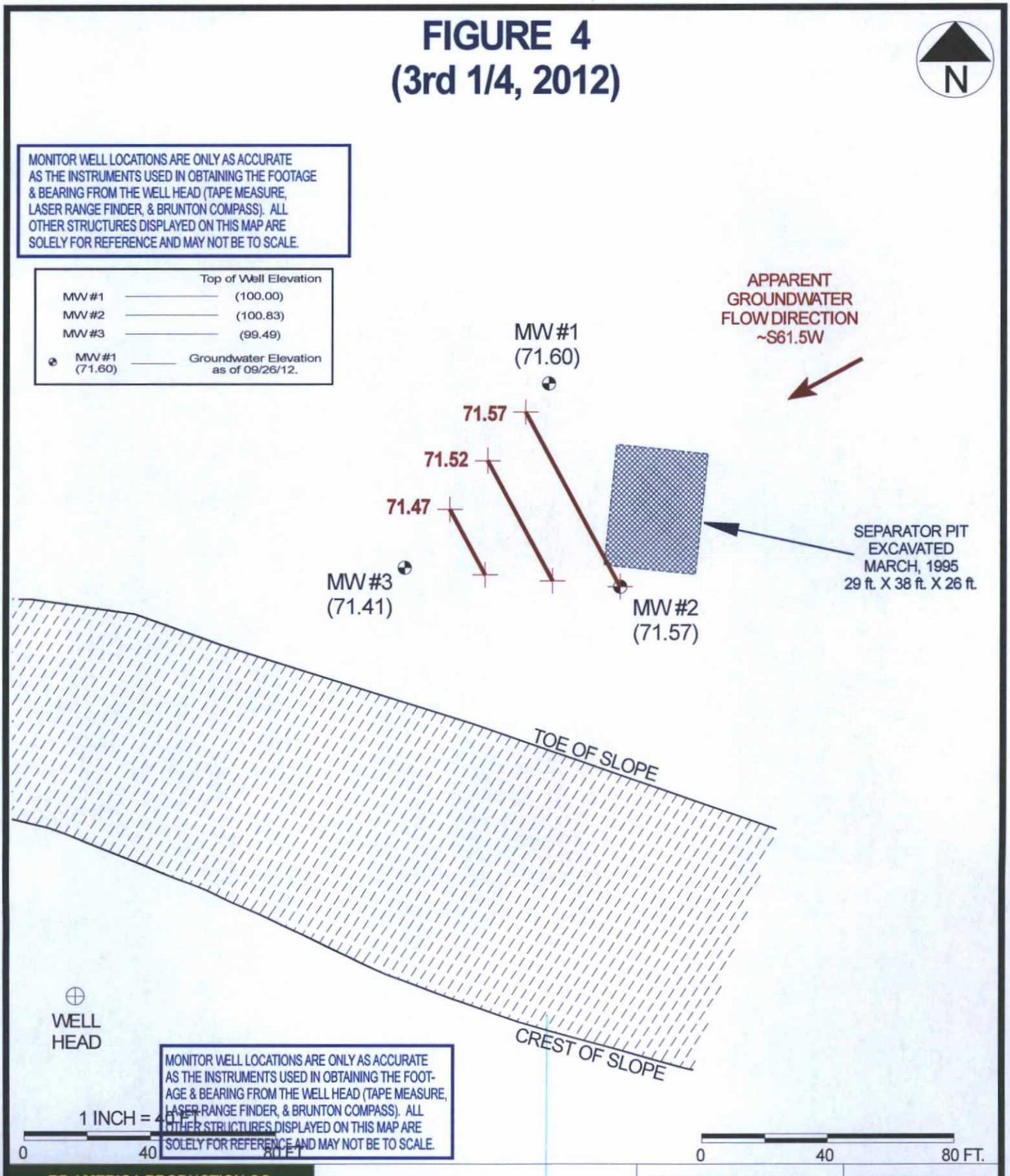
FILENAME: 06-25-12-GW.SKF

REVISED: 08-01-12 NJV

GROUNDWATER CONTOUR MAP

06/12

FIGURE 4
(3rd 1/4, 2012)



BP AMERICA PRODUCTION CO.

GCU # 107

NW/4 NW/4 SEC. 19, 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

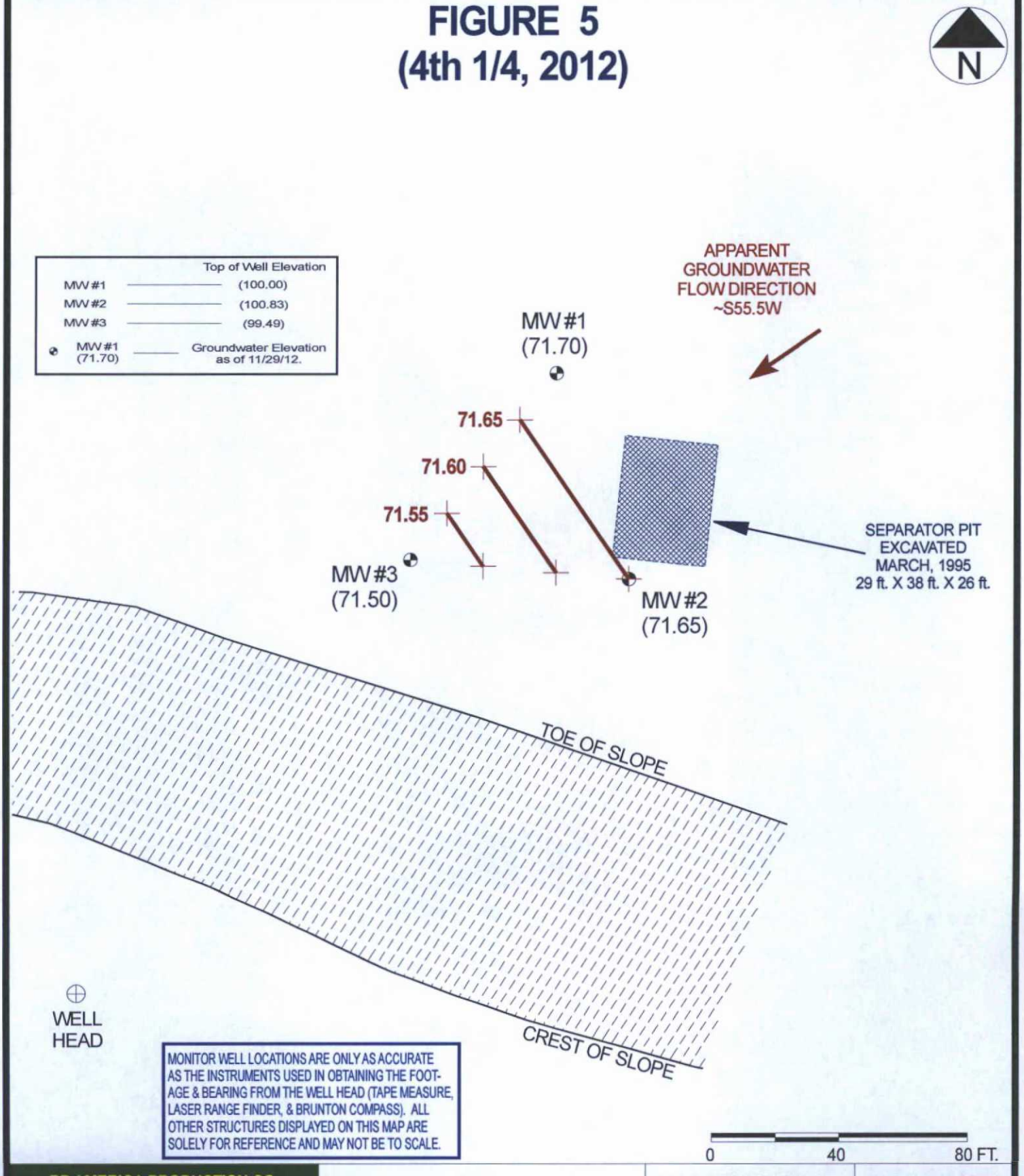
FILENAME: 09-26-12-GW.SKF

REVISED: 10-15-12 NJV

GROUNDWATER CONTOUR MAP

09/12

FIGURE 5
(4th 1/4, 2012)



BP AMERICA PRODUCTION CO.

GCU # 107

NW/4 NW/4 SEC. 19, 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

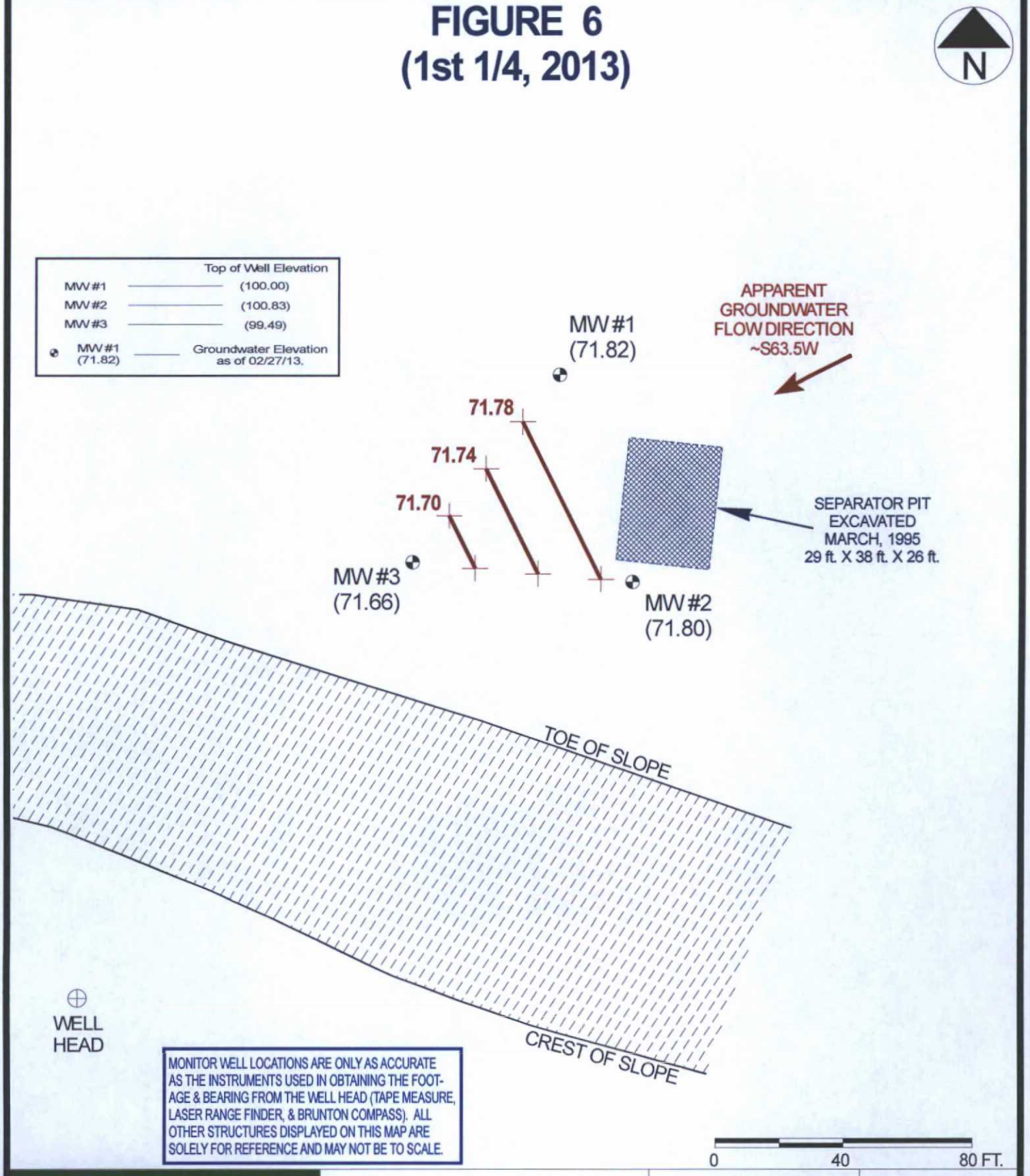
FILENAME: 11-29-12-GW.SKF

REVISED: 12-10-12 NJV

GROUNDWATER CONTOUR MAP

11/12

FIGURE 6
(1st 1/4, 2013)



BP AMERICA PRODUCTION CO.

