bp

OIL CONS. DIV DIST. 3

DEC 2 1 2015



BP America Production Company

200 Energy Court Farmington, NM 87401 Phone: (505) 326-9200

December 16, 2015

Glenn Von Gonten Senior Hydrologist New Mexico Oil Conservation Division Environmental Bureau 1220 St. Francis Drive Santa Fe, NM 87505 District Copy For Scanning Only Has NOT been processed.

3R-015

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

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 NW1/4 NW1/4, 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.

								В	TEX US EPA N	METHOD 8021	В
SAMPLE DATE	WELL NAME / NUMBER	DEPTH TO WATER (ft)	WELL DEPTH (ft)	TDS (mg/L)	CONDUCT.	pН	PRODUCT (ft)	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	DL CT	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	4	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

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

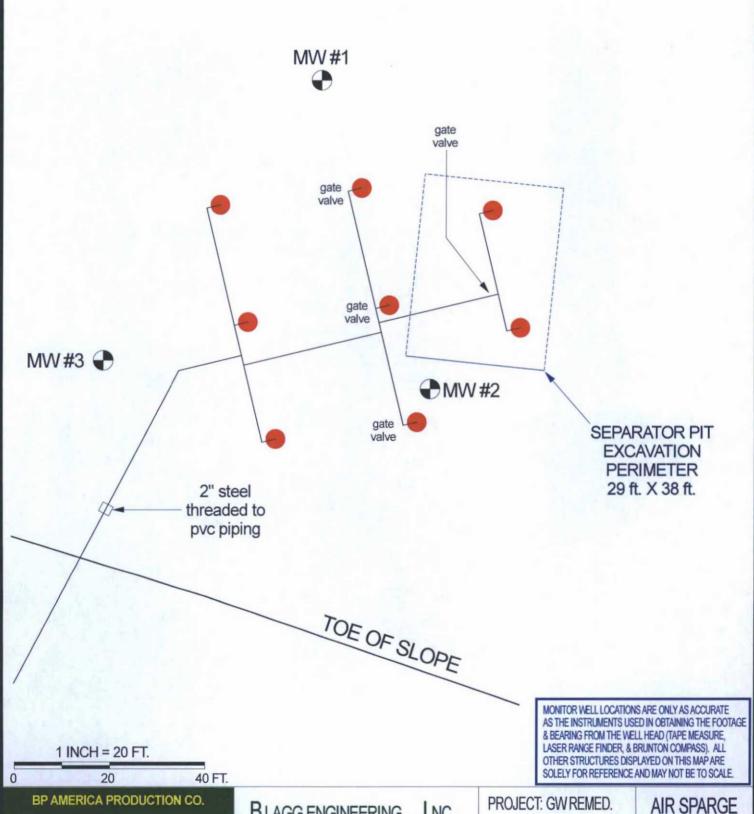
- 1) RESULTS IN BOLD RED TYPE INDICATE EXCEEDING NMWQCC STANDARDS.
- 2) RESULTS IN BOLD BLUE TYPE INDICATE BELOW NMWQCC STANDARDS AFTER PREVIOUS RESULTS IN BOLD RED TYPE EXCEEDED.
- 3) ND INDICATES NOT DETECTED AT THE REPORTING LIMITS (less than regulatory standards of at least a magnitude of 10).
-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

NOTES:

FIGURE 1 Off-site & MW #1 private property SEPARATOR PIT **EXCAVATED** MW #3 MARCH, 1995 29 ft. X 38 ft. X 26 ft. MW #2 TOE OF SLOPE CREST OF SLOPE Approximately 18 ft. differential from crest & toe 1 WELL HEAD MONITOR WELL LOCATIONS ARE ONLY AS ACCURATE AS THE INSTRUMENTS USED IN OBTAINING THE FOOT-AGE & 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. 80 FT. 40 BP AMERICA PRODUCTION CO. SITE PROJECT: MW INSTALLATIONS BLAGG ENGINEERING. DRAWN BY: NJV GCU # 107 CONSULTING PETROLEUM / RECLAMATION SERVICES MAP P.O. BOX 87 FILENAME: GCU 107-SM4.SKF NW/4 NW/4 SEC. 19, T29N, R12W BLOOMFIELD, NEW MEXICO 87413 10/09 REVISED: 05-23-12 NJV SAN JUAN COUNTY, NEW MEXICO PHONE: (505) 632-1199

FIGURE 1A





GCU # 107

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

SAN JUAN COUNTY, NEW MEXICO

B LAGG ENGINEERING. NC.

CONSULTING PETROLEUM / RECLAMATION SERVICES

P.O. BOX 87

BLOOMFIELD. NEW MEXICO 87413

PHONE: (505) 632-1199

DRAWN BY: NJV

FILENAME: 08-17-11-ASSL.SKF

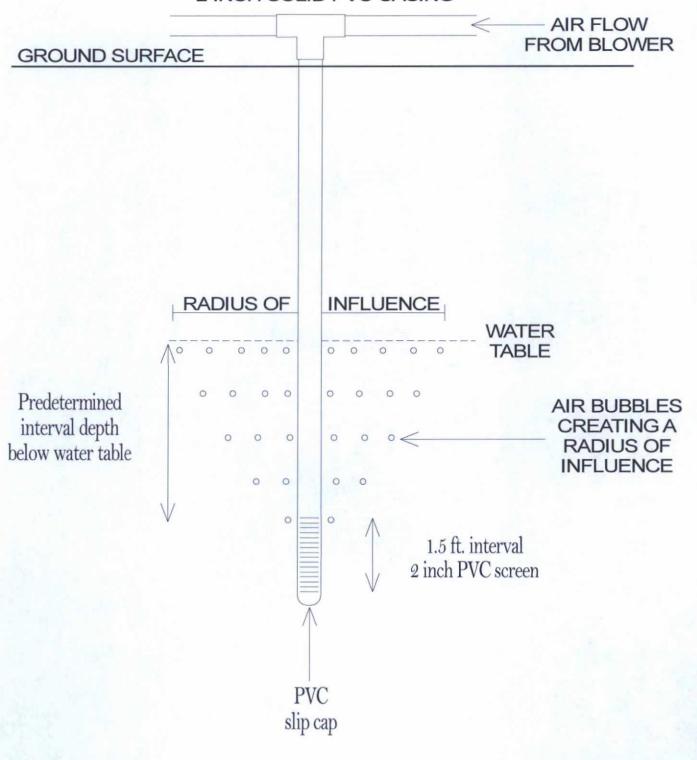
REVISED: 11-11-15

SYSTEM LAYOUT

04/10

SIDE VIEW OF A TYPICAL AIR SPARGE POINT

2 INCH SOLID PVC CASING



BP AMERICA PRODUCTION CO.

GALLEGOS CANYON UNIT 107

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

SAN JUAN COUNTY, NEW MEXICO

B LAGG ENGINEERING INC. CONSULTING PETROLEUM / RECLAMATION SERVICES

P.O. BOX 87 BLOOMFIELD, NEW MEXICO 87413 PHONE: (505) 632-1199 DRAWN BY: NJV

FILENAME: ASPS.SKF

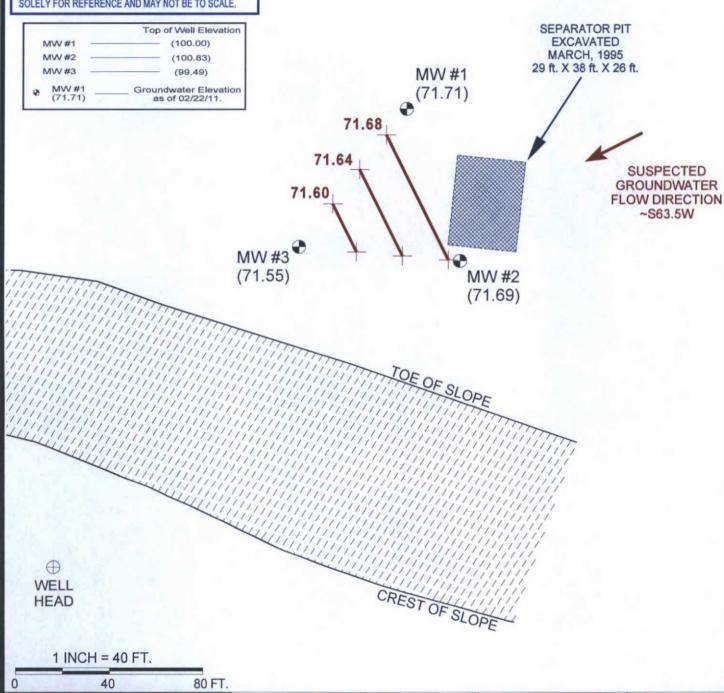
REVISED: 11/10/2015

AIR SPARGE POINT SCHEMATIC

FIGURE 2 (1st 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.



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

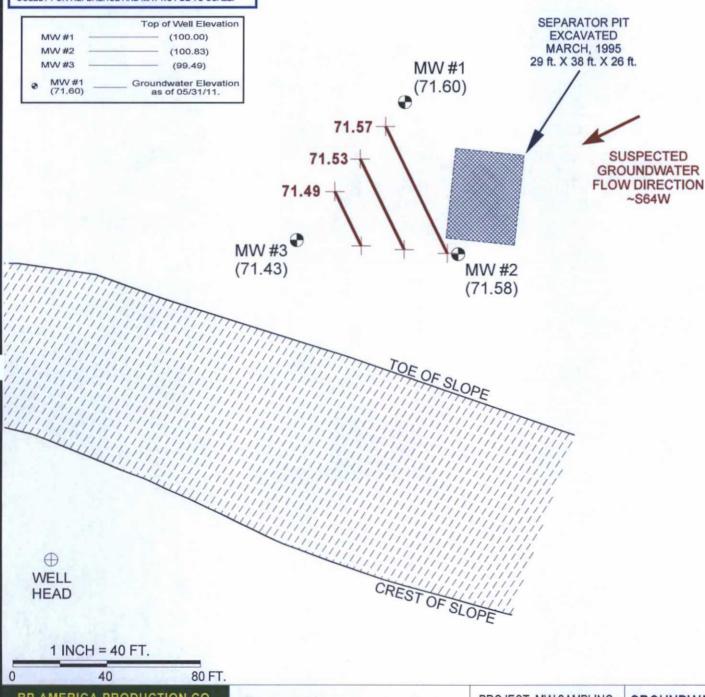
GROUNDWATER CONTOUR MAP

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.



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

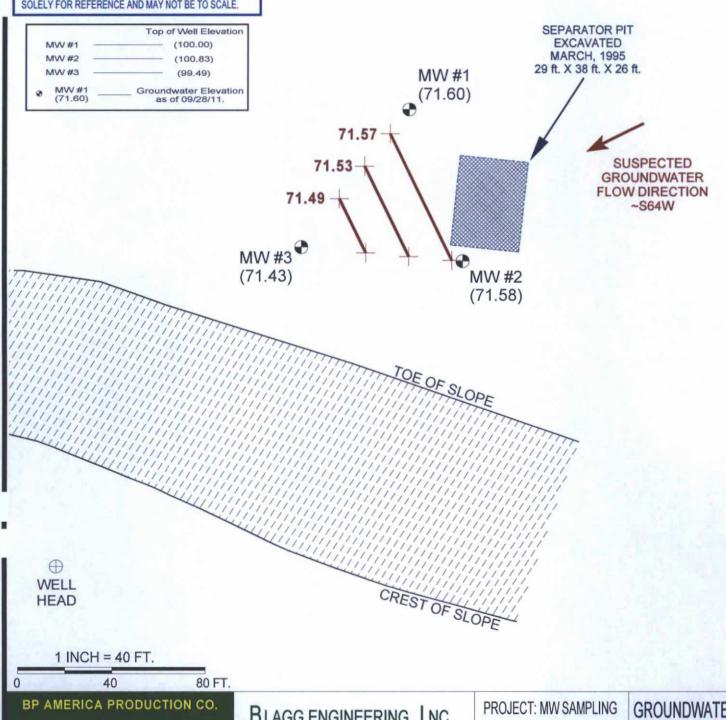
PROJECT: MW SAMPLING
DRAWN BY: NJV

FILENAME: 05-31-11-GW.SKF REVISED: 05-31-11 NJV GROUNDWATER CONTOUR MAP 05/11

FIGURE 4 (3rd 1/4, 2011)



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.