GCU # 107

NW/4 NW/4 SEC. 19, 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: 02-27-13-GW.SKF

REVISED: 03-11-13 NJV

GROUNDWATER CONTOUR MAP

02/13

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY # : N / A

GCU # 107 - SEPARATOR PIT
UNIT D, SEC. 19, T29N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : November 9, 2009

DEVELOPER / SAMPLER : N J V

Filename : 11-09-09.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	100.00	70.87	29.13	36.08	1150	6.92	1,800	16.9	3.50
2	100.83	70.86	29.97	36.08	1130	7.44	1,500	16.5	3.00
3	99.49	70.71	28.78	36.19	1210	7.20	1,700	16.4	3.75
					INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800		
					DATE & TIME =	11/09/09	1120		

NOTES : Volume of water purged from well prior to sampling: V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores).
(i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)

Ideally a minimum of three (3) wellbore volumes:

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

Comments or note well diameter if not standard 2 ".

Excellent recovery in all monitor wells . Collected samples from all monitor wells for BTEX , TDS , chloride , fluoride , nitrate , sulfate , & iron . Collected duplicate sample for BTEX analysis from MW # 2 & labeled as MW # 2 under Project Name : GCU # 187 ; time collected : 1430 .

Top of casing MW # 1 ~ 2.43 ft. , MW # 2 ~ 2.43 ft. , MW # 3 ~ 2.60 ft. above grade .

on-site	10:00	temp	49 F
off-site	12:42	temp	63 F
sky cond.	sunny		
wind speed	0 - 10	direct.	E - SE

Hall Environmental Analysis Laboratory, Inc.

Date: *18-Nov-09*

CLIENT:	Blagg Engineering	**Client Sample ID:**	MW #1
Lab Order:	0911194	**Collection Date:**	11/9/2009 11:50:00 AM
Project:	GCU #107	**Date Received:**	11/10/2009
Lab ID:	0911194-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	11/14/2009 1:12:03 AM
Toluene	ND	1.0		µg/L	1	11/14/2009 1:12:03 AM
Ethylbenzene	ND	1.0		µg/L	1	11/14/2009 1:12:03 AM
Xylenes, Total	ND	2.0		µg/L	1	11/14/2009 1:12:03 AM
Surr: 4-Bromofluorobenzene	78.8	65.9-130		%REC	1	11/14/2009 1:12:03 AM
EPA METHOD 300.0: ANIONS						Analyst: **TAF**
Fluoride	0.60	0.10		mg/L	1	11/10/2009 12:54:51 PM
Chloride	170	2.0		mg/L	20	11/10/2009 1:12:16 PM
Nitrogen, Nitrite (As N)	ND	2.0		mg/L	20	11/10/2009 1:12:16 PM
Nitrogen, Nitrate (As N)	150	2.0		mg/L	20	11/10/2009 1:12:16 PM
Sulfate	1500	25		mg/L	50	11/11/2009 12:58:45 PM
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **RAGS**
Iron	ND	0.020		mg/L	1	11/16/2009 7:45:36 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **MMS**
Total Dissolved Solids	3300	40.0		mg/L	1	11/13/2009 2:18:00 PM

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
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *18-Nov-09*

CLIENT:	Blagg Engineering	**Client Sample ID:**	MW #2
Lab Order:	0911194	**Collection Date:**	11/9/2009 11:30:00 AM
Project:	GCU #107	**Date Received:**	11/10/2009
Lab ID:	0911194-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	10		µg/L	10	11/14/2009 2:12:43 AM
Toluene	1900	50		µg/L	50	11/13/2009 2:56:44 AM
Ethylbenzene	560	10		µg/L	10	11/14/2009 2:12:43 AM
Xylenes, Total	4100	100		µg/L	50	11/13/2009 2:56:44 AM
Surr: 4-Bromofluorobenzene	84.1	65.9-130		%REC	50	11/13/2009 2:56:44 AM
EPA METHOD 300.0: ANIONS						Analyst: **TAF**
Fluoride	1.2	0.10		mg/L	1	11/10/2009 1:29:41 PM
Chloride	190	2.0		mg/L	20	11/10/2009 2:21:54 PM
Nitrogen, Nitrite (As N)	ND	2.0		mg/L	20	11/10/2009 2:21:54 PM
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	11/10/2009 1:29:41 PM
Sulfate	830	10		mg/L	20	11/10/2009 2:21:54 PM
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **RAGS**
Iron	0.12	0.020		mg/L	1	11/16/2009 7:49:35 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **MMS**
Total Dissolved Solids	2100	20.0		mg/L	1	11/13/2009 2:18:00 PM

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
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Nov-09*

CLIENT:	Blagg Engineering	**Client Sample ID:**	MW #2
Lab Order:	0911197	**Collection Date:**	11/9/2009 2:30:00 PM
Project:	GCU #187	**Date Received:**	11/10/2009
Lab ID:	0911197-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	10		µg/L	10	11/13/2009 1:25:59 AM
Toluene	1900	50		µg/L	50	11/14/2009 3:43:39 AM
Ethylbenzene	570	10		µg/L	10	11/13/2009 1:25:59 AM
Xylenes, Total	4100	100		µg/L	50	11/14/2009 3:43:39 AM
Surr: 4-Bromofluorobenzene	101	65.9-130		%REC	10	11/13/2009 1:25:59 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
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *18-Nov-09*

CLIENT:	Blagg Engineering	**Client Sample ID:**	MW #3
Lab Order:	0911194	**Collection Date:**	11/9/2009 12:10:00 PM
Project:	GCU #107	**Date Received:**	11/10/2009
Lab ID:	0911194-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	11/14/2009 3:13:24 AM
Toluene	ND	1.0		µg/L	1	11/14/2009 3:13:24 AM
Ethylbenzene	ND	1.0		µg/L	1	11/14/2009 3:13:24 AM
Xylenes, Total	ND	2.0		µg/L	1	11/14/2009 3:13:24 AM
Surr: 4-Bromofluorobenzene	86.4	65.9-130		%REC	1	11/14/2009 3:13:24 AM
EPA METHOD 300.0: ANIONS						Analyst: **TAF**
Fluoride	0.81	0.10		mg/L	1	11/10/2009 2:39:19 PM
Chloride	210	2.0		mg/L	20	11/10/2009 2:56:44 PM
Nitrogen, Nitrite (As N)	4.2	2.0		mg/L	20	11/10/2009 2:56:44 PM
Nitrogen, Nitrate (As N)	3.8	0.10		mg/L	1	11/10/2009 2:39:19 PM
Sulfate	1200	25		mg/L	50	11/11/2009 1:16:09 PM
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **RAGS**
Iron	ND	0.020		mg/L	1	11/16/2009 7:53:31 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **MMS**
Total Dissolved Solids	2430	20.0		mg/L	1	11/13/2009 2:18:00 PM

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
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Chain-of-Custody Record

Client: BLAGG ENGR. / 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)
☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: GCU #107

Project #:

Project Manager: NELSON VELEZ

Sampler: NELSON VELEZ

On Ice: ☒ Yes ☐ No

Sample Temperature: 4.0 °C

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 0911194	Analysis Request: BTEX + ~~MTBE + TMB's~~ (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_3, ~~NO_2~~, ~~PO_4~~, SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	IRON, FERROUS (FILTERED)	TDS	NITRATE-N / NITRITE-N		Air Bubbles (Y or N)
11/9/09	1150	WATER	MW #1	40ml-2 125ml-1	HCl & COOL	1	✓											✓				
"	"	"	"	250ml-1	COOL	1								✓					✓			
"	"	"	"	125ml-1	H_2SO_4 & COOL	1														✓		
11/9/09	1130	WATER	MW #2	40ml-2 125ml-1	HCl & COOL	2	✓											✓				
"	"	"	"	250ml-1	COOL	2								✓					✓			
"	"	"	"	125ml-1	H_2SO_4 & COOL	2														✓		
11/9/09	1210	WATER	MW #3	40ml-2 125ml-1	HCl & COOL	3	✓											✓				
"	"	"	"	250ml-1	COOL	3								✓					✓			
"	"	"	"	125ml-1	H_2SO_4 & COOL	3														✓		

Date	Time	Relinquished by:	Received by:	Date	Time
11/9/09	1530				
Date:	Time:	Relinquished by:	Received by:	11/10/09	920

Remarks: IF ANION NO_3 CAN NOT BE ANALYZED WITHIN 48 HRS., THEN RUN NITRATE-N/NITRITE-N.

Chain-of-Custody Record

Client: BLAGG ENGR./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)
☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: GCU #187

Project #:

Project Manager: NELSON VELEZ

Sampler: NELSON VELEZ

On Ice: ☒ Yes ☐ No

Sample Temperature: 0.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO. 0911167	BTEX + MTBE + TMB's (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_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
11/9/09	1430	WATER	MW #2	40ml-2	HCl & COOL	-1	✓											

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Date	Time
11/9/09	1530				
Date:	Time:	Relinquished by:	Received by:	11/10/09	920

Remarks:

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 #107 **Work Order:** 0911194

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 300.0: Anions											
Sample ID: MB		*MBLK*				Batch ID:	**R36114**	Analysis Date:	11/10/2009 10:52:59 AM		
Fluoride	ND	mg/L	0.10								
Chloride	ND	mg/L	0.10								
Nitrogen, Nitrite (As N)	ND	mg/L	0.10								
Nitrogen, Nitrate (As N)	ND	mg/L	0.10								
Sulfate	ND	mg/L	0.50								
Sample ID: MB		*MBLK*				Batch ID:	**R36133**	Analysis Date:	11/11/2009 9:29:50 AM		
Fluoride	ND	mg/L	0.10								
Chloride	ND	mg/L	0.10								
Nitrogen, Nitrite (As N)	ND	mg/L	0.10								
Nitrogen, Nitrate (As N)	ND	mg/L	0.10								
Sulfate	ND	mg/L	0.50								
Sample ID: LCS		*LCS*				Batch ID:	**R36114**	Analysis Date:	11/10/2009 11:10:24 AM		
Fluoride	0.5176	mg/L	0.10	0.5	0	104	90	110			
Chloride	5.108	mg/L	0.10	5	0	102	90	110			
Nitrogen, Nitrite (As N)	0.9476	mg/L	0.10	1	0	94.8	90	110			
Nitrogen, Nitrate (As N)	2.630	mg/L	0.10	2.5	0	105	90	110			
Sulfate	10.23	mg/L	0.50	10	0	102	90	110			
Sample ID: LCS		*LCS*				Batch ID:	**R36133**	Analysis Date:	11/11/2009 9:47:14 AM		
Fluoride	0.5664	mg/L	0.10	0.5	0	113	90	110			S
Chloride	5.162	mg/L	0.10	5	0	103	90	110			
Nitrogen, Nitrite (As N)	0.9362	mg/L	0.10	1	0	93.6	90	110			
Nitrogen, Nitrate (As N)	2.657	mg/L	0.10	2.5	0	106	90	110			
Sulfate	10.31	mg/L	0.50	10	0	103	90	110			

Qualifiers:

E	Estimated value	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

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: GCU #187 **Work Order:** 0911197

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:	**R36161**	Analysis Date:	11/12/2009 10:10:54 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:	**R36179**	Analysis Date:	11/13/2009 10:41:17 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:	**R36161**	Analysis Date:	11/13/2009 5:28:07 AM		
Benzene	18.02	µg/L	1.0	20	0	90.1	85.9	113			
Toluene	18.41	µg/L	1.0	20	0	92.0	86.4	113			
Ethylbenzene	18.37	µg/L	1.0	20	0	91.8	83.5	118			
Xylenes, Total	55.04	µg/L	2.0	60	0	91.7	83.4	122			
Sample ID: 100NG BTEX LCS		*LCS*				Batch ID:	**R36179**	Analysis Date:	11/13/2009 8:38:43 PM		
Benzene	18.56	µg/L	1.0	20	0	92.8	85.9	113			
Toluene	18.79	µg/L	1.0	20	0	94.0	86.4	113			
Ethylbenzene	17.97	µg/L	1.0	20	0	89.8	83.5	118			
Xylenes, Total	53.88	µg/L	2.0	60	0	89.8	83.4	122			

Qualifiers:

E	Estimated value	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

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: GCU #107 **Work Order:** 0911194

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:	R36161	Analysis Date:	11/12/2009 10:10:54 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:	R36179	Analysis Date:	11/13/2009 10:41:17 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:	R36161	Analysis Date:	11/13/2009 5:28:07 AM		
Benzene	18.02	µg/L	1.0	20	0	90.1	85.9	113			
Toluene	18.41	µg/L	1.0	20	0	92.0	86.4	113			
Ethylbenzene	18.37	µg/L	1.0	20	0	91.8	83.5	118			
Xylenes, Total	55.04	µg/L	2.0	60	0	91.7	83.4	122			
Sample ID: 100NG BTEX LCS		*LCS*				Batch ID:	R36179	Analysis Date:	11/13/2009 8:38:43 PM		
Benzene	18.56	µg/L	1.0	20	0	92.8	85.9	113			
Toluene	18.79	µg/L	1.0	20	0	94.0	86.4	113			
Ethylbenzene	17.97	µg/L	1.0	20	0	89.8	83.5	118			
Xylenes, Total	53.88	µg/L	2.0	60	0	89.8	83.4	122			
Method: EPA Method 6010B: Dissolved Metals											
Sample ID: MB		*MBLK*				Batch ID:	R36196	Analysis Date:	11/16/2009 5:42:23 PM		
Iron	ND	mg/L	0.020								
Sample ID: MB		*MBLK*				Batch ID:	R36196	Analysis Date:	11/16/2009 5:51:02 PM		
Iron	ND	mg/L	0.020								
Sample ID: LCS		*LCS*				Batch ID:	R36196	Analysis Date:	11/16/2009 5:45:09 PM		
Iron	0.4900	mg/L	0.020	0.5	0	98.0	80	120			
Sample ID: LCSRR		*LCS*				Batch ID:	R36196	Analysis Date:	11/16/2009 5:48:07 PM		
Iron	0.4920	mg/L	0.020	0.5	0	98.4	80	120			
Sample ID: LCS		*LCS*				Batch ID:	R36196	Analysis Date:	11/16/2009 5:53:51 PM		
Iron	0.4866	mg/L	0.020	0.5	0	97.3	80	120			
Method: SM2540C MOD: Total Dissolved Solids											
Sample ID: MB-20605		*MBLK*				Batch ID:	20605	Analysis Date:	11/13/2009 2:18:00 PM		
Total Dissolved Solids	ND	mg/L	20.0								
Sample ID: LCS-20605		*LCS*				Batch ID:	20605	Analysis Date:	11/13/2009 2:18:00 PM		
Total Dissolved Solids	1040	mg/L	20.0	1000	0	104	80	120			

Qualifiers:

E	Estimated value	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: 11/10/2009

Work Order Number **0911194** Received by: TLS

Checklist completed by: _____ 11/10/09 Sample ID labels checked by: _____
Signature Date 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?	**-0.6°**	*<6° C Acceptable* If given sufficient time to cool.		

Number of preserved bottles checked for pH: 12

<2 >12 unless noted below.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name **BLAGG** Date Received: **11/10/2009**

Work Order Number **0911197** Received by: **TLS**

Checklist completed by: _____ 11/10/09 Sample ID labels checked by: _____

Signature Date 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 ☐		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?	**-0.6°**	*<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 # 107 - SEPARATOR PIT
UNIT D, SEC. 19, T29N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : **March 4, 2010**

DEVELOPER / SAMPLER : N J V

Filename : **03-04-10.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	100.00	71.22	28.78	36.08	-	-	-	-	-
2	100.83	71.24	29.59	36.08	1230	7.47	1,600	18.4	3.25
3	99.49	71.06	28.43	36.19	1150	7.25	1,300	18.7	3.75

INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800
DATE & TIME =	03/01/10	1215

NOTES : Volume of water purged from well prior to sampling: V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores).
(i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)

Ideally a minimum of three (3) wellbore volumes:

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

Comments or note well diameter if not standard 2 ".

Excellent recovery in MW # 2 & # 3 . Collected samples from MW # 2 & # 3 for BTEX per US EPA Method 8021B .

Top of casing MW # 1 ~ 2.43 ft., MW # 2 ~ 2.43 ft., MW # 3 ~ 2.60 ft. above grade .

on-site	11:15	temp	55 F
off-site	12:45	temp	60 F
sky cond.	Sunny		
wind speed	0 - 10 G(20-25)	direct.	E / SE / SW

Hall Environmental Analysis Laboratory, Inc.

Date: *10-Mar-10*

CLIENT: Blagg Engineering
Project: GCU #107
Lab Order: 1003180

Lab ID: 1003180-01 **Collection Date:** 3/4/2010 12:30:00 PM
Client Sample ID: MW #2 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	10		µg/L	10	3/9/2010 5:33:50 AM
Toluene	330	10		µg/L	10	3/9/2010 5:33:50 AM
Ethylbenzene	430	10		µg/L	10	3/9/2010 5:33:50 AM
Xylenes, Total	2500	100		µg/L	50	3/9/2010 5:03:31 AM
Surr: 4-Bromofluorobenzene	116	65.9-130		%REC	10	3/9/2010 5:33:50 AM

Lab ID: 1003180-02 **Collection Date:** 3/4/2010 11:50:00 AM
Client Sample ID: MW #3 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	3/9/2010 2:14:42 PM
Toluene	ND	1.0		µg/L	1	3/9/2010 2:14:42 PM
Ethylbenzene	ND	1.0		µg/L	1	3/9/2010 2:14:42 PM
Xylenes, Total	ND	2.0		µg/L	1	3/9/2010 2:14:42 PM
Surr: 4-Bromofluorobenzene	101	65.9-130		%REC	1	3/9/2010 2:14:42 PM

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

Chain-of-Custody Record

Client: BLAGG ENGR. / 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)
☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: GCU #107

Project #:

Project Manager: NELSON VELEZ

Sampler: NELSON VELEZ

On Ice: ☒ Yes ☐ No

Sample Temperature: 3.8

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1003136	Analysis Request: (BTEX + MTBE + TMB's (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_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
3/4/10	1230	WATER	MW #2	2-40ml	HCl & COOL	-1	✓															
3/4/10	1150	WATER	MW #3	2-40ml	HCl & COOL	-2	✓															

Date: 3/4/10 Time: 1415 Relinquished by: Nelson Velez
Received by: Date 3/5/10 Time 12:20

Date: Time: Relinquished by:
Received by: Date Time

Remarks:

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 #107 **Work Order:** 1003180

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8021B: Volatiles											
Sample ID: b 5		*MBLK*				Batch ID:	**R37677**	Analysis Date:		3/8/2010 11:21:44 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:	**R37695**	Analysis Date:		3/9/2010 9:14:19 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:	**R37677**	Analysis Date:		3/8/2010 8:58:22 PM	
Benzene	21.82	µg/L	1.0	20	0	109	85.9	113			
Toluene	21.28	µg/L	1.0	20	0	106	86.4	113			
Ethylbenzene	20.95	µg/L	1.0	20	0	105	83.5	118			
Xylenes, Total	62.35	µg/L	2.0	60	0	104	83.4	122			
Sample ID: 100NG BTEX LCS		*LCS*				Batch ID:	**R37695**	Analysis Date:		3/9/2010 8:20:39 PM	
Benzene	22.19	µg/L	1.0	20	0	111	85.9	113			
Toluene	22.25	µg/L	1.0	20	0	111	86.4	113			
Ethylbenzene	21.60	µg/L	1.0	20	0	108	83.5	118			
Xylenes, Total	64.44	µg/L	2.0	60	0	107	83.4	122			
Sample ID: 100NG BTEX LCSD		*LCSD*				Batch ID:	**R37695**	Analysis Date:		3/9/2010 8:50:56 PM	
Benzene	19.44	µg/L	1.0	20	0	97.2	85.9	113	13.2	27	
Toluene	18.65	µg/L	1.0	20	0	93.2	86.4	113	17.6	19	
Ethylbenzene	18.40	µg/L	1.0	20	0	92.0	83.5	118	16.0	10	R
Xylenes, Total	55.87	µg/L	2.0	60	0	93.1	83.4	122	14.3	13	R

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: **3/8/2010**

Work Order Number **1003180** Received by: **ARS**

Checklist completed by: _____ 3/8/10 Sample ID labels checked by: _____

Signature Date 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 ☐		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?	**3.8°**	*<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 # 107 - SEPARATOR PIT
UNIT D, SEC. 19, T29N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : April 29, 2010

DEVELOPER / SAMPLER : N J V

Filename : 04-29-10.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	100.00	71.44	28.56	36.08	-	-	-	-	-
2	100.83	71.45	29.38	36.08	1410	7.45	1,600	15.5	3.25
3	99.49	71.30	28.19	36.19	1345	7.33	1,200	15.6	4.00

INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800
DATE & TIME =	04/29/10	1230

NOTES : Volume of water purged from well prior to sampling: V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores).
(i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)

Ideally a minimum of three (3) wellbore volumes:

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

Comments or note well diameter if not standard 2 ".

Excellent recovery in MW # 2 & # 3 . Collected samples from MW # 2 & # 3 for BTEX per US EPA Method 8021B .

Top of casing MW # 1 ~ 2.43 ft., MW # 2 ~ 2.43 ft., MW # 3 ~ 2.60 ft. above grade .

on-site	1:10	temp	51 F
off-site	2:20	temp	51 F
sky cond.	Partly cloudy		
wind speed	10-25 G 32	direct.	W

Hall Environmental Analysis Laboratory, Inc.

Date: *05-May-10*

CLIENT: Blagg Engineering
Project: GCU #107
Lab Order: 1005035

Lab ID: 1005035-01 **Collection Date:** 4/29/2010 2:10:00 PM
Client Sample ID: MW #2 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	5.0		µg/L	5	5/5/2010 12:32:23 AM
Toluene	180	5.0		µg/L	5	5/5/2010 12:32:23 AM
Ethylbenzene	350	5.0		µg/L	5	5/5/2010 12:32:23 AM
Xylenes, Total	1300	10		µg/L	5	5/5/2010 12:32:23 AM
Surr: 4-Bromofluorobenzene	94.7	65.9-130		%REC	5	5/5/2010 12:32:23 AM

Lab ID: 1005035-02 **Collection Date:** 4/29/2010 1:45:00 PM
Client Sample ID: MW #3 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	5/5/2010 1:32:55 AM
Toluene	ND	1.0		µg/L	1	5/5/2010 1:32:55 AM
Ethylbenzene	ND	1.0		µg/L	1	5/5/2010 1:32:55 AM
Xylenes, Total	ND	2.0		µg/L	1	5/5/2010 1:32:55 AM
Surr: 4-Bromofluorobenzene	103	65.9-130		%REC	1	5/5/2010 1:32:55 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

Chain-of-Custody Record

Client: BLAGG ENER./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:
☒ Standard ☐ Rush

Project Name: GCU #107

Project #:

Project Manager: NELSON VELEZ

Sampler: NELSON VELEZ

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.1

HEAL No. 1005035

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	BTEX + MTBE + TMB's (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_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
4/29/10	1410	WATER	MW #2	2-40ml	HCl & COOL	1	✓										
4/29/10	1345	WATER	MW #3	2-40ml	HCl & COOL	2	✓										

Date: 4/29/10 Time: 1615 Relinquished by:

Received by: Date 5/4/10 Time 0935

Date: 5/3/10 Time: 1430 Relinquished by:

Received by: Date Time

Remarks:

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.

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: GCU #107 **Work Order:** 1005035

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:	**R38525**	Analysis Date:		5/4/2010 9:52:23 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:	**R38525**	Analysis Date:		5/5/2010 5:34:55 AM	
Benzene	21.22	µg/L	1.0	20	0	106	85.9	113			
Toluene	20.93	µg/L	1.0	20	0	105	86.4	113			
Ethylbenzene	20.75	µg/L	1.0	20	0	104	83.5	118			
Xylenes, Total	62.80	µg/L	2.0	60	0	105	83.4	122			

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: **5/4/2010**

Work Order Number **1005035** Received by: **TLS**

Checklist completed by: _____ 5/4/10 Sample ID labels checked by: _____

Signature Date 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 ☐		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?	**2.1°**	*<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 # 107 - SEPARATOR PIT
UNIT D, SEC. 19, T29N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : July 21, 2010

DEVELOPER / SAMPLER : N J V

Filename : 07-21-10.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	100.00	71.39	28.61	36.08	-	-	-	-	-
2	100.83	71.39	29.44	36.08	1015	7.55	1,800	21.3	3.25
3	99.49	71.24	28.25	36.19	-	-	-	-	-

INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800
DATE & TIME =	07/20/10	0800

NOTES : Volume of water purged from well prior to sampling: V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores).
(i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)
Ideally a minimum of three (3) wellbore volumes:
2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2 ".