GCU # 107

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

SAN JUAN COUNTY, NEW MEXICO

BLAGG ENGINEERING. I NC.

CONSULTING PETROLEUM / RECLAMATION SERVICES P.O. BOX 87

BLOOMFIELD, NEW MEXICO 87413 PHONE: (505) 632-1199

DRAWN BY: NJV

FILENAME: 09-28-11-GW.SKF

REVISED: 09-29-11 NJV

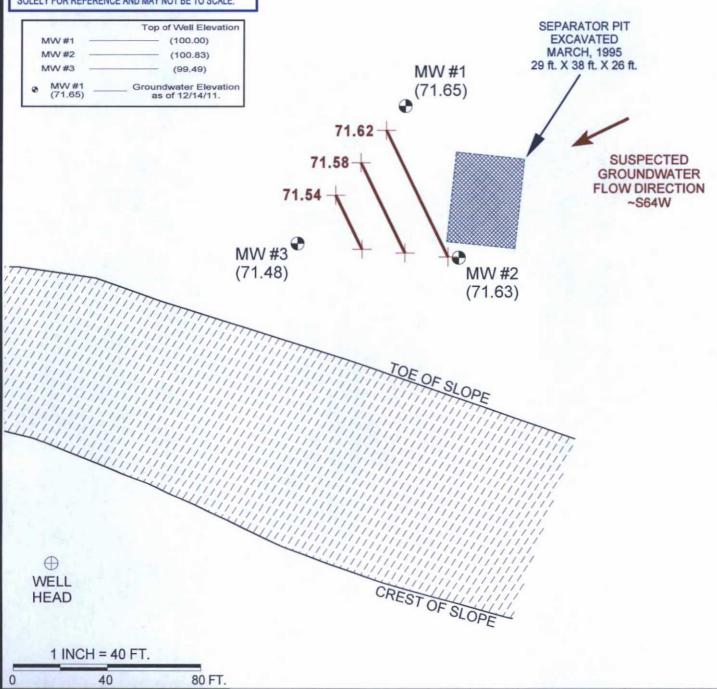
GROUNDWATER CONTOUR MAP

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.



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

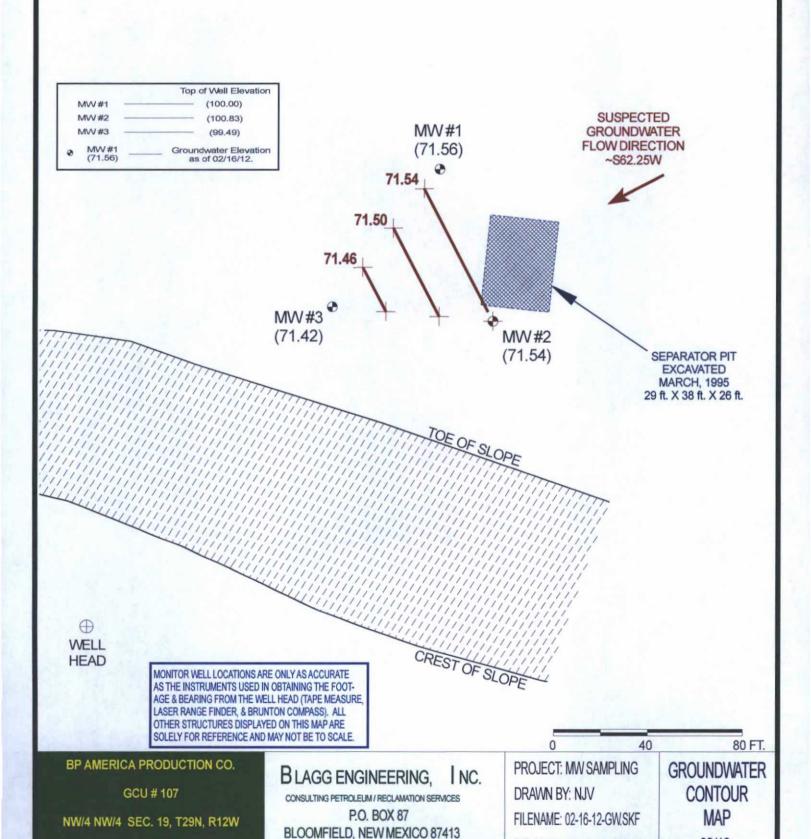
12/11

FIGURE 2 (1st 1/4, 2012)



02/12

REVISED: 02-17-12 NJV



PHONE: (505) 632-1199

SAN JUAN COUNTY, NEW MEXICO

FIGURE 3 (2nd 1/4, 2012)



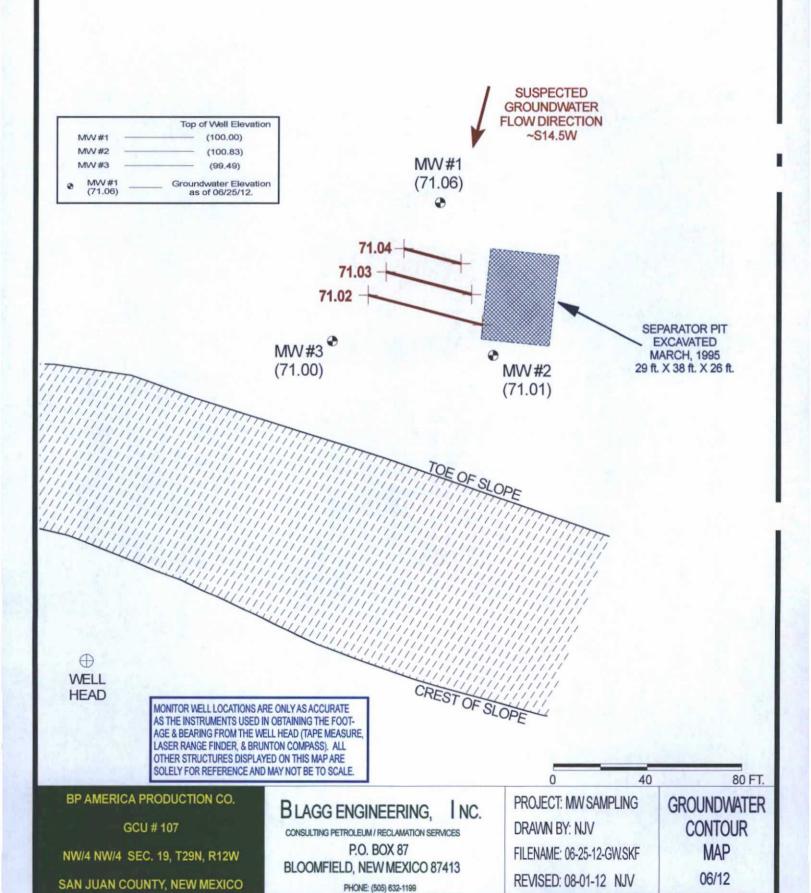


FIGURE 4 (3rd 1/4, 2012)

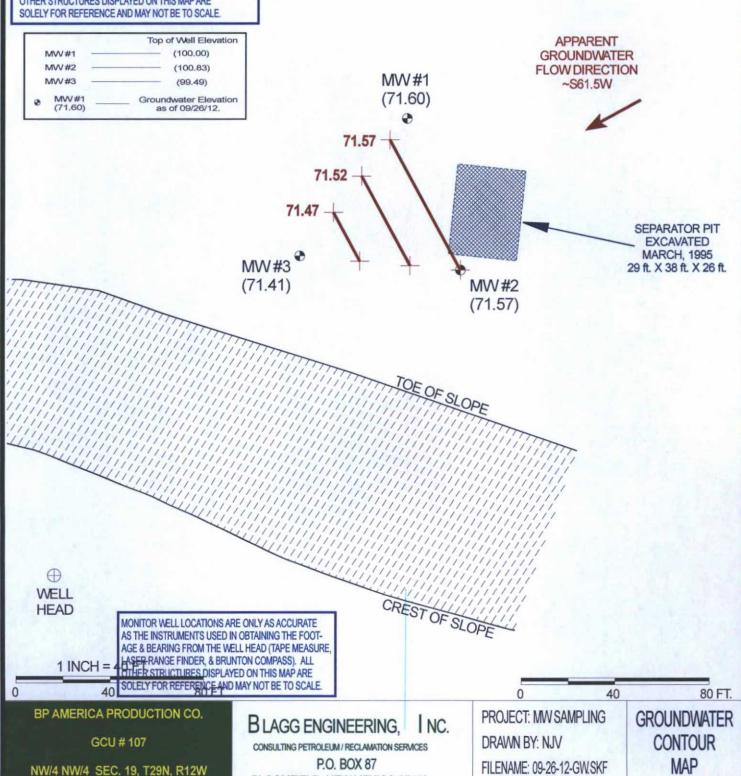


09/12

REVISED: 10-15-12 NJV

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

SAN JUAN COUNTY, NEW MEXICO

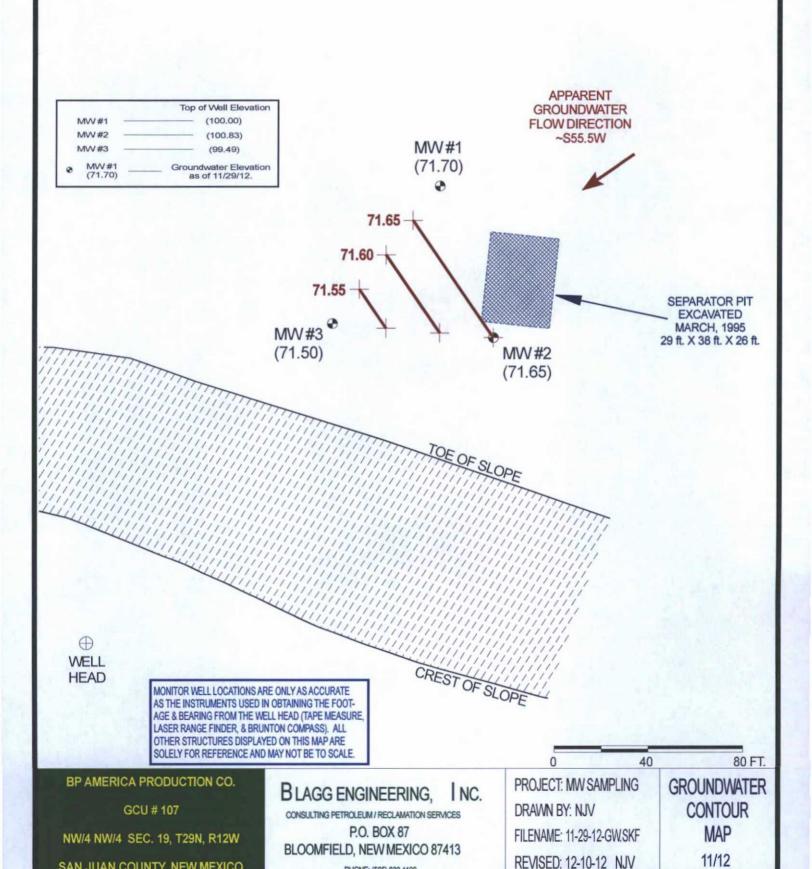


BLOOMFIELD, NEW MEXICO 87413

PHONE: (505) 632-1199

FIGURE 5 (4th 1/4, 2012)





PHONE: (505) 632-1199

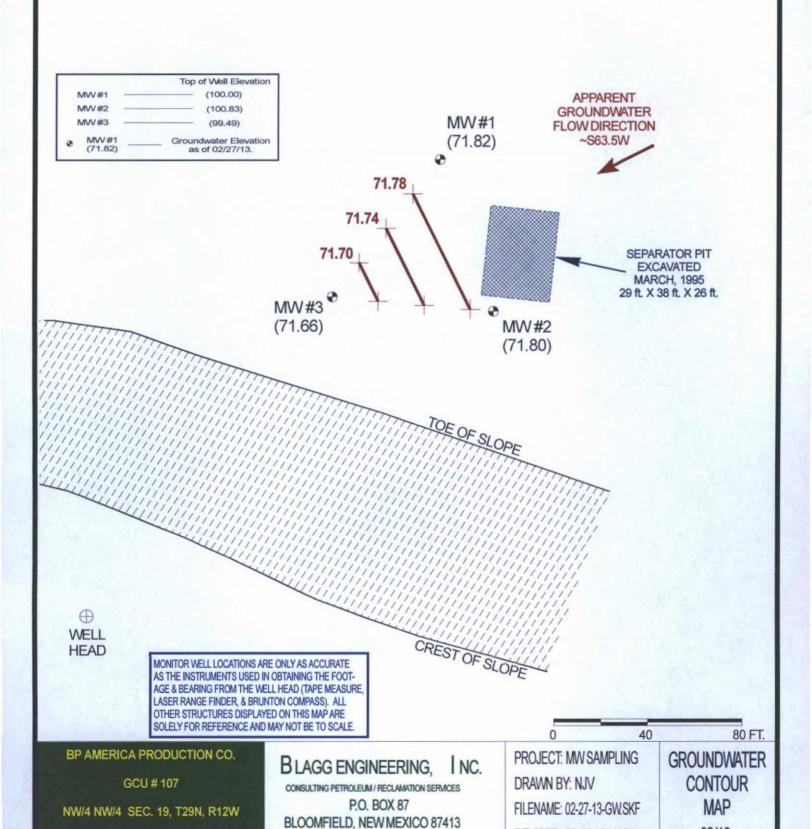
SAN JUAN COUNTY, NEW MEXICO

FIGURE 6 (1st 1/4, 2013)



02/13

REVISED: 03-11-13 NJV



PHONE: (505) 632-1199

SAN JUAN COUNTY, NEW MEXICO

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT: BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY #:

LABORATORY (S) USED: HALL ENVIRONMENTAL

N/A

GCU #107 - SEPARATOR PIT

UNIT D. SEC. 19, T29N, R12W

NJV

Date: November 9, 2009

DEVELOPER / SAMPLER :

Filename: 11-09-09.WK4

PROJECT MANAGER:

NJV

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pН	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

DATE & TIME = 11/09/09

2.800 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.	sunr	ny	
wind speed	0 - 10	direct.	E-SE

Date: 18-Nov-09

CLIENT:

Blagg Engineering

Lab Order:

0911194

Project: Lab ID: GCU #107 0911194-01 Client Sample ID: MW #1

Collection Date: 11/9/2009 11:50:00 AM

Date Received: 11/10/2009

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 N	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 Sollds	3300	40.0	mg/L	1	11/13/2009 2:18:00 PM

Qualifiers:

RL Reporting Limit

Value exceeds Maximum Contaminant Level

E Estimated value

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

Date: 18-Nov-09

CLIENT:

Blagg Engineering

Lab Order:

0911194

GCU #107

Project: Lab ID:

0911194-02

Client Sample ID: MW #2

Collection Date: 11/9/2009 11:30:00 AM

Date Received: 11/10/2009

Matrix: AQUEOUS

The state of the s			Qual U	744460	DF	Date Analyzed
PA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	10	μ	g/L	10	11/14/2009 2:12:43 AM
Toluene	1900	50	μ	g/L	50	11/13/2009 2:56:44 AM
Ethylberizene	560	10	μ	g/L	10	11/14/2009 2:12:43 AM
Xylenes, Total	4100	100	þ	g/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
PA METHOD 300.0: ANIONS						Analyst: TAF
Fluoride	1.2	0.10	m	ıg/L	1	11/10/2009 1:29:41 PM
Chloride	190	2.0	m	ıg/L	20	11/10/2009 2:21:54 PM
Nitrogen, Nitrite (As N)	ND	2.0	m	ig/L	20	11/10/2009 2:21:54 PM
Nitrogen, Nitrate (As N)	ND	0.10	m	g/L	1	11/10/2009 1:29:41 PM
Sulfate	830	10	m	g/L	20	11/10/2009 2:21:54 PM
PA METHOD 6010B: DISSOLVED MI	ETALS					Analyst: RAGS
Iron	0.12	0.020	m	g/L	1	11/16/2009 7:49:35 PM
M2540C MOD: TOTAL DISSOLVED S	SOLIDS					Analyst: MMS
Total Dissolved Solids	2100	20.0	m	g/L	1	11/13/2009 2:18:00 PM

Qualifiers:

RL Reporting Limit

Value exceeds Maximum Contaminant Level

E Estimated value

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

Date: 17-Nov-09

CLIENT:

Blagg Engineering

Lab Order:

0911197

Project:

GCU #187

Lab ID:

0911197-01

Client Sample ID: MW #2

Collection Date: 11/9/2009 2:30:00 PM

Date Received: 11/10/2009

Matrix: AQUEOUS

Analyses	Result	PQL (ual 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

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

Date: 18-Nov-09

CLIENT:

Blagg Engineering

Lab Order:

0911194

Project: Lab ID: GCU #107 0911194-03 Client Sample ID: MW #3

Collection Date: 11/9/2009 12:10:00 PM

Date Received: 11/10/2009

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES		100				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 I	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:

RL Reporting Limit

Page 3 of 3

Value exceeds Maximum Contaminant Level

E Estimated value

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

Client	hain	of-Cu	Chain-of-Custody Record	Turn-Around	Time:			_		¥	HALL ENVIRONMENT	Z	H	Q	Z	П	E	-	
JIEIL.	BURG	S Ends	BARGE ENGR. / BP AMERICA	Standard	Rush					Z	ANALYSIS	SI		A	LABORATOR	5	0	RY	
	14			Project Name:	\					W	www.hallenvironmental.com	nviror	ment	al.00	E				
Aailing	Mailing Address:	P.O.	60x 87		# 200	101#		4901	4901 Hawkins NE	dins N		Ilbuai	Albuqueraue, NM 87109	Z	1871	60			
		BLFD.	-	Project #:				Tel	Tel. 505-345-3975	45-36	10	Fax	Fax 505-345-4107	345-	4107	3			
Phone #:		505) 6	632-1199								An	alysis	Analysis Request	uest					
mail or	email or Fax#:			Project Manager:	ger:	N. S.	8)		(100			(*(_	6	┡		
DA/QC Packa	OA/QC Package:		☐ Level 4 (Full Validation)	NELSON	7	ELE Z	1208)-		SOLU ISI	5/	- ;	os"o				TASE	N-		
Other	<u>_</u>			Sampler: A	12150	VELT.	NB'e				6 9	1'9			/	(4)	<i>∋</i> 113		
C EDD	EDD (Type)			On Ice		O No	VI.			_	(HA	A) 'E				SM	J.LI.		(N)
				Sample Temp	eranne;		38					_		(1	_	ont	nla		0 J)
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type		TEX) WH	STEX + MT	TPH Method odjaM) H9T	EDB (Metho	ANY) OTER	SCRA 8 Me	18081 Pestici	AOV) 80928	-imeS) 07S8	RON FER	TDS TOTAL	200001	yir Bubbles
19/69	1150	SAKK	mw #/	40m/-2	#U#		>		-	-	-	+		3		1	-		1
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19/09	1130	WARER	my # 2	40ml-2	HC 0	2	>					-			Í	>	-		T
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60/6	1210	WARR	MW #3	40ml-2 125ml-1	He. 4 5000L	8	>								<u> </u>	5			
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Date:	Time:	Relinquished by	d by:	Received by:	-	1	Rem	Remarks:		1				1 :		١.	-		T
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	HALL ENVIRONMENTAL		www.nailenvironmental.com	505 345 4107	Request				((AOV) 80858	-								
	ENVI		www.nailenvironmental.com	Eav 505						ON'	3CRA 8 Meta Anions (F,CI, 3081 Pesticic	1								y shoot
	HALL ENV	Ilod man	kins NF -	45.3075	An	E			(1.4	.03 b	o ANY) 0158	3								in definition
	1		4901 Hawl	Tel 505-345-3975	200	_			89	108	STEX + MTE TPH Method TPH (Methoo			-					arks:	The Arveither
_	JL										STEX). MIE				1	1			Remarks:	is positive
Turn-Around Time:	X Standard	Project Name:	GCL #187	Project #:		Project Manager:	NEUSON VELEZ	1	Sampler: / Veloon Vele L	Sample Temperature	Container Preservative HEVENDS Type and # Type	4001-2 Held							Received by: Date Time	Time: Relinquished by: (Received by: Water Time) Received by: Water 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 placed as the contracted data will be p
Chain-of-Custody Record	Client: BLAGE ENGRO/BP AMERICA		P.O. BOX 87	BUTD. NM 87413	1632-119			☐ Level 4 (Full Validation)			Matrix Sample Request ID	WATER MW #2							Relinquished by:	Relinquished by: (
Chain-c	BURGE		Mailing Address:	7	CS	email or Fax#:	QA/QC Package:	ndard	EDD (Type)		Time	19691430 V							Date: Time: R	Time: R
9	Client		Mailing		Phone #:	email	DAVOC	X Standard			Date	196					1		Date:	Date:

Date: 18-Nov-09

QA/QC SUMMARY REPORT

Client:

Blagg Engineering

Project: GC

GCU #107

Work Order:

0911194

Analyte	Result	Units	PQL	SPK Va S	SPK ref	%Rec L	owLimit Hi	ghLimit %RPI	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						1500
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 AN
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	

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O	119	lli	fīi	ers

E Estimated value

R RPD outside accepted recovery limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

Page 1

J Analyte detected below quantitation limits

H Holding times for preparation or analysis exceeded

QA/QC SUMMARY REPORT

Client:

Blagg Engineering

Project: GCU #187

Work Order:

Date: 17-Nov-09

0911197

Analyte	Result	Units	PQL	SPK Va S	PK ref	%Rec L	owLimit Hi	ghLimit %RPI	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 AN
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	

Q	ual	ifi	ers	
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E Estimated value

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

Date: 18-Nov-09

QA/QC SUMMARY REPORT

Client:

Blagg Engineering

Project: GCU #107

Work Order:

0911194

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec L	owLimit H	ighLimit %RPI	O 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	
Cylenes, 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	μġ/L	1.0	20	0	94.0	86.4	113	
Ethylbenzene	17.97	μg/L	1.0	20	0	89.8	83.5	118	
(ylenes, Total	53.88	µg/L	2.0	60	0	89.8	83.4	122	
Method: EPA Method 6010B: D	issolved Me	itals							
Sample ID: MB		MBLK				Batch ID:	R36196	Analysis Date:	11/16/2009 5:42:23 PM
ron	ND	mg/L	0.020						
Sample ID: MB	ND	MBLK	0.020			Batch ID:	R36196	Analysis Date:	11/16/2009 5:51:02 PM
	ND		0.000			Daton 1D.	1130130	Analysis Date.	11/10/2005 5.01.02 1 10
cample ID: LCS	ND	mg/L LCS	0.020	1		Batch ID:	R36196	Analysis Date:	11/16/2009 5:45:09 PM
								Analysis Date:	11/16/2009 5.45.09 PW
ron	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
ron	0.4920	mg/L	0.020	0.5	0	98.4	80	120	
ample ID: LCS		LCS				Batch ID:	R36196	Analysis Date:	11/16/2009 5:53:51 PM
on	0.4866	mg/L	0.020	0.5	. 0	97.3	80	120	
lethod: SM2540C MOD: Total I	Dissolved S	ollds							
ample ID: MB-20605		MBLK				Batch ID:	20605	Analysis Date:	11/13/2009 2:18:00 PM
otal Dissolved Solids	ND	mg/L	20.0						relayson - v
	1.41	mg/ L	20.0						
ample ID: LCS-20605		LCS				Batch ID:	20605	Analysis Date:	11/13/2009 2:18:00 PM

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V	4 (3 1)	HIC	13

E Estimated value

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

Page 2

Sample Receipt Checklist

Client Name BLAGG		Date Receiv	/ed:	11/10/2009
Work Order Number 0911194		Received i	by: TLS	
Checklist completed by:		Sample ID	labels checked b	y:
Matrix: Carrier name	e: <u>Greyhou</u>	und		
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	\checkmark
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
Water - VOA vials have zero headspace? No VOA vials sub	omitted	Yes 🗸	No 🗆	bottles checked for pH:
Water - Preservation labels on bottle and cap match?	Yes 🗹	No 🗆	N/A	· 12
Water - pH acceptable upon receipt?	Yes 🗹	No 🗆	N/A	>12 unless noted
Container/Temp Blank temperature?	-0.6°	<6° C Acceptai	ble	below.
COMMENTS:		If given sufficier	nt time to cool.	
		=====		========
Client contacted Date contacted:		Pers	son contacted _	
Contacted by: Regarding:				7
Comments:				
Corrective Action				
	_			

Sample Receipt Checklist

Client Name BLAGG		Date Received	i:	11/10/2009
Work Order Number 0911197		Received by:	TLS	R
Checklist completed by:	Date	Sample ID la	bels checked b	y: D 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
Water - VOA vials have zero headspace? No VOA vials subi	mitted	Yes 🗹	No 🗆	bottles checked for pH:
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
Container/Temp Blank temperature?	-0.6°	<6° C Acceptable		below.
COMMENTS:		If given sufficient	time to cool.	
Client contacted Date contacted:		Perso	n contacted	
Contacted by: Regarding:				
Comments:				
Corrective Action				

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT: BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY #:

LABORATORY (S) USED: HALL ENVIRONMENTAL

N/A

GCU #107 - SEPARATOR PIT

UNIT D, SEC. 19, T29N, R12W

DEVELOPER / SAMPLER :

NJV

Filename: 03-04-10.WK4

Date: March 4, 2010

PROJECT MANAGER:

NJV

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	рН	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	100.00	71.22	28.78	36.08	-	-	-	3 1 4 1	-
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

DATE & TIME = 03/01/10

4.01/7.00/10.00 2,800 03/01/10 1215

NOTES: Volume of water purged from well prior to sampling; $V = pi \times r2 \times h \times 7.48 \text{ gal./ft3} \times 3 \text{ (wellbores)}$. (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

Date: 10-Mar-10

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

Collection Date: 3/4/2010 12:30:00 PM Lab ID: 1003180-01

Client Sample ID: MW #2 Matrix: AQUEOUS

Analyses	Result	PQL Qu	al 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

Collection Date: 3/4/2010 11:50:00 AM Lab ID: 1003180-02

Client Sample ID: MW #3 Matrix: AQUEOUS

Onem Bumpie 151			1124	man ridor	
Analyses	Result	PQL Qua	l 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

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

- 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 Spike recovery outside accepted recovery limits Page 1 of 1

	HALL ENVIRONMENTAL	ANALTSIS LABORALORY	9	80					(N 10	Y) səldd	u8 1	A									
	M	5	T 0747	For Egg 245 4407	10/	H			(AO	V-ime2)	270	8	+	\vdash	+	+	+		-		
	ō;	0	al.co	1	454			Т		(AOV) 8		(-			
	급 -		www.hallenvironmental.com	anh	Analysis Request		s,god	1 280)8 / se	Pesticid		\rightarrow		\Box	\top	\Box	+	100			
	≥ :	7	TOUL	anhr	vsis R	(1	OS'*O	9, <u>s</u> O	N'EON	s (F,CI,1	noin	4	\top								
j	E S	2	lenvi		naly				SI	steM 8 /	4HOY	4							LYT'		
	1		V.hal	775	A A		A. F		(HA9	10 ANY)	016	В					()				
	43		www.hall	I SI	161. 505-545-5975			(1.403	Method	BDB (3									
	_	•	lawk	NA ST	2			(1.814	Method	Hd.	L									
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_						()	1508)	NB:8	H +3	BTM-(STEX	>								Rer	
	Standard Rush		GC7 # 107	Project #:		Project Manager:	in Verez	Sampler: NELSON VELEZ	7/65	Pre	Type and # Type	2-40n/ Held	2-40ml Help -2							Redefied by: Date Time	Received by: \ Date Time
	Client: BLAGE ENOR. / BP AMEDICA		80x 87	87413	-	ă	□ Level 4 (Full Validation)			Sample Request ID	-	MW # 2	MW #3 3							Vey	,
10-10-	S ENGA		P.O.	BUFL		7				Matrix		WIER	WATER							Relinquished by	Relinquished by:
11011	BLAGE		Mailing Address:		#	email or Fax#:	OA/OC Package:	9	EDD (Type)	Time		130	1150							10 1415	Time:
	Client:		Mailing		Phone #:	email o	OA/QC Packa	□ Other	□ EDC	Date		3/4/110	9/1/E							3/4/10	Date:

QA/QC SUMMARY REPORT

Client:

Blagg Engineering

Project: GCU #107

Work Order:

Date: 10-Mar-10

1003180

Analyte	Result	Units	PQL	SPK Va S	SPK ref	%Rec L	owLimit Hi	ghLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8021B:	Volatiles										
Sample ID: b 5		MBLK				Batch ID:	R37677	Analysi	is Date:	3/8/2010 1	1:21:44 AN
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	Analysi	is 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								- 17
Xylenes, Total	ND	µg/L ·	2.0								
Sample ID: 100NG BTEX LCS		LCS				Batch ID:	R37677	Analysi	s Date:	3/8/2010 8	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	108	86.4	113			
Ethylbenzene	20.95	µg/L	1.0	20	0	105	83.5	118			
Kylenes, Total	62.35	µg/L	2.0	60	0	104	83.4	122			
Sample ID: 100NG BTEX LCS		LCS				Batch ID:	R37695	Analysi	s Date:	3/9/2010 8	8:20:39 PM
Benzene	22.19	μg/L	1.0	20	0	111	85.9	113			
Foluene	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			
Kylenes, Total	64.44	µg/L	2.0	60	0	107	83.4	122			
Sample ID: 100NG BTEX LCSD		LCSD				Batch ID:	R37695	Analysis	s Date:	3/9/2010 8	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
Kylenes, Total	55.87	µg/L	2.0	60	0	93.1	83.4	122	14.3	13	R

Qualifiers:

ND Not Detected at the Reporting Limit

NC Non-Chlorinated

R RPD outside accepted recovery limits

E Estimated value

J Analyte detected below quantitation limits

H Holding times for preparation or analysis exceeded

Sample Receipt Checklist

Client Name BLAGG			Date Received	i:	3/8/201	0
Work Order Number 1003180			Received by:	ARS	D	
Checklist completed by:		3\ _{Date}	Sample ID la	bels checked	by: UO	-
Matrix: Carrier name:	Grey	yhound				
Shipping container/cooler in good condition?	Yes	V	No 🗆	Not Present		
Custody seals intact on shipping container/cooler?	Yes	~	No 🗌	Not Present	☐ Not Ship	ped \square
Custody seals intact on sample bottles?	Yes		No 🗆	N/A	✓	
Chain of custody présent?	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	V	No 🗆			
Sample containers intact?	Yes	V	No 🗆			
Sufficient sample volume for indicated test?	Yes	V	No 🗌			
All samples received within holding time?	Yes	~	No 🗌			per of preserved
Water - VOA vials have zero headspace? No VOA vials subn	nitted		Yes 🗸	No 🗆	pH:	s checked for
Water - Preservation labels on bottle and cap match?	Yes		No 🗌	N/A		-
Water - pH acceptable upon receipt?	Yes		No 🗌	N/A	<2 >1. below.	2 unless noted
Container/Temp Blank temperature?	3.	8°	<6° C Acceptable		Delow.	
COMMENTS:			If given sufficient	time to cool.		
		==				
Client contacted Date contacted:			Perso	n contacted		U.S. L.
Contacted by: Regarding:						
Comments:						
- Ton 5-7-5 n 200						Par Grand
					- 4 10%	
The same of the sa						
					-11-11-11-11	
Corrective Action	T				THE INC	
					To the same of	4271
THE REPORT OF THE PARTY OF THE					7777	

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT: BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY #:

LABORATORY (S) USED: HALL ENVIRONMENTAL

N/A

GCU #107 - SEPARATOR PIT

UNIT D, SEC. 19, T29N, R12W

DEVELOPER / SAMPLER :

NJV

Date: April 29, 2010
Filename: 04-29-10.WK4

PROJECT MANAGER:

NJV

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	рН	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	100.00	71.44	28.56	36.08	-	-	-	1-0-0	
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

DATE & TIME =

4.01/7.00/10.00 2,800 04/29/10 1230

NOTES: Volume of water purged from well prior to sampling; $V = pi \times r2 \times h \times 7.48 \text{ gal./ft3} \times 3 \text{ (wellbores)}$. (i.e. 2" MW r = (1/12) 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	

Date: 05-May-10

CLIENT: Project:

Blagg Engineering

GCU #107

Client Sample ID: MW #2

Lab Order:

1005035

Lab ID:

1005035-01

Collection Date: 4/29/2010 2:10:00 PM

Matrix: AQUEOUS

Analyses	Result	PQL Qua	l 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

Client Sample ID: MW #3

Collection Date: 4/29/2010 1:45:00 PM

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

Estimated value E

Analyte detected below quantitation limits

NC Non-Chlorinated

PQL Practical Quantitation Limit

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

Spike recovery outside accepted recovery limits age 1 of 1

ABORATORY al.com b, NM 87109 845-4107	r Bubbles (Y or N)	4	
YSIS LABORATC environmental.com Albuquerque, NM 87109 Fax 505-345-4107	(AOV-ima8) 075	8	Date Time Remarks:
AB AB II.cor. NIM , NIM			
ALL ENVIRONN NNALYSIS LABO www.hallenvironmental.com ins NE - Albuquerque, NM 87 15-3975 Fax 505-345-4107	Reduction of the section of the sect	8	
ANALYSIS L www.hallenvironments kins NE - Albuquerque 845-3975 Fax 505-3	nions (F,CI,NO ₃ ,NO ₂ ,PO ₄ ,SO ₄)	4	
	CRA 8 Metals nions (F,Cl,NO ₃ ,NO ₂ ,PO ₄ ,SO ₄)	4	
HALL ANAL www.hail kins NE -	(HA9 10 AN9) 015		
AN ww kins 45-3	DB (Method 504.1)		
Haw Haw 105-3	PH (Method 418.1)		
# ANAL ANAL www.hail 4901 Hawkins NE - Tel. 505-345-3975	PH Method 8015B (Gas/Diesel)		ķ
1 4	TEX + MTBE + TMB* (80213)		Remarks:
			120
Project #:	Project Manager: NELSON VELEZ Sampler: NELSON VELEZ On Ice	2-40m/ Hel & 1 2-40m/ Hel & 1	2/4/10
Client: BLAGG ENGL. BP American Mailing Address: P.O. BOX 87 BEO. NM 87413	Phone #: (505) 63 4—//97 email or Fax#: OA/QC Package: Accreditation INELAP ID Other Date Time Matrix Sample Request ID	423/10 1410 WATER MW #3	Date: W Time: Relinquished by: W U Received by: Bate: Time: Relinquished by: U Received by: J3/10 1430