Excellent recovery in MW # 2 . Collected samples from MW # 2 for BTEX per US EPA Method 8021B .

Top of casing MW # 1 ~ 2.43 ft., MW # 2 ~ 2.43 ft., MW # 3 ~ 2.60 ft. above grade .

on-site	9:28	temp	76 F
off-site	10:28	temp	78 F
sky cond.	Cloudy		
wind speed	0 - 5	direct.	ENE - E

Hall Environmental Analysis Laboratory, Inc.

Date: *28-Jul-10*

CLIENT:	Blagg Engineering	**Client Sample ID:**	MW #2
Lab Order:	1007842	**Collection Date:**	7/21/2010 10:15:00 AM
Project:	GCU #107	**Date Received:**	7/23/2010
Lab ID:	1007842-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	1.6	1.0		µg/L	1	7/27/2010 5:01:01 AM
Toluene	220	10		µg/L	10	7/27/2010 4:30:49 AM
Ethylbenzene	440	10		µg/L	10	7/27/2010 4:30:49 AM
Xylenes, Total	1000	20		µg/L	10	7/27/2010 4:30:49 AM
Surr: 4-Bromofluorobenzene	114	65.9-130		%REC	10	7/27/2010 4:30:49 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

Chain-of-Custody Record

Client: BLAGG ENGR./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: GCU #107

Project #:

Project Manager: NELSON VELEZ

Sampler: NELSON VELEZ

On Ice: ☒ Yes ☐ No

Sample Temperature: 0.7

HEAL No. 1001842

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.
7/22/10	1015	WATER	MW #2	40ml-2	HCl & cool	1

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

(BTEX + ~~MTBE + TMB's~~ (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_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
✓															

Date:	Time:	Relinquished by:	Received by:	Date	Time
7/22/10	1530			7/23/10	735
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

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 #107 **Work Order:** 1007842

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:	**R40035**	Analysis Date:		7/26/2010 9:47:15 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:	**R40035**	Analysis Date:		7/26/2010 12:19:12 PM	
Benzene	19.22	µg/L	1.0	20	0	96.1	87.9	121			
Toluene	20.45	µg/L	1.0	20	0	102	83	124			
Ethylbenzene	20.00	µg/L	1.0	20	0	100	81.7	122			
Xylenes, Total	60.28	µg/L	2.0	60	0	100	85.6	121			

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: **7/23/2010**

Work Order Number **1007842** Received by: **TLS**

Checklist completed by: _____ 7/23/10 Sample ID labels checked by: _____
Signature Date 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?	0.7°	*<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 # 107 - SEPARATOR PIT
UNIT D, SEC. 19, T29N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : October 21, 2010

DEVELOPER / SAMPLER : N J V

Filename : 10-21-10.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	100.00	71.60	28.40	36.08	-	-	-	-	-
2	100.83	71.58	29.25	36.08	1205	7.36	1,900	17.5	3.25
3	99.49	71.44	28.05	36.19	-	-	-	-	-

INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800
DATE & TIME =	10/21/10	0940

NOTES : Volume of water purged from well prior to sampling: V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores).
(i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)

Ideally a minimum of three (3) wellbore volumes:

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

Comments or note well diameter if not standard 2 ".

Excellent recovery in MW # 2 . Collected samples from MW # 2 for BTEX per US EPA Method 8021B .

Top of casing MW # 1 ~ 2.43 ft., MW # 2 ~ 2.43 ft., MW # 3 ~ 2.60 ft. above grade .

on-site	11:30	temp	53 F
off-site	12:30	temp	56 F
sky cond.	Partly cloudy		
wind speed	0 - 5	direct.	calm

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Oct-10*

CLIENT:	Blagg Engineering	**Client Sample ID:**	MW #2
Lab Order:	1010A04	**Collection Date:**	10/21/2010 12:05:00 PM
Project:	GCU #107	**Date Received:**	10/22/2010
Lab ID:	1010A04-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	5.0		µg/L	5	10/28/2010 5:01:13 AM
Toluene	370	5.0		µg/L	5	10/28/2010 5:01:13 AM
Ethylbenzene	370	5.0		µg/L	5	10/28/2010 5:01:13 AM
Xylenes, Total	1500	40		µg/L	20	10/28/2010 3:43:54 PM
Surr: 4-Bromofluorobenzene	120	81.3-151		%REC	5	10/28/2010 5:01:13 AM

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: BLAGG ENGR. / 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:
GCU #107

Project #:

Project Manager:
NELSON VELEZ

Sampler: NELSON VELEZ
On Ice: ☒ Yes ☐ No
Sample Temperature: 8.7

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1010904	Analysis Request: BTEX + MTBE + TMB's (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_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
10/21/10	1205	WATER	MW #2	40ml-2	HCl & COOL	-1	✓															

Date:	Time:	Relinquished by:	Received by:	Date	Time	Remarks:
10/21/10	1550			10/22/10	1020	
Date:	Time:	Relinquished by:	Received by:	Date	Time	

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 #107 **Work Order:** 1010A04

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: R41813**		**Analysis Date: 10/27/2010 9:16:43 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: R41813**		**Analysis Date: 10/27/2010 12:52:24 PM**			
Benzene	20.85	µg/L	1.0	20	0	104	84.7	118			
Toluene	21.96	µg/L	1.0	20	0	110	82	123			
Ethylbenzene	22.04	µg/L	1.0	20	0.096	110	83	118			
Xylenes, Total	69.60	µg/L	2.0	60	0	116	85.4	119			

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: 10/22/2010

Work Order Number 1010A04 | Received by: MLW

Checklist completed by: Signature 10/22/10 Date | Sample ID labels checked by: Initials

Matrix: | Carrier name: Priority US Mail

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?	**2.7°**	*<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 # 107 - SEPARATOR PIT
UNIT D, SEC. 19, T29N, R12W

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

Date : **February 22, 2011**

DEVELOPER / SAMPLER : N J V

Filename : **02-22-11.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.)
1	100.00	71.71	28.29	36.08	-	-	-	-	-
2	100.83	71.69	29.14	36.08	1020	7.46	1,800	14.5	3.25
3	99.49	71.55	27.94	36.19	-	-	-	-	-

INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800
DATE & TIME =	02/22/11	1010

NOTES : Volume of water purged from well prior to sampling: V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores).
(i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)

Ideally a minimum of three (3) wellbore volumes:

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

Comments or note well diameter if not standard 2 ".

Excellent recovery in MW # 2 . Collected samples from MW # 2 for BTEX per US EPA Method 8021B .

Top of casing MW # 1 ~ 2.43 ft., MW # 2 ~ 2.43 ft., MW # 3 ~ 2.60 ft. above grade .

on-site	**9:40**	temp	**38 F**
off-site	**10:35**	temp	**42 F**
sky cond.	**Sunny**		
wind speed	**0 - 5**	direct.	**calm**

Hall Environmental Analysis Laboratory, Inc.

Date: *09-Mar-11*

CLIENT:	Blagg Engineering	**Client Sample ID:**	MW #2
Lab Order:	1103120	**Collection Date:**	2/28/2011 10:50:00 AM
Project:	GCU #107	**Date Received:**	3/3/2011
Lab ID:	1103120-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **BDH**
Benzene	ND	5.0		µg/L	5	3/5/2011 4:11:40 AM
Toluene	430	5.0		µg/L	5	3/5/2011 4:11:40 AM
Ethylbenzene	430	5.0		µg/L	5	3/5/2011 4:11:40 AM
Xylenes, Total	2400	40		µg/L	20	3/7/2011 1:04:48 PM
Surr: 4-Bromofluorobenzene	114	96.8-145		%REC	5	3/5/2011 4:11:40 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

Chain-of-Custody Record

Client: BLAGG ENGR. / 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: GCU #107

Project #:

Project Manager: NELSON VELEZ

Sampler: NELSON VELEZ

On Ice: ☐ No

Sample Temperature: 5.4

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TMB's (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_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
2/28/11	1050	WATER	MW #2	40ml-2	HCl & COOL	110320 -1	✓											

Date:	Time:	Relinquished by:	Received by:	Date	Time
3/1/11	936		Christine Walters	3/1/11	936
3/1/11	1311	Christine Walters		3/2/11	10:45

Remarks:

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 #107 **Work Order:** 1103120

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:	**R43957**	Analysis Date:		3/4/2011 9:06:28 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 5		*MBLK*				Batch ID:	**R43975**	Analysis Date:		3/7/2011 11:29:09 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:	**R43957**	Analysis Date:		3/4/2011 8:10:00 PM	
Benzene	20.94	µg/L	1.0	20	0	105	93.4	120			
Toluene	21.44	µg/L	1.0	20	0	107	96.2	122			
Ethylbenzene	20.92	µg/L	1.0	20	0	105	95	121			
Xylenes, Total	64.43	µg/L	2.0	60	0	107	97.6	122			
Sample ID: 100NG BTEX LCS		*LCS*				Batch ID:	**R43975**	Analysis Date:		3/7/2011 9:36:34 PM	
Benzene	20.79	µg/L	1.0	20	0	104	93.4	120			
Toluene	21.62	µg/L	1.0	20	0	108	96.2	122			
Ethylbenzene	21.62	µg/L	1.0	20	0	108	95	121			
Xylenes, Total	65.80	µg/L	2.0	60	0	110	97.6	122			
Sample ID: 100NG BTEX LCSD		*LCSD*				Batch ID:	**R43957**	Analysis Date:		3/4/2011 8:40:11 PM	
Benzene	20.56	µg/L	1.0	20	0	103	93.4	120	1.83	10.1	
Toluene	21.17	µg/L	1.0	20	0	106	96.2	122	1.28	14.3	
Ethylbenzene	20.72	µg/L	1.0	20	0	104	95	121	0.951	15.5	
Xylenes, Total	63.92	µg/L	2.0	60	0	107	97.6	122	0.798	10.4	

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: 3/3/2011

Work Order Number 1103120 | Received by: MMG

Checklist completed by: _____ 03/03/11 | Sample ID labels checked by: _____

Signature | Date | 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 ☐		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?	5.4°	*<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 # 107 - SEPARATOR PIT
UNIT D, SEC. 19, T29N, R12W

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

Date : **May 31, 2011**

DEVELOPER / SAMPLER : N J V

Filename : **05-31-11.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.)
1	100.00	71.60	28.40	36.08	-	-	-	-	-
2	100.83	71.58	29.25	36.08	1300	7.50	2,000	18.8	3.25
3	99.49	71.43	28.06	36.19	-	-	-	-	-

INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800
DATE & TIME =	05/31/11	1020

NOTES : Volume of water purged from well prior to sampling: V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores).
(i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)

Ideally a minimum of three (3) wellbore volumes:

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

ter if not standard 2 ".

Excellent recovery in MW # 2 . Collected samples from MW # 2 for BTEX per US EPA Method 8021B .

Top of casing MW # 1 ~ 2.43 ft., MW # 2 ~ 2.43 ft., MW # 3 ~ 2.60 ft. above grade .

on-site	12:10	temp	72 F
off-site	1:10	temp	77 F
sky cond.	Sunny		
wind speed	0 - 10	direct.	SE

Hall Environmental Analysis Laboratory, Inc.

Date: *06-Jun-11*

CLIENT:	Blagg Engineering	**Client Sample ID:**	MW #2
Lab Order:	1106063	**Collection Date:**	5/31/2011 1:00:00 PM
Project:	GCU #107	**Date Received:**	6/1/2011
Lab ID:	1106063-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	10		µg/L	10	6/2/2011 4:24:13 PM
Toluene	940	10		µg/L	10	6/2/2011 4:24:13 PM
Ethylbenzene	490	10		µg/L	10	6/2/2011 4:24:13 PM
Xylenes, Total	2300	100		µg/L	50	6/3/2011 12:39:18 PM
Surr: 4-Bromofluorobenzene	120	96.8-145		%REC	10	6/2/2011 4:24:13 PM

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

Chain-of-Custody Record

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:
☑ Standard ☐ Rush

Project Name:
GCU # 107

Project #:

Project Manager:
NELSON VELEZ

Sampler: NELSON VELEZ

On Ice: ☑ Yes ☐ No

Sample Temperature: 1.4°

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + ~~MTBE + TMB's~~ (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, NO3, NO2, PO4, SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride (300.0)			5 pt. composite sample	Air Bubbles (Y or N)
5/31/11	1300	WATER	~~MW-3R~~ 6/1/11	40 ml VOA - 2	HCl & Cool	1106063-1	✓															

Date: 5/31/11 Time: 1445 Relinquished by: [signature] Received by: [signature] Date: 5/31/11 Time: 1445

Date: 5/31/11 Time: 1602 Relinquished by: [signature] Received by: [signature] Date: 6/1/11 Time: 9:50

Remarks:

Bill to Blagg Engineering, Inc.