QA/QC SUMMARY REPORT

Client:

Blagg Engineering

Project: GCU #107

Work Order:

Date: 05-May-10

1005035

Analyte	Result	Units	PQL	SPK	/a S	PK ref	%Rec L	owLimit Hi	ghLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8021B: \	/olatiles											
Sample ID: 5ML RB		MBLK					Batch ID:	R38525	Analysis	Date:	5/4/2010	9:52:23 AN
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 AN
Benzene	21.22	µg/L	1.0	2	0	0	106	85.9	113			
Toluene	20.93	µg/L	1.0	2	0	0	105	86.4	113			
Ethylbenzene	20.75	µg/L	1.0	2	0 .	0	104	83.5	118			
Xylenes, Total	62.80	µg/L	2.0	6	0	0	105	83.4	122			

Qu			

E Estimated value

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded

NC Non-Chlorinated

R RPD outside accepted recovery limits

Client Name BLAGG			1	Date Receiv	ved:		5/4/2010	
Work Order Number 1005035				Received	by: TLS		1	
A		_1,	1	Sample ID	labels checked	by:	40	
Checklist completed by:		5/0	IIIO		-		Initials	
<u> </u>	Contan com a	Creshous						
Matrix:	Carrier name:	Greyhour	10					
Shipping container/cooler in good condition?		Yes 🗹		No 🗌	Not Present			
Custody seals intact on shipping container/coole	r?	Yes 🗹		No 🗆	Not Present		Not Shipped	
Custody seals intact on sample bottles?		Yes 🗌		No 🗆	N/A	V		
Chain of custody present?		Yes 🗹		No 🗆				
Chain of custody signed when relinquished and r	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 🗆				f preserved
Water - VOA vials have zero headspace?	No VOA vials subm	nitted 🗌	Y	es 🗸	No 🗆		bottles che pH:	ecked for
Water - Preservation labels on bottle and cap ma	itch?	Yes		No 🗆	N/A			
Water - pH acceptable upon receipt?		Yes		No 🗆	N/A		<2 >12 uni	less noted
Container/Temp Blank temperature?		2.1°	<6	C Accepta	able		below.	
COMMENTS:			If g	iven sufficie	nt time to cool.			
		===				=	_====	====
Client contacted	Date contacted:			Pe	rson contacted			
Contacted by:	Regarding:							
Carlotte St. Programme Co.								
Comments:						-		
			14.11					
						4		
						4		
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

LABORATORY (S) USED: HALL ENVIRONMENTAL

UNIT D, SEC. 19, T29N, R12W

DEVELOPER / SAMPLER :

NJV

Date: July 21, 2010

Filename: 07-21-10.WK4

PROJECT MANAGER:

NJV

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pН	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	12	-	-	-	-

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.	Cloud	dy	
wind speed	0 - 5	direct.	ENE - E

Date: 28-Jul-10

CLIENT:

Blagg Engineering

Lab Order:

1007842

Project: Lab ID:

GCU #107

1007842-01

Client Sample ID: MW #2

Collection Date: 7/21/2010 10:15:00 AM

Date Received: 7/23/2010

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

- * 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
- Spike recovery outside accepted recovery limits

NTAL	T CR						(N	10 Y	Air Bubbles (,					
ENVIRONMENTAL VETS I ABOBATOBY	NOGAL SIS	www.ramerlvirormental.com	Eax 505-345 4107	Analysis Request	(*(Z808 /	sə	Anlons (F,CI, 8081 Pesticio 8260B (VOA) 8270 (Semi-V					· /	
HALL ENV	anolled work	www.naiiefflv		Analy	(10)	,	(1.8 (1.4	141 03 l	TPH (Method 8310 (PNA or RCRA 8 Meta						
		4901	4		IIV)	no seə) нат	+ 3	BTEX + MTB BTEX + MTB					Remarks:	
Turn-Around Time: ズ Standard □ Rush	100	LO1# 259	Project #:		Project Manager:	Nerson Nevez	Sampler: Newson Veres	Sample Temperating		40ml-2 Held				Received by: Date Time	Received by Time
Client: RLASS ENGR. / BP America N		Mailing Address: P.O. BOX 87	7413	(505) 632-11		sge:	□ Other	□ EDD (Type)	Matrix Sample Request ID	7/2/10 1015 WATER MW # 2 40				Time: Relinquished by: 1530 May U.L.	Time: Relinquished by: Ú
Client:		Mailing		Phone #:	emailo	QA/QC Packa	Accreditation	O EDD	Date	01/12/				Date:	Date:

Date: 28-Jul-10

QA/QC SUMMARY REPORT

Client:

Blagg Engineering

Project: GCU #107

Work Order:

1007842

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec L	owLimit Hi	ghLimit %RPD	RPDLimit Qual
Method: EPA Method 8021B: \	/olatiles								
Sample ID: 6ML RB		MBLK				Batch ID:	R40035	Analysis Date:	7/26/2010 9:47:15 AN
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	

NC Non-Chlorinated

Client Name BLAGG		Date Receiv	red:	7	7/23/2010
Work Order Number 1007842	1	Received b	y: TLS		R
Checklist completed by:	7/2 Date	5/10	labels checked I	by:	ials
Matrix: Carrier nam	e: <u>Greyhound</u>				
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
Water - VOA vials have zero headspace? No VOA vials su	bmitted	Yes 🔽	No 🗆		bottles checked for pH:
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
Container/Temp Blank temperature?	0.7°	<6° C Accepta	ble		below.
COMMENTS:		If given sufficier			
			=====	==	
Client contacted Date contacted:		Per	son contacted		12 4 10 11
Contacted by: Regarding:					
Comments:				380	
Corrective Action					

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT: BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY #:

LABORATORY (S) USED: HALL ENVIRONMENTAL

N/A

GCU # 107 - SEPARATOR PIT

UNIT D, SEC. 19, T29N, R12W

Date: October 21, 2010

DEVELOPER / SAMPLER :

NJV

Filename: 10-21-10.WK4

PROJECT MANAGER:

NJV

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pН	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.

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

Date: 29-Oct-10

CLIENT:

Blagg Engineering

Lab Order:

1010A04

GCÚ #107

Project: Lab ID:

1010A04-01

Client Sample ID: MW #2

Collection Date: 10/21/2010 12:05:00 PM

Date Received: 10/22/2010

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
- POL. 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. Snike recovery outside accented recovery limits

Page 1 of 1

HALL ENVIRONMENTAL ANALYSIS LABORATORY	o.				(N	no Y	Air Bubbles (
N N	environmental.com	1107	-		(1	AO\	/-imə2) 0728	\vdash	+				+	+		
OB	al.co	345-				(AOV) 80628		1		_	+	_	T		
H L	nenta	305-3	S,	PCB.	2808	sep	8081 Pesticio								1	
≥ ii	www.hallenvironmental.com	Fax 505-345-4107	(105	S' [†] Od	"NO ⁵ '	ON	Anions (F,CI,									
E S	lenv	T Nam		19.		sls	RCRA 8 Met									
74	w.ha				(H)	497	o ANY) 01:E8								4	
4Z	www.h 4901 Hawkins NE	Tel. 505-345-3975					EDB (Wethoo							-		
	Awk	05-3	110				TPH (Methoo									
	100	el. 5					TPH Method								isi.	
	1 64	-					BTEX + MTE			\perp					Remarks:	
			(815	(80)	TMB	+] {	BTEX -MTE)>							Rei	
X Standard C Rush	Cot # 107	Project #:	1	NEUSON VELEZ	Sampler: Newson Verez	Sample Temperature 7/7	Container Preservative Type and # Type	40ml-2 HG for -1							Received by: Date Time Thou is a Constitution of the constitutio	Received by: Date Time
Client BLAZE ENGR. / BP AMERICA	Mailing Address: P.O. 86x 87	8-FD. NM 87413 Phone #: (505) 632-1199	-ax#:	Standard □ Level 4 (Full Validation)	Accreditation	□ EDD (Type)	e Time Matrix Sample Request ID	10 1205 WARR MU # 2						5	10 1550 Mhr 19	Date: Time: Relinquished by:

Date: 29-Oct-10

QA/QC SUMMARY REPORT

Client:

Blagg Engineering

Project:

GCU #107

Work Order: 1010A04

Analyte	Result	Units	PQL	SPK Va	I SPK ref	%Rec L	owLimit Hi	ghLimit %RPD	RPDLimit Qual
Method: EPA Method 8021B:	Volatiles								pl .
Sample ID: 6ML RB		MBLK				Batch ID:	R41813	Analysis Date:	10/27/2010 9:16:43 AN
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	

Estimated value

Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit Holding times for preparation or analysis exceeded

NC Non-Chlorinated

RPD outside accepted recovery limits

Page 1

Client Name BLAGG				Date Receiv	ed:		10/22/2010
Work Order Number 1010A04	8			Received b	y: MLW		AT
Checklist completed by	<u>}</u>	10	22 Date	Sample ID	labels checked	by:	Initials
Matrix:	Carrier name:	Priority	y US Mai	l			
Shipping container/cooler in good condition?		Yes 6	V	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	V	
Chain of custody present?		Yes 5		No 🗆			
Chain of custody signed when relinquished and rec	eived?	Yes 5		No 🗆			
Chain of custody agrees with sample labels?		Yes &		No 🗆			
Samples in proper container/bottle?		Yes 4		No 🗆			
Sample containers intact?		Yes 🖳		No 🗆			
Sufficient sample volume for indicated test?		Yes V		No 🗆			
All samples received within holding time?		Yes W		No 🗆			Number of preserved
	No VOA vials subm			Yes 🗹	No 🗆		bottles checked for pH:
Water - Preservation labels on bottle and cap match	h?	Yes 🖳		No 🗆	N/A		
Water - pH acceptable upon receipt?		Yes 🗹		No 🗆	N/A		<2 >12 unless noted
Container/Temp Blank temperature?		2.7°	. <	6° C Acceptal	ble		below.
COMMENTS:				given sufficier	nt time to cool.		
===========			===				=======
Client contacted Dai	te contacted:			Pen	son contacted		
Contacted by:	garding:						
Comments:							
The state of the s							
Corrective Action							The second second
	_				-		

BLAGG ENGINEERING. INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT: BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY #:

N/A

GCU #107 - SEPARATOR PIT

LABORATORY (S) USED: HALL ENVIRONMENTAL

UNIT D, SEC. 19, T29N, R12W

DEVELOPER / SAMPLER :

NJV

Date: February 22, 2011

Filename: 02-22-11.WK4

PROJECT MANAGER:

NJV

WELL #	WELL ELEV.	WATER ELEV.	DEPTH TO WATER	TOTAL	SAMPLING TIME	рН	CONDUCT (umhos)	TEMP. (celcius)	VOLUME
	(ft)	(ft)	(ft)	(ft)	TIME		(4111100)	(0010100)	(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 =

02/22/11

4.01/7.00/10.00 2,800 1010

DATE & TIME =

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.	Sur	iny	
wind speed	0 - 5	direct.	calm

Date: 09-Mar-11

CLIENT:

Blagg Engineering

Lab Order:

1103120

Project:

GCU #107

Lab ID:

1103120-01

Client Sample ID: MW #2

Collection Date: 2/28/2011 10:50:00 AM

Date Received: 3/3/2011

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

- * 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

	FORY							(N -	10 Х) səlddu8 ir	,					anort.
	ANALYSIS LABORATOR	mon etnemonimolled waxw	4901 Hawkins NE - Albuquerque, NM 87109		Analysis	(*)	OSʻ*Od	(1,8) (H/) (H/s ₂)UO _{2,1}	141 150 147 147 100 100 100	TPH Method EDB (Method 8310 (PNA o RCRA 8 Meta Anions (F,Cl, 8081 Pesticic						Date Time Remarks: $3/\sqrt{r}$ 93.0 Date Time $3/\sqrt{r}$ 10:45
			4	F		(8	1508)			BTEX) MTE						Remarks: S S S S S S S S S
Tum-Around Time:	Standard Rush	Project Name:	CON#107	Project #:		Project Manager:	NELSON VENEZ	Sampler: NEUSON VENEZ	15	Container Type and #	40ml-2 Hat					
Chain-of-Custody Record	Client: BLAGE ENER. (BP AMERICA		Mailing Address: P.O. BOX 87	BIFD., NM 87413	Phone #: (505) 632-1199	email or Fax#:	QA/QC Package: X Standard Level 4 (Full Validation)	Accreditation	□ EDD (Type)	Date Time Matrix Sample Request ID	429/11 1050 WARR MW #2					Date: Time: Relinquished by: Plin 436 Time: Relinquished by: Alin 1311 Aline time Received by:

Date: 09-Mar-11

QA/QC SUMMARY REPORT

Client:

Blagg Engineering

Project: GCU #107

Work Order:

1103120

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec L	owLimit Hi	ghLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8021B: V	/olatiles										
Sample ID: 5ML RB		MBLK				Batch ID:	R43957	Analys	is Date:	3/4/2011 9	9:06:28 AN
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	Analys	iś Date:	3/7/2011 11	:29:09 AN
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	Analysi	is 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	Analysi	s 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	Analysi	s 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	

ua		

E Estimated value

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

J Analyte detected below quantitation limits

H Holding times for preparation or analysis exceeded

NC Non-Chlorinated

Client Name BLAGG	_			Date Receiv	ed:		3/3/2011	
Work Order Number 1103120				Received b	y: MMG			
	1		~	_ / / / / /	labels checked	by:	Initials	
Checklist completed by:	Mu		Date	3/03///	-		Inicais	
Matrix:	Carrier name:	Grev	hound					
Matrix.	Carrier Harrie.	Giey	nound					
Shipping container/cooler in good condition?		Yes	V	No 🗆	Not Present			
Custody seals intact on shipping container/co	oler?	Yes	V	No 🗆	Not Present		Not Shipped	
Custody seals intact on sample bottles?		Yes		No 🗆	N/A	~		
Chain of custody present?		Yes	V	No 🗆				
Chain of custody signed when relinquished an	nd received?	Yes	V	No 🗆				
Chain of custody agrees with sample labels?		Yes	V	No 🗆				
Samples in proper container/bottle?		Yes	V	No 🗆				
Sample containers intact?		Yes	~	No 🗌				
Sufficient sample volume for indicated test?		Yes	V	No 🗆				
All samples received within holding time?		Yes	V	No 🗌				f preserved
Water - VOA vials have zero headspace?	No VOA vials subm	nitted		Yes 🗸	No 🗆		bottles che pH:	ecked for
Water - Preservation labels on bottle and cap	match?	Yes		No 🗆	N/A			
Water - pH acceptable upon receipt?		Yes		No 🗌	N/A		<2 >12 unl	ess noted
Container/Temp Blank temperature?		5.	4°	<6° C Accepta	ble		below.	
COMMENTS:				If given sufficier	nt time to cool.			
								===:
Client contacted	Date contacted:			Per	son contacted			
Contacted by:	Regarding:							
				13115			164	
Comments:								
			-					Name of the last
	1344							
		-						
							·	
Corrective Action						N.		
The state of the s							-	

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 :

NJV

Filename: 05-31-11.WK4

PROJECT MANAGER:

NJV

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pН	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 =

DATE & TIME =

4.01/7.00/10.00 2,800 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.	Sun	ny	
wind speed	0 - 10	direct.	SE

Date: 06-Jun-11

CLIENT:

Blagg Engineering

Lab Order:

1106063

Project:

GCU #107

Lab ID:

1106063-01

Client Sample ID: MW #2

Collection Date: 5/31/2011 1:00:00 PM

Date Received: 6/1/2011

Matrix: AQUEOUS

Result	PQL	Qual	Units	DF	Date Analyzed
	-				Analyst: NSE
ND	10		µg/L	10	6/2/2011 4:24:13 PM
940	10		µg/L	10	6/2/2011 4:24:13 PM
490	10		µg/L	10	6/2/2011 4:24:13 PM
2300	100	-	µg/L	50	6/3/2011 12:39:18 PM
120	96.8-145		%REC	10	6/2/2011 4:24:13 PM
	ND 940 490 2300	ND 10 940 10 490 10 2300 100	ND 10 940 10 490 10 2300 100	ND 10 μg/L 940 10 μg/L 490 10 μg/L 2300 100 μg/L	ND 10 μg/L 10 940 10 μg/L 10 490 10 μg/L 10 2300 100 μg/L 50

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

- 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
- Spike recovery outside accepted recovery limits

										Vir Bubbles (Y	_	1.11	_		1	T	I		1	-	
The state of the s	ANAL ENVIKONMENTAL	www.hallenvironmental.com	4901 Hawkins NE - Albuquerque, NM 87109	Tel. 505-345-3975 Fax 505-345-4107	Ina	(1		(T)	\$ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	EDB (Method 3310 (PNA or 7081 Pesticida 2081 Pesticida 2008 (VOA) 2000 (Semi-VO 2000 (Semi-VO 2000 (Semi-VO	55										Time Bill to Blagg Engineering, Inc.
	7 [L Haw	505-3		H	(leseil)			TPH Method I				-	+	-		-	+		Bill
			490	Te		r				BTEX + MTBE				1	+	+				Remarks:	ossibility
	<u> </u>						(8120	08) c'an	11	BTEX + MTDE	>										this or
	Rush		GCU # 107				NELSON VELEZ	NELSON VELEZ		Preservative HEAL No. Type	HCI & Cool									Style 1445	Date Time Muli Loff 11 9: St. laboratories. This serves as notice of
ne:			GC			L.	NELS	NELS	mperature	Prese	HCLE									704	See
Tum-Around Time:	Standard	Project Name:		Project #:		Project Manager:		er:	Sample Temper	and	40 ml VOA - 2									Received by:	Received by:
Chain-of-Custody Record	BLAGG ENGR. / BP AMERICA		.87	BLOOMFIELD, NM 87413	2-1199		Level 4 (Full Validation)			Sample Request ID	MW# 3K 10/11/11									in Ch	ime: Relinquished by: Received by:
of-Cus	G ENGR.		P.O. BOX 87	BLOOME	(505) 632-1199			Other		Matrix	WATER									Relinquished by:	Relinquished by:
hain-	BLAG		Address:			Fax#:	ackage; dard	ation:	(Type)	Time	1300									Time: 1445	Time:
O	Client:		Mailing Address:		Phone #:	email or Fax#	QA/QC Package: ☑ Standard	Accreditation:	□ EDD (Type)	Date	5/31/11									Date: 5/31/11)31/1c

Date: 06-Jun-11

QA/QC SUMMARY REPORT

Client:

Blagg Engineering

Project: GCU #107 Work Order: 1106063

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec L	owLimit Hi	ghLlmit	%RPD	RPDLimit	Qual
Method: EPA Method 8021B: V	olatiles									•	
Sample ID: 5ML RB		MBLK				Batch ID:	R45717	Analys	is Date:	6/2/2011	9:23:06 AN
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	Analys	is Date:	6/3/2011 1	2:09:19 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	Analys	is Date:	6/2/2011 1	1:53:29 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	Analysi	s Date:	6/3/2011 1	1:09:08 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	Analysi	s Date:	6/2/2011 12	2:23:35 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	

	ers	

Estimated value E

RPD outside accepted recovery limits

Analyte detected below quantitation limits

Not Detected at the Reporting Limit ND

Holding times for preparation or analysis exceeded H

NC Non-Chlorinated

Client Name BLAGG				Date Received	:		6/1/2011	
Work Order Number 1106063				Received by:	MMG			
Checklist completed by:	M		ole/o	Sample ID la	pels checked	by:	MG	
Matrix:	Carrier name:	Grey	hound					
Shipping container/cooler in good condition?		Yes	V	No 🗆	Not Present			
Custody seals intact on shipping container/cooler	?	Yes	V	No 🗌	Not Present		Not Shipped	
Custody seals intact on sample bottles?		Yes		No 🗆	N/A	V		
Chain of custody present?		Yes	V	No 🗆				
Chain of custody signed when relinquished and re	ceived?	Yes	✓	No 🗆				
Chain of custody agrees with sample labels?		Yes	V	No 🗆				
Samples in proper container/bottle?		Yes	V	No 🗌				
Sample containers intact?		Yes	V	No 🗌				
Sufficient sample volume for indicated test?		Yes	V	No 🗌				
All samples received within holding time?		Yes	V	No 🗆			Number of	f preserved
Water - VOA vials have zero headspace?	No VOA vials subm	nitted		Yes 🗹	No 🗌		bottles che pH:	ecked for
Water - Preservation labels on bottle and cap mate	ch?	Yes		No 🗔	N/A 🔽		- 1	
Water - pH acceptable upon receipt?		Yes		No 🗌	N/A ☑		<2 >12 unle	ess noted
Container/Temp Blank temperature?		1.	4° <	6° C Acceptable			below.	
COMMENTS:			H	f given sufficient t	ime to cool.			
		==	===			==	====	===:
Client contacted D	ate contacted:	,		Perso	n contacted			
Contacted by:	egarding:				1 may 1 may 1 min and 1 mi			
Comments: , a DOK a 1114h	1/10	101	n n	n 10/11	11.00	101	000	2-1 0/0
comments: spoke with	MINH	-0	Ac	3 61	111	ALI	was	ripo
- Miles Simulation of	11007		U)	f 3/1/	,,		The Lates	
A PART OF THE REAL PROPERTY OF THE PART OF	×							
Section 1								
Corrective Action							he a m and Com-	
								1,-1-1

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT: BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY #:

LABORATORY (S) USED: HALL ENVIRONMENTAL

N/A

GCU #107 - SEPARATOR PIT

UNIT D, SEC. 19, T29N, R12W

Date: September 28, 2011

DEVELOPER / SAMPLER:

NJV

Filename: 09-28-11.WK4

PROJECT MANAGER:

NJV

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pН	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.	Sun	iny	
wind speed	5 - 15	direct.	W

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 Qu	al 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

- * 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

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

Lab ID:

1109C44-02

Date Received: 9/30/2011

Matrix: AQUEOUS

Analyses	Result	PQL Q	ual 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

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

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

	. >	_			1 1 1	-		(N 10	Y) səlddu8 TiA				-			
	ANAI VETS I ARODATODA	www.hallenvironmental.com	4901 Hawkins NE - Albuquerque, NM 87109	Tel. 505-345-3975 Fax 505-345-4107	Ana	(12	Diesel)	1) 1) 1)	28.7 SELP SELP SELP SELP SELP SELP SELP SELP	BTEX + MTBE TPH Method TPH (Method B310 (PNA or RCRA 8 Metal RCRA 8 Metal Anions (F, Cl, I 8081 Pesticide Chloride (300.						Remarks: BILL DIRECTLY TO BP:	Date, Time Jeff Peace, 200 Energy Court, Farmington, NM 87401 Work Order: N1261883 Paykey: ZPEACIDENV Work Order: Angelies and the server are notice of this necessitation and a server are notice of this necessitation.
							(8170	1 13		901 11 1410	7	7 2				000	Wor
nd Time:	Ird Rush		GCU # 107			nager:	NELSON VELEZ	NELSON VELEZ 72/	10%	Preservative Type	-2 HCI & COO! 109C44-	HCI & Cool				Date Time 9/11/1306	Date, Time 9(24)1 (300 the societies as notice of
Turn-Around Time:	Standa	Project Name:		Project #:		Project Manager.		Sampler:	Sample Ter	Container Type and #	40 ml VOA - 2	40 ml VOA - 2				Received by:	Received by
Chain-of-Custody Record	BLAGG ENGR. / BP AMERICA		OX 87	BLOOMFIELD, NM 87413	(505) 632-1199		☐ Level 4 (Full Validation)	ă		Sample Request ID	R MW#2	R MW#3				of the of	ime: Relinquished by: S45 Anato is all Environmental may be subcontract if necessary, samples submitted to Hall Environmental may be subcontract.
of-Cu	G ENG		P.O. BOX 87	BLOOM	(202)			Officer		Matrix	WATER	WATER				Relinquished by:	Relinquished by: Ahat Asamples submitte
-uie	BLAG		ddress:			-ax#:	ckage:	tion:	Type)	Time	1500	430				Time: 1330	Time: ISU(S
O	Client:		Mailing Address:		Phone #:	email or Fax#	OA/QC Package. Standard	Accreditation:	□ EDD (Type)	Date	9/28/11	9/28/11 /430				17/50) Sate:

Date: 10-Oct-11

QA/QC SUMMARY REPORT

Client:

Blagg Engineering

Project: GCU #107

Work Order:

1109C44

Analyte	Result	Units	PQL	SPK V	a SPK ref	%Rec Lo	owLimit Hi	ghLimit %F	RPD	RPDLimit	Qual
Method: EPA Method 8021B: 1	/olatiles										
Sample ID: 6ML-RB		MBLK				Batch ID:	R48181	Analysis Da	ite:	10/4/2011 10	0:04:45 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 Da	ite:	10/4/2011 12	2:29:15 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			

-		et	
	man	TIP	TS:

E Estimated value

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded

NC Non-Chlorinated

R RPD outside accepted recovery limits

Sample Receipt Checklist

Client Name BLAGG Work Order Number 1109C44 Date Received:

9/30/2011

Received by:

Sample ID labels checked by:

Matrix:	Carrier name:	Grey	hound				
Shipping container/cooler in good condition?		Yes	V	No :	Not Pres	ent	
Custody seals intact on shipping container/cooler?		Yes	~	No	Not Pres	ent	Not Shipped
Custody seals intact on sample bottles?		Yes	V	No	N/A		
Chain of custody present?		Yes	V	No			
Chain of custody signed when relinquished and rece	eived?	Yes		No			
Chain of custody agrees with sample labels?		Yes	V	No			
Samples in proper container/bottle?		Yes	V	No			
Sample containers intact?		Yes	~	No			
Sufficient sample volume for indicated test?		Yes	V.	No			
All samples received within holding time?		Yes	V	No I			Number of preserved
Water - VOA vials have zero headspace?	o VOA vials subm	itted	: .	Yes 🗸	No		bottles checked for pH:
Water - Preservation labels on bottle and cap match	?	Yes		No	N/A	~	
Water - pH acceptable upon receipt?		Yes	i	No	N/A	V.	<2 >12 unless noted
COMMENTS:		4.	7°	<6° C Accepta		ol.	below.

Client contacted

COMMENTS:

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

LABORATORY (S) USED: HALL ENVIRONMENTAL

UNIT D, SEC. 19, T29N, R12W

DEVELOPER / SAMPLER :

NJV

Date: December 14, 2011

Filename: 12-14-11.WK4

PROJECT MANAGER:

NJV

WELL	WELL	WATER	DEPTH TO	TOTAL	SAMPLING	рН	CONDUCT	TEMP.	VOLUME
#	ELEV.	ELEV.	WATER	DEPTH	TIME		(umhos)	(celcius)	PURGED
	(ft)	(ft)	(ft)	(ft)	Italia y		- 15		(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 1145 12/14/11

DATE & TIME =

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

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: Lab ID: GCU #107 1112767-01 Date Received: 12/16/2011

Matrix: AQUEOUS

		- Am Ann	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES S	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

- * 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

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 SI	HORT LIST				1810	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

- * 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

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HALL ENVIDONMENTAL	ANALYSIS LABORATORY	www.hallenvironmental.com	4901 Hawkins NE - Albuquerque, NM 87109	Tel. 505-345-3975 Fax 505-345-4107	Ina	(40	CB ₁ z	(2OI)	(H)	02 b 26 26 00 v, 25 26 26 26 26 26 26 26 26 26 26 26 26 26	TPH (Method 8310 (PNA o RCRA 8 Meta Anions (F, Cl 82081 Pesticio 8208 (VOA) 8270 (Semi-V									OFFICE YOUR TYPES YOUR FRANKLATON NOT	NINGI883 PAYKEY: ZPENCT
			4901 H	Tel. 50		130	100		_	-	BTEX + MTBI					-		+		lemarks: TPT BUL OUECH	30 7R
									-		BTEX + MTB	>					1			Remarks: Bicと	3
			(0)				E.	LEZ and	□ No	1/4	HEAL NO 11/27167)	77							12/4/1. 1527	Date Time [6/11/14/3G
Time:	□ Rush		二井でしめ			jer.	Neuson Vertr	NELSON VELEZ	½ Yes	erature:	Preservative Type	Helteour	40,000							Nache	1/2/1
Turn-Around Time:	Standard	Project Name:	5	Project #:		Project Manager:	2	Sampler:	On Ice:	amp	Container Type and #	40ml-3	40ml-3							Mudth.	Received by:
Chain-of-Custody Record	BLAGG ENGR. / BP AMERICA		(87	BLOOMFIELD, NM 87413	2-1199		☐ Level 4 (Full Validation)				Sample Request ID	KH MW	MW#3						1	Mu VE	Must Works
F-Cus	ENGR.		P.O. BOX 87	SLOOME	(505) 632-1199				Other		Matrix	WARR	USTED							Musica of	Relinquished by:
ain-o	BLAGG		100			ax#:	ckage: ard	ion:		ype)	Time	12401	95/1							1527	Ine: R
5	Client:		Mailing Address:		Phone #:	email or Fax#:	QA/QC Package: ☑ Standard	Accreditation:	□ NELAP	□ EDD (Type)	Date	11/1/21	12/10/11	-						1/2//1	Date: 2/ / /

Date: 29-Dec-11

QA/QC SUMMARY REPORT

Client:

Blagg Engineering

Project: GCU #107

Work Order:

1112767

							0.000		1112/0/
Analyte	Result	Units	PQL	SPK Va SPK ref	%Rec L	owLimit Hi	ghLimit %RP	D RPDLimit	Qual
Method: EPA Method 8260:	Volatiles Shor	t List							
Sample ID: 5ml rb		MBLK			Batch ID:	R49807	Analysis Date:	12/23/2011 1	1:32:24 AN
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 1	2:30:38 PN
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

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded

NC Non-Chlorinated

R RPD outside accepted recovery limits

Client Name BLAGG				Date Receiv	ed:		12/16/2011	
Work Order Number 1112767	/)			Received b	y: AT		A	
/ .!	h			Sample ID	labels checked	by:	A	
Checklist completed by:		1	Det	12/16/11			Initials	
		1						
Matrix:	Carrier name	Cor	rier					
Shipping container/cooler in good condition?		Yes	~	No 🗌	Not Present			
Custody seals intact on shipping container/cod	oler?	Yes	~	No 🗌	Not Present		Not Shipped	
Custody seals intact on sample bottles?		Yes		No 🗌	N/A	V		
Chain of custody present?		Yes	V	No 🗆				
Chain of custody signed when relinquished an	d received?	Yes	V	No 🗆				
Chain of custody agrees with sample labels?		Yes	V	No 🗆				
Samples in proper container/bottle?		Yes	V	No 🗆				
Sample containers intact?		Yes	V	No 🗌				
Sufficient sample volume for indicated test?		Yes	V	No 🗆				
All samples received within holding time?		Yes	V	No 🗆				preserved
Water - VOA vials have zero headspace?	No VOA vials subr	nitted		Yes 🗹	No 🗆		bottles che pH:	cked for
Water - Preservation labels on bottle and cap	match?	Yes		No 🗆	N/A			
Water - pH acceptable upon receipt?		Yes		No 🗆	N/A		<2 >12 unle	ess noted
Container/Temp Blank temperature?		1	.9°	<6° C Accepta	ble		below.	
COMMENTS:				If given sufficien	nt time to cool.			
								4
	======	==	===	=====	====	=	=====	====
Client contacted	Date contacted:			Per	son contacted			
Contacted by:	Regarding:							
Comments:								
Comments.								
The state of the s							7	The Internal
Carried By Carried By							THE RESERVE	
				44.00				
Correction Action			_					
Corrective Action								
			_					

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

LABORATORY (S) USED: HALL ENVIRONMENTAL

UNIT D, SEC. 19, T29N, R12W

Date: February 16, 2012

DEVELOPER / SAMPLER :

NJV

Filename: 02-16-12.WK4

PROJECT MANAGER:

NJV

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pН	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	100.00	71.56	28.44	36.08	-	-	-	7.7.2	-
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 =

02/16/12

4.01/7.00/10.00 2,800 1000

DATE & TIME =

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.	

Lab Order 1202762

Date Reported: 2/29/2012

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Client Sample ID: MW #2

GCU #107 Project:

Lab ID: 1202762-001 Collection Date: 2/16/2012 11:15:00 AM 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

Matrix: AQUEOUS

Qualifiers:

Value exceeds Maximum Contaminant Level.

Value above quantitation range E

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

Spike Recovery outside accepted recovery limits

Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

Not Detected at the Reporting Limit

Reporting Detection Limit

Page 1 of 3

Lab Order 1202762

Date Reported: 2/29/2012

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

Date Analyzed
Analyst: RAA
2/24/2012 11:13:49 PM

Qualifiers:

*/X Value exceeds Maximum Contaminant Level.

- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- S Spike Recovery 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

ANALYSIS LABORATORY HALL ENVIRONMENTAL Paykey: ZPEACJDENV 4901 Hawkins NE - Albuquerque, NM 87109 Jeff Peace, 200 Energy Court, Farmington, NM 87401 Chloride (300.0) Fax 505-345-4107 www.hallenvironmental.com (AOV-imac) 07S8 Analysis Request (AOV) 80328 8081 Pesticides / 8082 PCB's Anions (F, Cl, NO3, NO2, PO4, SO4) RCRA 8 Metals Tel. 505-345-3975 Work Order: N1520121 (HAY TO ANY) OLES BILL DIRECTLY TO BP: EDB (Method 504.1) (PH (Method 418.1) TPH Method 8015B (Gas/Diesel) Remarks: BTEX + MTBE + TPH (Gas only) BTEX + MTDE + TMB's (8021B) > でものかっ 0853 TSO. Time Time HEAL No. 47 1 3/2/12 ON I Date Date **NELSON VELEZ NELSON VELEZ** GCU # 107 Preservative Rush HCI & Cool HCI & Cool Sample Temperature: . A Yes Turn-Around Time: Project Manager: 40 ml VOA - 2 Project Name: 40 ml VOA - 2 Received by: Standard Type and # Container Received by: Project #: Sampler: On Ice: Sample Request ID Level 4 (Full Validation Chain-of-Custody Record 1429 Christin Libeles MW #2 MW #3 **BLOOMFIELD, NM 87413** BLAGG ENGR. / BP AMERICA (505) 632-1199 Relinquished by: Relinquished by: P.O. BOX 87 □ Other Matrix WATER WATER Time 2530 1115 1015 Mailing Address: Time: Time: QA/QC Package: ☐ EDD (Type) email or Fax#; Accreditation: Standard O NELAP 21/17/2 Phone #: 2/16/12 2/16/12 Date Client:

Hall Environmental Analysis Laboratory, Inc.