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 #107 **Work Order:** 1106063

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:	R45717	Analysis Date:		6/2/2011 9:23:06 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:	R45728	Analysis Date:		6/3/2011 12:09:19 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:	R45717	Analysis Date:		6/2/2011 11:53:29 AM	
Benzene	22.42	µg/L	1.0	20	0	112	93.4	120			
Toluene	22.61	µg/L	1.0	20	0	113	96.2	122			
Ethylbenzene	21.44	µg/L	1.0	20	0	107	95	121			
Xylenes, Total	66.46	µg/L	2.0	60	0	111	97.6	122			
Sample ID: 100NG BTEX LCS		*LCS*				Batch ID:	R45728	Analysis Date:		6/3/2011 11:09:08 AM	
Benzene	22.89	µg/L	1.0	20	0	114	93.4	120			
Toluene	23.22	µg/L	1.0	20	0	116	96.2	122			
Ethylbenzene	22.11	µg/L	1.0	20	0.124	110	95	121			
Xylenes, Total	68.05	µg/L	2.0	60	0	113	97.6	122			
Sample ID: 100NG BTEX LCSD		*LCSD*				Batch ID:	R45717	Analysis Date:		6/2/2011 12:23:35 PM	
Benzene	21.67	µg/L	1.0	20	0	108	93.4	120	3.40	10.1	
Toluene	22.20	µg/L	1.0	20	0	111	96.2	122	1.83	14.3	
Ethylbenzene	20.95	µg/L	1.0	20	0	105	95	121	2.29	15.5	
Xylenes, Total	65.05	µg/L	2.0	60	0	108	97.6	122	2.14	10.4	

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: 6/1/2011

Work Order Number 1106063 | Received by: MMG

Checklist completed by: _____ 06/01/11 | Sample ID labels checked by: MG

Signature | Date | 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 ☐		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?	1.4°	<6° C Acceptable If given sufficient time to cool.		

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: spoke with Nelson on 6/1/11, said sample name should be MW#2 AG 6/1/11

Corrective Action _____

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

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

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

GCU # 107 - SEPARATOR PIT
UNIT D, SEC. 19, T29N, R12W

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

Date : **September 28, 2011**

DEVELOPER / SAMPLER : N J V

Filename : **09-28-11.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.)
1	100.00	71.60	28.40	36.08	-	-	-	-	-
2	100.83	71.58	29.25	36.08	1500	7.42	2,600	18.7	3.25
3	99.49	71.43	28.06	36.19	1430	6.95	2,400	18.9	4.00
					INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800		
					DATE & TIME =	09/28/11	1030		

NOTES : Volume of water purged from well prior to sampling: V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores).
(i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)

Ideally a minimum of three (3) wellbore volumes:

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

Comments or note well diameter if not standard 2 ".

Excellent recovery in MW # 2 & # 3 . Collected samples from MW # 2 & # 3 for BTEX per US EPA Method 8021B . Air sparge system operational at time of sampling . Purged wells using 2 inch submersible electrical pump , new / clear vinyl tubing, and with brass adjustable flow valve attachment added near sampling end of tubing .

Top of casing MW # 1 ~ 2.43 ft., MW # 2 ~ 2.43 ft., MW # 3 ~ 2.60 ft. above grade .

on-site	**2:05**	temp	**82 F**
off-site	**3:24**	temp	**86 F**
sky cond.	**Sunny**		
wind speed	**5 - 15**	direct.	**W**

Hall Environmental Analysis Laboratory, Inc.

Date: *10-Oct-11*

Analytical Report

CLIENT:	Blagg Engineering	**Client Sample ID:**	MW #2
Lab Order:	1109C44	**Collection Date:**	9/28/2011 3:00:00 PM
Project:	GCU #107	**Date Received:**	9/30/2011
Lab ID:	1109C44-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	10		µg/L	10	10/4/2011 7:04:02 PM
Toluene	ND	10		µg/L	10	10/4/2011 7:04:02 PM
Ethylbenzene	150	10		µg/L	10	10/4/2011 7:04:02 PM
Xylenes, Total	990	20		µg/L	10	10/4/2011 7:04:02 PM
Surr: 4-Bromofluorobenzene	105	76.5-115		%REC	10	10/4/2011 7:04:02 PM

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

Hall Environmental Analysis Laboratory, Inc.

Date: *10-Oct-11*
Analytical Report

CLIENT:	Blagg Engineering	**Client Sample ID:**	MW #3
Lab Order:	1109C44	**Collection Date:**	9/28/2011 2:30:00 PM
Project:	GCU #107	**Date Received:**	9/30/2011
Lab ID:	1109C44-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	1.0		µg/L	1	10/4/2011 8:01:43 PM
Toluene	ND	1.0		µg/L	1	10/4/2011 8:01:43 PM
Ethylbenzene	ND	1.0		µg/L	1	10/4/2011 8:01:43 PM
Xylenes, Total	ND	2.0		µg/L	1	10/4/2011 8:01:43 PM
Surr: 4-Bromofluorobenzene	95.9	76.5-115		%REC	1	10/4/2011 8:01:43 PM

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

Chain-of-Custody Record

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:
☑ Standard ☐ Rush

Project Name: GCU # 107

Project #:

Project Manager: NELSON VELEZ

Sampler: NELSON VELEZ

On Ice: ☑ Yes ☐ No

Sample Temperature: 9.7

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + ~~MTBE + TMB's~~ (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, NO3, NO2, PO4, SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride (300.0)				Air Bubbles (Y or N)
9/28/11	1500	WATER	MW # 2	40 ml VOA - 2	HCl & Cool	1109C44-1	V															
9/28/11	1430	WATER	MW # 3	40 ml VOA - 2	HCl & Cool	-2	V															

Date:	Time:	Relinquished by:	Received by:	Date	Time
9/29/11	1320		Christine Walters	9/29/11	1320
9/29/11	1545	Christine Walters		9/30/11	1300

Remarks:

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

Work Order: N1261883 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 #107 **Work Order:** 1109C44

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:	**R48181**	Analysis Date:	10/4/2011 10:04:45 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:	**R48181**	Analysis Date:	10/4/2011 12:29:15 PM		
Benzene	19.23	µg/L	1.0	20	0.3422	94.4	80	120			
Toluene	19.46	µg/L	1.0	20	0	97.3	80	120			
Ethylbenzene	19.31	µg/L	1.0	20	0	96.6	80	120			
Xylenes, Total	58.35	µg/L	2.0	60	0	97.3	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 1109C44 | Received by: AMF

Checklist completed by: Signature | Date 9/30/11 | Sample ID labels checked by: Initials MG

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 # 107 - SEPARATOR PIT
UNIT D, SEC. 19, T29N, R12W

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

Date : **December 14, 2011**

DEVELOPER / SAMPLER : N J V

Filename : **12-14-11.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.)
1	100.00	71.65	28.35	36.08	-	-	-	-	-
2	100.83	71.63	29.20	36.08	1240	7.36	3,200	14.4	3.50
3	99.49	71.48	28.01	36.19	1150	7.34	1,800	14.3	4.00

INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800
DATE & TIME =	12/14/11	1145

NOTES : Volume of water purged from well prior to sampling: V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores).
(i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)

Ideally a minimum of three (3) wellbore volumes:

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

Comments or note well diameter if not standard 2 ".

Excellent recovery in MW # 2 & # 3 . Collected samples from MW # 2 & # 3 for BTEX per US EPA Method 8021B . Air sparge system operational at time of sampling . Purged wells using 2 inch submersible electrical pump , new / clear vinyl tubing, and with brass adjustable flow valve attachment added near sampling end of tubing .

Top of casing MW # 1 ~ 2.43 ft., MW # 2 ~ 2.43 ft., MW # 3 ~ 2.60 ft. above grade .

on-site	**10:55**	temp	**35 F**
off-site	**12:45**	temp	**37 F**
sky cond.	**Mostly cloudy**		
wind speed	**10 - 15**	direct.	**WNW**

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Dec-11*
Analytical Report

CLIENT:	Blagg Engineering	**Client Sample ID:**	MW #2
Lab Order:	1112767	**Collection Date:**	12/14/2011 12:40:00 PM
Project:	GCU #107	**Date Received:**	12/16/2011
Lab ID:	1112767-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **JDJ**
Benzene	ND	10		µg/L	10	12/23/2011 10:02:30 PM
Toluene	ND	10		µg/L	10	12/23/2011 10:02:30 PM
Ethylbenzene	150	10		µg/L	10	12/23/2011 10:02:30 PM
Xylenes, Total	150	20		µg/L	10	12/23/2011 10:02:30 PM
Surr: 1,2-Dichloroethane-d4	105	70-130		%REC	10	12/23/2011 10:02:30 PM
Surr: 4-Bromofluorobenzene	94.0	73-131		%REC	10	12/23/2011 10:02:30 PM
Surr: Dibromofluoromethane	114	70-130		%REC	10	12/23/2011 10:02:30 PM
Surr: Toluene-d8	93.2	70-130		%REC	10	12/23/2011 10:02:30 PM

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Dec-11*
Analytical Report

CLIENT:	Blagg Engineering	**Client Sample ID:**	MW #3
Lab Order:	1112767	**Collection Date:**	12/14/2011 11:50:00 AM
Project:	GCU #107	**Date Received:**	12/16/2011
Lab ID:	1112767-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **JDJ**
Benzene	ND	1.0		µg/L	1	12/23/2011 11:29:24 PM
Toluene	ND	1.0		µg/L	1	12/23/2011 11:29:24 PM
Ethylbenzene	ND	1.0		µg/L	1	12/23/2011 11:29:24 PM
Xylenes, Total	ND	2.0		µg/L	1	12/23/2011 11:29:24 PM
Surr: 1,2-Dichloroethane-d4	103	70-130		%REC	1	12/23/2011 11:29:24 PM
Surr: 4-Bromofluorobenzene	105	73-131		%REC	1	12/23/2011 11:29:24 PM
Surr: Dibromofluoromethane	113	70-130		%REC	1	12/23/2011 11:29:24 PM
Surr: Toluene-d8	100	70-130		%REC	1	12/23/2011 11:29:24 PM

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

Chain-of-Custody Record

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:
☑ Standard ☐ Rush

Project Name: GCU #107

Project #:

Project Manager: NELSON VELEZ

Sampler: NELSON VELEZ

On Ice: ☒ Yes ☐ No

Sample Temperature: 19

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1112767	BTEX + ~~MTBE + TMB's~~ (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, NO3, NO2, PO4, SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride (300.0)			5 pt. composite sample	Air Bubbles (Y or N)
12/14/11	1240	WATER	MW #2	40ml-2	HCl+cool	-1	✓															
12/14/11	1150	WATER	MW #3	40ml-2	HCl+cool	-2	✓															

Date: 12/15/11 Time: 1527 Relinquished by: [signature] Received by: Christy Walker Date: 12/16/11 Time: 1527

Date: 12/16/11 Time: 645 Relinquished by: Christy Walker Received by: [signature] Date: 12/16/11 Time: 1430

Remarks: ~~TPH (8015B) GRO & DRO ONLY~~
BILL DIRECTLY TO BP:
JEFF PEACE, 200 ENERGY COURT, FARMINGTON, NM 87401
WORK ORDER: 1261883 PAYKEY: ZPEACEJEFF

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 #107 **Work Order:** 1112767

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8260: Volatiles Short List											
Sample ID: 5ml rb		*MBLK*				Batch ID: **R49807**		Analysis Date: 12/23/2011 11:32:24 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 lcs		*LCS*				Batch ID: **R49807**		Analysis Date: 12/23/2011 12:30:38 PM			
Benzene	19.18	µg/L	1.0	20	0	95.9	81.1	130			
Toluene	20.48	µg/L	1.0	20	0	102	82.3	122			

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: 12/16/2011

Work Order Number 1112767 | Received by: AT

Checklist completed by: _____ 12/16/11 | Sample ID labels checked by: _____

Signature | Date | Initials

Matrix: | Carrier name Courier

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?	**1.9°**	*<6° C Acceptable* If given sufficient time to cool.		

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

Hall Environmental Analysis Laboratory, Inc. **Date:** *29-Dec-11*

CLIENT: Blagg Engineering
Project: GCU #107
Lab Order: 1112767

CASE NARRATIVE

Analytical Comments for METHOD 8260_SL_W, SAMPLE 1112767-01a: Sample dilution for matix interference.

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

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

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

GCU # 107 - SEPARATOR PIT
UNIT D, SEC. 19, T29N, R12W

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

Date : **February 16, 2012**

DEVELOPER / SAMPLER : N J V

Filename : **02-16-12.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	100.00	71.56	28.44	36.08	-	-	-	-	-
2	100.83	71.54	29.29	36.08	1115	6.53	3,200	15.1	3.50
3	99.49	71.42	28.07	36.19	1015	7.08	1,900	15.1	4.00

INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800
DATE & TIME =	02/16/12	1000

NOTES : Volume of water purged from well prior to sampling: V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores).
(i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)

(3) wellbore volumes:

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

Comments or note well diameter if not standard 2 ".

Excellent recovery in MW # 2 & # 3 . Collected samples from MW # 2 & # 3 for BTEX per US EPA Method 8021B . Air sparge system operational at time of sampling . Purged wells using 2 inch submersible electrical pump , new / clear vinyl tubing, and with brass adjustable flow valve attachment added near sampling end of tubing .

Top of casing MW # 1 ~ 2.43 ft., MW # 2 ~ 2.43 ft., MW # 3 ~ 2.60 ft. above grade .

on-site	**9:40**	temp	
off-site	**11:25**	temp	
sky cond.	**Mostly sunny**		
wind speed		direct.	

Analytical Report
Lab Order **1202762**
Date Reported: **2/29/2012**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: MW #2
Project: GCU #107
Collection Date: 2/16/2012 11:15:00 AM
Lab ID: 1202762-001
Matrix: AQUEOUS
Received Date: 2/22/2012 9:54:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	5.0		µg/L	5	2/24/2012 8:49:53 PM
Toluene	140	5.0		µg/L	5	2/24/2012 8:49:53 PM
Ethylbenzene	170	5.0		µg/L	5	2/24/2012 8:49:53 PM
Xylenes, Total	1,300	40		µg/L	20	2/27/2012 5:22:33 PM
Surr: 4-Bromofluorobenzene	126	76.5-115	S	%REC	5	2/24/2012 8:49:53 PM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: MW #3
Project: GCU #107
Collection Date: 2/16/2012 10:15:00 AM
Lab ID: 1202762-002
Matrix: AQUEOUS
Received Date: 2/22/2012 9:54:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	1.0		µg/L	1	2/24/2012 11:13:49 PM
Toluene	ND	1.0		µg/L	1	2/24/2012 11:13:49 PM
Ethylbenzene	ND	1.0		µg/L	1	2/24/2012 11:13:49 PM
Xylenes, Total	ND	2.0		µg/L	1	2/24/2012 11:13:49 PM
Surr: 4-Bromofluorobenzene	110	76.5-115		%REC	1	2/24/2012 11:13:49 PM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Chain-of-Custody Record

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:
☑ Standard ☐ Rush

Project Name:
GCU # 107

Project #:

Project Manager:
NELSON VELEZ

Sampler: **NELSON VELEZ**
On Ice: ☑ Yes ☐ No
Sample Temperature: 1.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1202762	BTEX + ~~MTBE + TMB's~~ (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, NO3, NO2, PO4, SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride (300.0)	Analysis Request
2/16/12	1115	WATER	MW #2	40 ml VOA - 2	HCl & Cool	-1	✓												
2/16/12	1015	WATER	MW #3	40 ml VOA - 2	HCl & Cool	-2	✓												

Date	Time	Relinquished by:	Received by:	Date	Time
2/21/12	0853		Christine Walters	2/21/12	0853
2/21/12	1629	Christine Walters		2/22/12	954

Remarks:

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

Work Order: N1520121 Paykey: ZPEACJDENV

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1202762**

29-Feb-12

Client: Blagg Engineering
Project: GCU #107

Sample ID **5ML-RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R1140**	RunNo: **1140**
Prep Date:	Analysis Date: **2/24/2012**	SeqNo: **32619** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	21		20.00		107	76.5	115			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R1140**	RunNo: **1140**
Prep Date:	Analysis Date: **2/24/2012**	SeqNo: **32623** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	99.2	80	120			
Toluene	20	1.0	20.00	0	102	80	120			
Ethylbenzene	20	1.0	20.00	0	102	80	120			
Xylenes, Total	61	2.0	60.00	0	102	80	120			
Surr: 4-Bromofluorobenzene	22		20.00		110	76.5	115			

Sample ID **5ML-RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R1157**	RunNo: **1157**
Prep Date:	Analysis Date: **2/27/2012**	SeqNo: **33082** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	22		20.00		110	76.5	115			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R1157**	RunNo: **1157**
Prep Date:	Analysis Date: **2/27/2012**	SeqNo: **33089** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Xylenes, Total	62	2.0	60.00	0	103	80	120			
Surr: 4-Bromofluorobenzene	23		20.00		114	76.5	115			

Qualifiers:

- */X Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: BLAGG Work Order Number: 1202762

Received by/date: LM 2/22/12

Logged By: **Michelle Garcia** 2/22/2012 9:54:00 AM Michelle Garcia

Completed By: **Michelle Garcia** 2/22/2012 4:11:10 PM Michelle Garcia

Reviewed By: 2/22/12

Chain of Custody

1.	Were seals intact?	Yes		No	Not Present	✔
2.	Is Chain of Custody complete?	Yes	✔	No	Not Present	
3.	How was the sample delivered?	Courier				

Log In

4.	Coolers are present? (see 19. for cooler specific information)	Yes	✔	No	NA	
5.	Was an attempt made to cool the samples?	Yes	✔	No	NA	
6.	Were all samples received at a temperature of >0° C to 6.0°C	Yes	✔	No	NA	
7.	Sample(s) in proper container(s)?	Yes	✔	No		
8.	Sufficient sample volume for indicated test(s)?	Yes	✔	No		
9.	Are samples (except VOA and ONG) properly preserved?	Yes	✔	No		
10.	Was preservative added to bottles?	Yes		No ✔	NA	
11.	VOA vials have zero headspace?	Yes		No	No VOA Vials	✔
12.	Were any sample containers received broken?	Yes		No ✔		
13.	Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes	✔	No	# of preserved bottles checked for pH:	
14.	Are matrices correctly identified on Chain of Custody?	Yes	✔	No	(<2 or >12 unless noted)	
15.	Is it clear what analyses were requested?	Yes	✔	No	Adjusted?	
16.	Were all holding times able to be met? (If no, notify customer for authorization.)	Yes	✔	No	Checked by:	

Special Handling (if applicable)

17.	Was client notified of all discrepancies with this order?	Yes		No	NA	✔

Person Notified: _____ Date _____

By Whom: _____ Via: eMail Phone Fax In Person

Regarding: _____

Client Instructions: _____

18. Additional remarks:

19. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes			

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

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

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

GCU # 107 - SEPARATOR PIT
UNIT D, SEC. 19, T29N, R12W

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

Date : **June 25, 2012**

DEVELOPER / SAMPLER : N J V

Filename : **06-25-12.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	100.00	71.06	28.94	36.08	-	-	-	-	-
2	100.83	71.01	29.82	36.08	1610	6.88	3,800	17.6	3.00
3	99.49	71.00	28.49	36.19	1520	6.77	3,100	17.8	3.75

INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800
DATE & TIME =	06/23/12	0645

NOTES : Volume of water purged from well prior to sampling: V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores).
(i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)

Ideally a minimum of three (3) wellbore volumes:

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

Comments or note well diameter if not standard 2 ".

Excellent recovery in MW # 2 & # 3 . Collected samples from MW # 2 & # 3 for BTEX per US EPA Method 8021B . Air sparge system operational at time of sampling . Purged wells using 2 inch submersible electrical pump , new / clear vinyl tubing, and with brass adjustable flow valve attachment added near sampling end of tubing .

Top of casing MW # 1 ~ 2.43 ft., MW # 2 ~ 2.43 ft., MW # 3 ~ 2.60 ft. above grade .

on-site	2:25	temp	96 F
off-site	4:20	temp	96 F
sky cond.	Sunny		
wind speed	5 - 10	direct.	SW - WSW

Analytical Report
Lab Order: **1206B70**
Date Reported: **6/30/2012**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU #107
Lab Order: 1206B70

Lab ID: 1206B70-001 **Collection Date:** 6/25/2012 4:10:00 PM
Client Sample ID: MW#2 **Matrix:** AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	5.0		µg/L	5	6/29/2012 3:53:09 AM
Toluene	53	5.0		µg/L	5	6/29/2012 3:53:09 AM
Ethylbenzene	130	5.0		µg/L	5	6/29/2012 3:53:09 AM
Xylenes, Total	920	10		µg/L	5	6/29/2012 3:53:09 AM
Surr: 4-Bromofluorobenzene	94.2	55-140		%REC	5	6/29/2012 3:53:09 AM

Lab ID: 1206B70-002 **Collection Date:** 6/25/2012 3:20:00 PM
Client Sample ID: MW#3 **Matrix:** AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	6/29/2012 4:53:32 AM
Toluene	ND	1.0		µg/L	1	6/29/2012 4:53:32 AM
Ethylbenzene	ND	1.0		µg/L	1	6/29/2012 4:53:32 AM
Xylenes, Total	ND	2.0		µg/L	1	6/29/2012 4:53:32 AM
Surr: 4-Bromofluorobenzene	76.5	55-140		%REC	1	6/29/2012 4:53:32 AM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits	U	Samples with CalcVal < MDL

Chain-of-Custody Record

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:
☑ Standard ☐ Rush

Project Name: GCU # 107

Project #:

Project Manager: NELSON VELEZ

Sampler: NELSON VELEZ

On Ice: ☑ Yes ☐ No

Sample Temperature: 4.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1206870	BTEX + ~~MTBE + TMB's~~ (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, NO3, NO2, PO4, SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride (300.0)		Grab sample	5 pt. composite sample	Air Bubbles (Y or N)
6/25/12	1610	WATER	MW #2	40 ml VOA - 2	HCl & Cool	-001	√													√		
6/25/12	1520	WATER	MW #3	40 ml VOA - 2	HCl & Cool	-002	√													√		

Date:	Time:	Relinquished by:	Received by:	Date	Time
6/26/12	1600			6/26/12	1600
6/26/12	1751			6/26/12	1000

Remarks:

Send invoice to :

Blagg Engineering, Inc.
P.O. Box 87
Bloomfield, NM 87413

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1206B70**

30-Jun-12

Client: Blagg Engineering
Project: GCU #107

Sample ID: **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R3770**	RunNo: **3770**
Prep Date:	Analysis Date: **6/28/2012**	SeqNo: **106779** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	16		20.00		78.9	55	140			

Sample ID: **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R3770**	RunNo: **3770**
Prep Date:	Analysis Date: **6/28/2012**	SeqNo: **106780** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	106	80	120			
Toluene	22	1.0	20.00	0	108	80	120			
Ethylbenzene	21	1.0	20.00	0	107	80	120			
Xylenes, Total	64	2.0	60.00	0	106	80	120			
Surr: 4-Bromofluorobenzene	20		20.00		99.5	55	140			

Sample ID: **1206B09-002AMS**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BatchQC**	Batch ID: **R3770**	RunNo: **3770**
Prep Date:	Analysis Date: **6/28/2012**	SeqNo: **106785** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	490	10	200.0	252.8	118	70.1	118			S
Toluene	310	10	200.0	93.78	111	72.3	117			
Ethylbenzene	950	10	200.0	682.1	134	73.5	117			S
Surr: 4-Bromofluorobenzene	200		200.0		101	55	140			