WO#: 1202762

29-Feb-12

Client: Blagg Engineering
Project: GCU #107

Sample ID 5ML-RB		ype: ME		Tes						
Client ID: PBW		n ID: R1	10.55		RunNo: 1	2 22				
Prep Date:	Analysis D)ate: 2/	24/2012	5	SeqNo: 3	2619	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								9
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 SampT	ype: LC	s	Tes	Code: El	PA Method	8021B: Vola	tiles	711,17	
Client ID: LCSW	Batch	1D: R1	140	F	lunNo: 1	140				
Prop Date:	Analysis F	lata: 21	24/2042		oable: 2	2022	Unite: un/I			

Client ID: LCSW	Batch ID: R1140 Analysis Date: 2/24/2012			F	RunNo: 1	140				
Prep Date:				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			
Kylenes, 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			Tes						
Client ID: PBW	Batch	h ID: R1	157	F	RunNo: 1	157				
Prep Date:	Analysis D	Date: 2/	27/2012	8	SeqNo: 3	3082	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Xylenes, Total	ND	2.0							7 7 12	
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	8	SeqNo: 3	3089	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

Page 3 of 3

RL Reporting Detection Limit



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

BLAGG Work Order Number: 1202762 Client Name: 2/22/12 Received by/date: 2/22/2012 9:54:00 AM Logged By: Michelle Garcia Completed By: Michelle Garcia 2/22/2012 4:11:10 PM 00 20 12 Reviewed By: Chain of Custody 1. Were seals intact? No Not Present ✓ Not Present No 2. Is Chain of Custody complete? Yes 3. How was the sample delivered? Courier Log In NA 4. Coolers are present? (see 19. for cooler specific information) No 5. Was an attempt made to cool the samples? 6. Were all samples received at a temperature of >0° C to 6.0°C No NA No 7. Sample(s) in proper container(s)? 8 Sufficient sample volume for indicated test(s)? No 9. Are samples (except VOA and ONG) properly preserved? No 10. Was preservative added to bottles? NA No No VOA Vials V No 11. VOA vials have zero headspace? Yes 12. Were any sample containers received broken? No # of preserved 13. Does paperwork match bottle labels? No Yes bottles checked (Note discrepancies on chain of custody) for pH: (<2 or >12 unless noted) No 14. Are matrices correctly identified on Chain of Custody? Adjusted? 15. Is it clear what analyses were requested? No 16 Were all holding times able to be met? (If no, notify customer for authorization.) Checked by: Special Handling (if applicable) NA V 17. Was client notified of all discrepancies with this order? Yes No Person Notified: Date In Person By Whom: Via: eMail Phone Fax Regarding: Client Instructions: 18. Additional remarks:

19. Cooler Information

Cooler No Temp °C

1.0

Condition

Good

Seal Intact | Seal No

Seal Date

Signed By

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 :

NJV

Filename: 06-25-12.WK4

PROJECT MANAGER:

NJV

WELL	WELL	WATER	DEPTH TO	TOTAL	SAMPLING	pH	CONDUCT	TEMP.	VOLUME
#	ELEV.	ELEV.	WATER (ft)	DEPTH (ft)	TIME		(umhos)	(celcius)	PURGED (gal.)
4									
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 =

DATE & TIME =

4.01/7.00/10.00 2,800 06/23/12 0645

NOTES: Volume of water purged from well prior to sampling; $V = pi \times r2 \times h \times 7.48 \text{ gal./ft3} \times 3 \text{ (wellbores)}$. (i.e. 2" MW r = (1/12) 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.	Sun	ny	
wind speed	5 - 10	direct.	SW - WSW

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

Client Sample ID: MW#2

Collection Date: 6/25/2012 4:10:00 PM

Matrix: AQUEOUS

Analyses	Result	RL Q	ual 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 Qu	nal 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:

Value exceeds Maximum Contaminant Level.

Value above quantitation range E

J Analyte detected below quantitation limits

RPD outside accepted recovery limits

Spike Recovery outside accepted recovery limits

Analyte detected in the associated Method Blank

Holding times for preparation or analysis exceeded H

ND Not Detected at the Reporting Limit

RL Reporting Detection Limit

Samples with CalcVal < MDL

Page 1 of 2

O	hain-	sh-Jc	Chain-of-Custody Record	Turn-Around Time:	ime:				3	_	HALL ENVIDONMENT	0	2	7	1	-	
Client:	BLAG	G ENGR.	BLAGG ENGR. / BP AMERICA	Standard	□ Rush			U	Z	_	ANALYSIS LABORATORY	1	BO	2	ľ	N N	
				Project Name:					ww	.halle	www.hallenvironmental.com	nenta	al.con	_			
Mailing Address:	ddress:	P.O. BOX 87	X 8 7		GCU # 107	7	49	4901 Hawkins NE - Albuquerque, NM 87109	vkins N	E - A	pndne	rque,	MM	17109			
		BLOOM	BLOOMFIELD, NM 87413	Project #:			F	Tel. 505-	505-345-3975	175	Fax 5	505-345-4107	5-410	17			
Phone #:		(505) 632-1199	12-1199							Ana		Request	st				
email or Fax#	ax#:			Project Manager:	er.					H	(1)	H			H	-	
AA/QC Package: ✓ Standard	okage:		Level 4 (Full Validation)		NELSON VELEZ	ELEZ		(ləsəiQ/				S,83			151	9	
Accreditation:	ion:	0		Sampler:	NELSON VELEZ	ELEZ						04 Z80				lame	
□ EDD (Type)	(NDE)	- One		Sample Tempe	Temperature: # 0	IL NO					'EON	8 / sə	(AO	(0.			
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO	38TM+ X3T8 38TM + X3T8	TPH Method	TPH (Method EDB (Method	S310 (PNA or RCRA 8 Metal	Anions (F, Cl,	8081 Pesticid	V-im92) 0\\ 28	Chloride (300	squaes qeag	Grab sample 5 pt. compo	V) -~!44a -! V
6/25/12	1610	WATER	MW #2	40 ml VOA - 2	HCI & Cool	[00-						\vdash	\rightarrow		-		\rightarrow
6/25/12	1520	WATER	MW #3	40 ml VOA - 2	HCI & Cool	2000	>					+			+	>	-
												-			+		1
																\vdash	1
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												H			\vdash	H	1
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										-		+	-		+	+	-
Date: 126/12	Time:	Relinquished by	1/4	Received by:		Date Time	Remarks: Send inv	emarks: Send invoice to :							1	-	1
Date:	Time:	Relinquished by:	in Barres	Received by,	S M	Date Time 2. 86 (-71/2) 1000			Blag Blo	Blagg Engir P.O. Box 87 Bloomfield	Blagg Engineering, Inc. P.O. Box 87 Bloomfield, NM 87413	Inc. 1413					

Hall Environmental Analysis Laboratory, Inc.

WO#: 1206B70

Qual

Qual

RPDLimit

30-Jun-12

Client:

Blagg Engineering

Project:

Sample ID: 5ML RB SampType: MBLK

TestCode: EPA Method 8021B: Volatiles

Client ID: PBW Batch ID: R3770

GCU #107

RunNo: 3770

Prep Date: Analysis Date: 6/28/2012 SeqNo: 106779 Units: µg/L

TestCode: EPA Method 8021B: Volatiles

%REC LowLimit %RPD **RPDLimit** Analyte Result PQL SPK value SPK Ref Val HighLimit

Benzene ND 1.0 ND 1.0 Toluene 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

RunNo: 3770

Client ID: LCSW Batch ID: R3770 Prep Date:

Analysis Date: 6/28/2012

SeqNo: 106780

Units: µg/L

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD 21 1.0 20.00 0 106 80 120 Benzene 22 20.00 0 108 80 120 Toluene 1.0 21 107 80 Ethylbenzene 1.0 20.00 0 120 64 2.0 n 106 80 120 Xylenes, Total 60.00 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

SegNo: 106785

Units: ua/L

					array and and						
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	- 1		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 480 10 200.0 252.8 116 70.1 1.17 16.4 Benzene 118 320 10 200.0 93.78 72.3 0.551 13.9 Toluene 111 117 950 10 200.0 682.1 135 73.5 117 0.133 13.5 S Ethylbenzene 200.0 140 0 Surr: 4-Bromofluorobenzene 190 94 5 55

Qualifiers:

Value exceeds Maximum Contaminant Level. */X

Value above quantitation range

Analyte detected below quantitation limits

R RPD outside accepted recovery limits

Analyte detected in the associated Method Blank В

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Page 2 of 2 Reporting Detection Limit



Hall Environmental Analysis Laboratory 4901 Hawkins NE Halbuquerque, NM 87105 TEL: 505-345-3975 FAX: 505-345-4107

Website: www.hallenvironmental.com

Sample Log-In Check List

Work Order Number: 1206B70 Client Name: BLAGG Received by/date: Logged By: 6/27/2012 10:00:00 AM **Ashley Gallegos** 6/27/2012 5:21:05 PM Completed By: Ashley Gallegos Reviewed By: Chain of Custody Not Present ✓ No 1 Were seals intact? Yes 2. Is Chain of Custody complete? Not Present No 3. How was the sample delivered? Courier Log In NA No 4. Coolers are present? (see 19. for cooler specific information) V. No NA 5. Was an attempt made to cool the samples? NA Were all samples received at a temperature of >0° C to 6.0°C ✓ No 7. Sample(s) in proper container(s)? V. No 8. Sufficient sample volume for indicated test(s)? 9 Are samples (except VOA and ONG) properly preserved? No No V NA 10 Was preservative added to bottles? ✓ No No VOA Vials 11. VOA vials have zero headspace? Yes 12. Were any sample containers received broken? No Yes # of preserved 13 Does paperwork match bottle labels? No bottles checked (Note discrepancies on chain of custody) for pH: 14. Are matrices correctly identified on Chain of Custody? (<2 or >12 unless noted) Adjusted? No 15. Is it clear what analyses were requested? 16. Were all holding times able to be met? No (If no, notify customer for authorization.) Checked by: Special Handling (if applicable) 17. Was client notified of all discrepancies with this order? Yes No NA V 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

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT: BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY #:

N/A

GCU # 107 - SEPARATOR PIT

LABORATORY (S) USED: HALL ENVIRONMENTAL

UNIT D, SEC. 19, T29N, R12W

Date: September 26, 2012

DEVELOPER / SAMPLER :

NJV

Filename: 09-26-12.WK4

PROJECT MANAGER:

NJV

WELL	WELL	WATER	DEPTH TO	TOTAL	SAMPLING	рН	CONDUCT	TEMP.	VOLUME
#	ELEV. (ft)	ELEV. (ft)	WATER (ft)	DEPTH (ft)	TIME		(umhos)	(celcius)	PURGED (gal.)
1	100.00	71.60	28.40	36.08	-	-		ALT-	-
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 =

0920 09/24/12

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.

3:30	temp	54 F
5:30	temp	51 F
Mostly	cloudy	
0 - 10	direct.	ENE - NE
	5:30 Mostly	5:30 temp Mostly cloudy

Lab Order 1210005

Date Reported