Sample ID: **1206B09-002AMSD**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BatchQC**	Batch ID: **R3770**	RunNo: **3770**
Prep Date:	Analysis Date: **6/28/2012**	SeqNo: **106786** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	480	10	200.0	252.8	116	70.1	118	1.17	16.4	
Toluene	320	10	200.0	93.78	111	72.3	117	0.551	13.9	
Ethylbenzene	950	10	200.0	682.1	135	73.5	117	0.133	13.5	S
Surr: 4-Bromofluorobenzene	190		200.0		94.5	55	140	0	0	

Qualifiers:

- */X Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: BLAGG Work Order Number: 1206B70

Received by/date: JM 06/27/12

Logged By: **Ashley Gallegos** 6/27/2012 10:00:00 AM

Completed By: **Ashley Gallegos** 6/27/2012 5:21:05 PM

Reviewed By: MG 06/28/12

Chain of Custody

1. Were seals intact?	Yes		No	Not Present ✔
2. Is Chain of Custody complete?	Yes	✔	No	Not Present
3. How was the sample delivered?	Courier			

Log In

4. Coolers are present? (see 19. for cooler specific information)	Yes	✔	No	NA
5. Was an attempt made to cool the samples?	Yes	✔	No	NA
6. Were all samples received at a temperature of >0° C to 6.0°C	Yes	✔	No	NA
7. Sample(s) in proper container(s)?	Yes	✔	No	
8. Sufficient sample volume for indicated test(s)?	Yes	✔	No	
9. Are samples (except VOA and ONG) properly preserved?	Yes	✔	No	
10. Was preservative added to bottles?	Yes		No ✔	NA
11. VOA vials have zero headspace?	Yes	✔	No	No VOA Vials
12. Were any sample containers received broken?	Yes		No ✔	
13. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes	✔	No	# of preserved bottles checked for pH:
14. Are matrices correctly identified on Chain of Custody?	Yes	✔	No	(<2 or >12 unless noted)
15. Is it clear what analyses were requested?	Yes	✔	No	Adjusted?
16. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes	✔	No	Checked by:

Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes No NA ✔

Person Notified: _____ Date: _____

By Whom: _____ Via: eMail Phone Fax In Person

Regarding: _____

Client Instructions: _____

18. Additional remarks:

19. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.0	Good	Yes			

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

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

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

GCU # 107 - SEPARATOR PIT
UNIT D, SEC. 19, T29N, R12W

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

Date : **September 26, 2012**

DEVELOPER / SAMPLER : N J V

Filename : **09-26-12.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	100.00	71.60	28.40	36.08	-	-	-	-	-
2	100.83	71.57	29.26	36.08	1720	6.95	1,700	18.1	3.50
3	99.49	71.41	28.08	36.19	1630	6.88	1,700	17.7	4.00

INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800
DATE & TIME =	09/24/12	0920

NOTES : Volume of water purged from well prior to sampling: V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores).
(i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)

Ideally a minimum of three (3) wellbore volumes:

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

Comments or note well diameter if not standard 2 ".

Excellent recovery in MW # 2 & # 3 . Collected samples from MW # 2 & # 3 for BTEX per US EPA Method 8021B . Air sparge system operational at time of sampling . Purged wells using 2 inch submersible electrical pump , new / clear vinyl tubing, and with brass adjustable flow valve attachment added near sampling end of tubing .

Top of casing MW # 1 ~ 2.43 ft., MW # 2 ~ 2.43 ft., MW # 3 ~ 2.60 ft. above grade .

on-site	**3:30**	temp	**54 F**
off-site	**5:30**	temp	**51 F**
sky cond.	**Mostly cloudy**		
wind speed	**0 - 10**	direct.	**ENE - NE**

Analytical Report
Lab Order **1210005**
Date Reported: **10/5/2012**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU # 107
Lab ID: 1210005-001

Client Sample ID: MW # 2
Collection Date: 9/26/2012 5:20:00 PM
Matrix: AQUEOUS
Received Date: 9/29/2012 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	5.0		µg/L	5	10/2/2012 1:57:31 AM
Toluene	ND	5.0		µg/L	5	10/2/2012 1:57:31 AM
Ethylbenzene	45	5.0		µg/L	5	10/2/2012 1:57:31 AM
Xylenes, Total	210	10		µg/L	5	10/2/2012 1:57:31 AM
Surr: 4-Bromofluorobenzene	81.5	69.7-152		%REC	5	10/2/2012 1:57:31 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: MW # 3
Project: GCU # 107
Collection Date: 9/26/2012 4:30:00 PM
Lab ID: 1210005-002
Matrix: AQUEOUS
Received Date: 9/29/2012 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	10/2/2012 2:57:44 AM
Toluene	ND	1.0		µg/L	1	10/2/2012 2:57:44 AM
Ethylbenzene	ND	1.0		µg/L	1	10/2/2012 2:57:44 AM
Xylenes, Total	ND	2.0		µg/L	1	10/2/2012 2:57:44 AM
Surr: 4-Bromofluorobenzene	77.8	69.7-152		%REC	1	10/2/2012 2:57:44 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Chain-of-Custody Record

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:
☑ Standard ☐ Rush

Project Name:
GCU # 107

Project #:

Project Manager:
NELSON VELEZ

Sampler: NELSON VELEZ

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.9

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1210005	BTEX + ~~MTBE + TMB's~~ (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, NO3, NO2, PO4, SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride (300.0)		Grab sample	5 pt. composite sample	
9/26/12	1720	WATER	MW # 2	40 ml VOA - 2	HCl & Cool	-001	✓													✓		
9/26/12	1630	WATER	MW # 3	40 ml VOA - 2	HCl & Cool	-002	✓													✓		

Date	Time	Relinquished by:	Received by:	Date	Time
9/28/12	0745		Chasity Walter	9/28/12	805
9/28/12	1700	Chasity Walter		9/29/12	10:00

Remarks:
BILL DIRECTLY TO BP:
Jeff Peace, 200 Energy Court, Farmington, NM 87401
Find Purchase Order in email from BP.

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.

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1210005**

05-Oct-12

Client: Blagg Engineering
Project: GCU # 107

Sample ID	**5ML RB**	SampType: **MBLK**			TestCode: **EPA Method 8015B: Gasoline Range**					
Client ID:	**PBW**	Batch ID: **R5899**			RunNo: **5899**					
Prep Date:		Analysis Date: **10/1/2012**			SeqNo: **169940**		Units: **%REC**			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB		17		20.00		84.0	69.8	119			

Sample ID	**2.5UG GRO LCS**	SampType: **LCS**			TestCode: **EPA Method 8015B: Gasoline Range**					
Client ID:	**LCSW**	Batch ID: **R5899**			RunNo: **5899**					
Prep Date:		Analysis Date: **10/1/2012**			SeqNo: **169941**		Units: **%REC**			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB		20		20.00		98.8	69.8	119			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1210005**

05-Oct-12

Client: Blagg Engineering
Project: GCU # 107

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R5899**	RunNo: **5899**
Prep Date:	Analysis Date: **10/1/2012**	SeqNo: **169948** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	16		20.00		80.2	69.7	152			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R5899**	RunNo: **5899**
Prep Date:	Analysis Date: **10/1/2012**	SeqNo: **169949** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	100	80	120			
Toluene	21	1.0	20.00	0	105	80	120			
Ethylbenzene	22	1.0	20.00	0	108	80	120			
Xylenes, Total	65	2.0	60.00	0	109	80	120			
Surr: 4-Bromofluorobenzene	17		20.00		82.8	69.7	152			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: BLAGG Work Order Number: 1210005

Received by/date: AF 09/29/12

Logged By: **Lindsay Mangin** 9/29/2012 10:00:00 AM

Completed By: **Lindsay Mangin** 10/1/2012 5:02:09 AM

Reviewed By: 10/01/12

Chain of Custody

1. Were seals intact? Yes ☐ No ☐ Not Present ☑
2. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
3. How was the sample delivered? Courier

Log In

4. Coolers are present? (see 19. for cooler specific information) Yes ☑ No ☐ NA ☐
5. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
6. Were all samples received at a temperature of >0° C to 6.0°C Yes ☑ No ☐ NA ☐
7. Sample(s) in proper container(s)? Yes ☑ No ☐
8. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
9. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
10. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
11. VOA vials have zero headspace? Yes ☑ No ☐ No VOA Vials ☐
12. Were any sample containers received broken? Yes ☐ No ☑
13. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
14. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
15. Is it clear what analyses were requested? Yes ☑ No ☐
16. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☑ No ☐

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

18. Additional remarks:

19. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.9	Good	Yes			

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

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

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

GCU # 107 - SEPARATOR PIT
UNIT D, SEC. 19, T29N, R12W

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

Date : **November 28, 2012**

DEVELOPER / SAMPLER : N J V

Filename : **11-28-12.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	100.00	71.70	28.30	36.08	-	-	-	-	-
2	100.83	71.65	29.18	36.08	1420	7.19	2,000	16.0	3.50
3	99.49	71.50	27.99	36.19	1325	7.00	1,900	16.3	4.00

INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800
DATE & TIME =	11/26/12	1020

NOTES : Volume of water purged from well prior to sampling: V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores).
(i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)

Ideally a minimum of three (3) wellbore volumes:

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

Comments or note well diameter if not standard 2 ".

Excellent recovery in MW # 2 & # 3 . Collected samples from MW # 2 & # 3 for BTEX per US EPA Method 8021B . Air sparge system operational at time of sampling . Purged wells using 2 inch submersible electrical pump , new / clear vinyl tubing, and with brass adjustable flow valve attachment added near sampling end of tubing .

Top of casing MW # 1 ~ 2.43 ft., MW # 2 ~ 2.43 ft., MW # 3 ~ 2.60 ft. above grade .

on-site	**12:30**	temp	**54 F**
off-site	**2:30**	temp	**60 F**
sky cond.	**Sunny**		
wind speed	**0 - 5**	direct.	**ESE**

Analytical Report
Lab Order **1211A59**
Date Reported: **12/6/2012**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: MW #2
Project: GCU #107
Collection Date: 11/28/2012 2:20:00 PM
Lab ID: 1211A59-001
Matrix: AQUEOUS
Received Date: 11/29/2012 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	2.2	2.0		µg/L	2	11/30/2012 2:37:55 PM
Toluene	5.3	2.0		µg/L	2	11/30/2012 2:37:55 PM
Ethylbenzene	62	2.0		µg/L	2	11/30/2012 2:37:55 PM
Xylenes, Total	160	4.0		µg/L	2	11/30/2012 2:37:55 PM
Surr: 4-Bromofluorobenzene	115	69.7-152		%REC	2	11/30/2012 2:37:55 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: MW #3
Project: GCU #107
Collection Date: 11/28/2012 1:25:00 PM
Lab ID: 1211A59-002
Matrix: AQUEOUS
Received Date: 11/29/2012 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	1.0	1.0		µg/L	1	11/30/2012 3:38:27 PM
Toluene	ND	1.0		µg/L	1	11/30/2012 3:38:27 PM
Ethylbenzene	ND	1.0		µg/L	1	11/30/2012 3:38:27 PM
Xylenes, Total	ND	2.0		µg/L	1	11/30/2012 3:38:27 PM
Surr: 4-Bromofluorobenzene	99.8	69.7-152		%REC	1	11/30/2012 3:38:27 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Chain-of-Custody Record

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:
☑ Standard ☐ Rush

Project Name:
GCU # 107

Project #:

Project Manager:
NELSON VELEZ

Sampler: **NELSON VELEZ** NV

On Ice: ☑ Yes ☐ No

Sample Temperature: 1.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 121459	BTEX + ~~MTBE~~ + TMB's (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, NO3, NO2, PO4, SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride (300.0)		Grab sample	5 pt. composite sample	
11/28/12	1420	WATER	MW # 2	40 ml VOA - 2	HCl & Cool	-001	✓													✓		
11/28/12	1325	WATER	MW # 3	40 ml VOA - 2	HCl & Cool	-002	✓													✓		

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Date	Time
11/28/12	1500			11/28/12	1500
11/28/12	1800			11/29/12	10:00

Remarks:
BILL DIRECTLY TO BP:
Jeff Peace, 200 Energy Court, Farmington, NM 87401
Find Purchase Order in email from BP.

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1211A59**

06-Dec-12

Client: Blagg Engineering
Project: GCU #107

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R7230**	RunNo: **7230**
Prep Date:	Analysis Date: **11/30/2012**	SeqNo: **209612** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	21		20.00		105	69.7	152			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R7230**	RunNo: **7230**
Prep Date:	Analysis Date: **11/30/2012**	SeqNo: **209613** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	106	80	120			
Toluene	22	1.0	20.00	0	108	80	120			
Ethylbenzene	22	1.0	20.00	0	108	80	120			
Xylenes, Total	67	2.0	60.00	0	112	80	120			
Surr: 4-Bromofluorobenzene	22		20.00		109	69.7	152			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: BLAGG

Work Order Number: 1211A59

Received by/date: 11/29/12

Logged By: Ashley Gallegos 11/29/2012 10:00:00 AM

Completed By: Ashley Gallegos 11/29/2012 5:32:43 PM

Reviewed By: 11/30/12

Chain of Custody

		Yes	No	Not Present
1.	Were seals intact?			✔
2.	Is Chain of Custody complete?	✔		
3.	How was the sample delivered?	Courier		

Log In

		Yes	No	NA
4.	Coolers are present? (see 19. for cooler specific information)	✔		
5.	Was an attempt made to cool the samples?	✔		
6.	Were all samples received at a temperature of >0° C to 6.0°C	✔		
7.	Sample(s) in proper container(s)?	✔		
8.	Sufficient sample volume for indicated test(s)?	✔		
9.	Are samples (except VOA and ONG) properly preserved?	✔		
10.	Was preservative added to bottles?		✔	
11.	VOA vials have zero headspace?	✔		No VOA Vials
12.	Were any sample containers received broken?		✔	
13.	Does paperwork match bottle labels? (Note discrepancies on chain of custody)	✔		# of preserved bottles checked for pH:
14.	Are matrices correctly identified on Chain of Custody?	✔		(<2 or >12 unless noted)
15.	Is it clear what analyses were requested?	✔		Adjusted?
16.	Were all holding times able to be met? (If no, notify customer for authorization.)	✔		Checked by:

Special Handling (if applicable)

		Yes	No	NA
17.	Was client notified of all discrepancies with this order?			✔

Person Notified: _____ Date: _____

By Whom: _____ Via: eMail Phone Fax In Person

Regarding: _____

Client Instructions: _____

18. Additional remarks:

19. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes			

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

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

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

GCU # 107 - SEPARATOR PIT
UNIT D, SEC. 19, T29N, R12W

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

Date : **February 27, 2013**

DEVELOPER / SAMPLER : N J V

Filename : **02-27-13.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	100.00	71.82	28.18	36.08	-	-	-	-	-
2	100.83	71.80	29.03	36.08	1340	6.87	2,300	15.2	3.50
3	99.49	71.66	27.83	36.19	-	-	-	-	-

INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800
DATE & TIME =	02/24/13	1500

NOTES : Volume of water purged from well prior to sampling: V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores).
(i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)

Ideally a minimum of three (3) wellbore volumes:

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

Comments or note well diameter if not standard 2 ".

Excellent recovery in MW # 2 . Collected samples from MW # 2 for BTEX per US EPA Method 8021B . Air sparge system not operational at time of sampling . Purged wells using 2 inch submersible electrical pump , new / clear vinyl tubing, and with brass adjustable flow valve attachment added near sampling end of tubing .

Top of casing MW # 1 ~ 2.43 ft., MW # 2 ~ 2.43 ft., MW # 3 ~ 2.60 ft. above grade .

on-site	**1:00**	temp	**38 F**
off-site	**2:00**	temp	**39 F**
sky cond.	**Sunny**		
wind speed	**0 - 5**	direct.	**SW**

Analytical Report
Lab Order **1303142**
Date Reported: **3/7/2013**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU #107
Lab ID: 1303142-001
Matrix: AQUEOUS

Client Sample ID: MW #2
Collection Date: 2/27/2013 1:40:00 PM
Received Date: 3/5/2013 9:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	3/6/2013 2:03:29 AM
Toluene	3.2	1.0		µg/L	1	3/6/2013 2:03:29 AM
Ethylbenzene	48	1.0		µg/L	1	3/6/2013 2:03:29 AM
Xylenes, Total	140	2.0		µg/L	1	3/6/2013 2:03:29 AM
Surr: 4-Bromofluorobenzene	107	69.7-152		%REC	1	3/6/2013 2:03:29 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Chain-of-Custody Record

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:
☑ Standard ☐ Rush

Project Name:
GCU # 107

Project #:

Project Manager:
NELSON VELEZ

Sampler: NELSON VELEZ NV

On Ice: ☑ Yes ☐ No

Sample Temperature: 1°C

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1303146	BTEX + ~~MTBE + TMB's~~ (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, NO3, NO2, PO4, SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride (300.0)		Grab sample	5 pt. composite sample	Air Bubbles (Y or N)
2/27/13	1340	WATER	MW # 2	40 ml VOA - 2	HCl & Cool	-001	✓													✓		

Date: 3/4/13 Time: 911 Relinquished by: [signature] Received by: Christine Walters Date: 3/4/13 Time: 911

Date: 3/4/13 Time: 1730 Relinquished by: Christine Walters Received by: [signature] Date: 03/05/13 Time: 0955

Remarks:
BILL DIRECTLY TO BP:
Jeff Peace, 200 Energy Court, Farmington, NM 87401
Find Purchase Order in email from BP.

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.

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1303142**

07-Mar-13

Client: Blagg Engineering
Project: GCU #107

Sample ID: **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R8983**	RunNo: **8983**
Prep Date:	Analysis Date: **3/5/2013**	SeqNo: **256581** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	19		20.00		93.8	69.7	152			

Sample ID: **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R8983**	RunNo: **8983**
Prep Date:	Analysis Date: **3/5/2013**	SeqNo: **256582** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	105	80	120			
Toluene	21	1.0	20.00	0	107	80	120			
Ethylbenzene	21	1.0	20.00	0	107	80	120			
Xylenes, Total	66	2.0	60.00	0	109	80	120			
Surr: 4-Bromofluorobenzene	21		20.00		104	69.7	152			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: BLAGG Work Order Number: 1303142

Received by/date: AT 03/04/13

Logged By: Anne Thorne 3/5/2013 9:55:00 AM Anne Thorne

Completed By: Anne Thorne 3/5/2013 Anne Thorne

Reviewed By: MG 03/05/13

Chain of Custody

1. Were seals intact? Yes ☐ No ☐ Not Present ☑
2. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
3. How was the sample delivered? Courier

Log In

4. Coolers are present? (see 19. for cooler specific information) Yes ☑ No ☐ NA ☐
5. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
6. Were all samples received at a temperature of >0° C to 6.0°C Yes ☑ No ☐ NA ☐
7. Sample(s) in proper container(s)? Yes ☑ No ☐
8. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
9. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
10. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
11. VOA vials have zero headspace? Yes ☑ No ☐ No VOA Vials ☐
12. Were any sample containers received broken? Yes ☐ No ☑
13. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
14. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
15. Is it clear what analyses were requested? Yes ☑ No ☐
16. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☑ No ☐

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

18. Additional remarks:

19. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes			

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

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

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

GCU # 107 - SEPARATOR PIT
UNIT D, SEC. 19, T29N, R12W

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

Date : **May 31, 2013**

DEVELOPER / SAMPLER : N J V

Filename : **05-31-13.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	100.00	71.77	28.23	36.08	-	-	-	-	-
2	100.83	71.76	29.07	36.08	1200	7.22	2,200	16.0	3.50
3	99.49	71.58	27.91	36.19	1100	7.29	1,300	16.6	4.00

INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800
DATE & TIME =	05/28/13	0600

NOTES : Volume of water purged from well prior to sampling: V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores).
(i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)

Ideally a minimum of three (3) wellbore volumes:

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

Comments or note well diameter if not standard 2 ".

Excellent recovery in MW # 2 & # 3 . Collected samples from MW # 2 & #3 for BTEX per US EPA Method 8021B . Air sparge system operational at time of sampling . Purged wells using 2 inch submersible electrical pump , new / clear vinyl tubing, and with brass adjustable flow valve attachment added near sampling end of tubing .

Top of casing MW # 1 ~ 2.43 ft., MW # 2 ~ 2.43 ft., MW # 3 ~ 2.60 ft. above grade .

on-site	**09:45 AM**	temp	**69 F**
off-site	**12:05 PM**	temp	**73 F**
sky cond.	**Sunny**		
wind speed	**5 - 15**	direct.	**W**

Analytical Report
Lab Order **1306210**
Date Reported: **6/13/2013**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU #107
Lab ID: 1306210-001
Matrix: AQUEOUS
Client Sample ID: MW #2
Collection Date: 5/31/2013 12:00:00 PM
Received Date: 6/5/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	10	1.0		µg/L	1	6/7/2013 6:09:07 PM	R11177
Toluene	2.0	1.0		µg/L	1	6/7/2013 6:09:07 PM	R11177
Ethylbenzene	59	1.0		µg/L	1	6/7/2013 6:09:07 PM	R11177
Xylenes, Total	420	20		µg/L	10	6/11/2013 10:04:24 PM	R11218
Surr: 4-Bromofluorobenzene	147	69.4-129	S	%REC	1	6/7/2013 6:09:07 PM	R11177

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU #107
Lab ID: 1306210-002 **Matrix:** AQUEOUS

Client Sample ID: MW #3
Collection Date: 5/31/2013 11:00:00 AM
Received Date: 6/5/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	6/7/2013 6:39:35 PM	R11177
Toluene	ND	1.0		µg/L	1	6/7/2013 6:39:35 PM	R11177
Ethylbenzene	ND	1.0		µg/L	1	6/7/2013 6:39:35 PM	R11177
Xylenes, Total	ND	2.0		µg/L	1	6/7/2013 6:39:35 PM	R11177
Surr: 4-Bromofluorobenzene	91.0	69.4-129		%REC	1	6/7/2013 6:39:35 PM	R11177

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Chain-of-Custody Record

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:
☑ Standard ☐ Rush

Project Name: GCU # 107

Project #:

Project Manager: NELSON VELEZ

Sampler: NELSON VELEZ

On Ice: ☑ Yes ☐ No

Sample Temperature: 1.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1306210	BTEX + ~~MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	Total Dissolved Solids	Iron, Ferrous (filtered)	Nitrate N / Nitrite N			Grab sample	5 pt. composite sample
5/31/13	1200	WATER	MW # 2	40 ml VOA - 2	HCl & Cool	-001	✓													✓	
5/31/13	1100	WATER	MW # 3	40 ml VOA - 2	HCl & Cool	-002	✓													✓	

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Date	Time
6/4/13	924			6/4/13	924
Date:	Time:	Relinquished by:	Received by:	Date	Time
6/4/13	1730			06/05/13	10:00

Remarks:
BILL DIRECTLY TO BP:
Jeff Peace, 200 Energy Court, Farmington, NM 87401
Find Purchase Order in email from BP.

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.

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1306210**

13-Jun-13

Client: Blagg Engineering
Project: GCU #107

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R11177**	RunNo: **11177**
Prep Date:	Analysis Date: **6/7/2013**	SeqNo: **315996** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	18		20.00		91.4	69.4	129			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R11177**	RunNo: **11177**
Prep Date:	Analysis Date: **6/7/2013**	SeqNo: **315997** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	94.3	80	120			
Toluene	19	1.0	20.00	0	94.5	80	120			
Ethylbenzene	19	1.0	20.00	0	93.3	80	120			
Xylenes, Total	57	2.0	60.00	0	95.3	80	120			
Surr: 4-Bromofluorobenzene	19		20.00		94.2	69.4	129			

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R11218**	RunNo: **11218**
Prep Date:	Analysis Date: **6/11/2013**	SeqNo: **317557** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	18		20.00		88.4	69.4	129			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R11218**	RunNo: **11218**
Prep Date:	Analysis Date: **6/11/2013**	SeqNo: **317558** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Xylenes, Total	52	2.0	60.00	0	87.0	80	120			
Surr: 4-Bromofluorobenzene	18		20.00		87.6	69.4	129			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: BLAGG | Work Order Number: 1306210 | RcptNo: 1

Received by/date: MG 06/05/13

Logged By: Anne Thorne 6/5/2013 10:00:00 AM

Completed By: Anne Thorne 6/5/2013

Reviewed By: 06/05/13

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes			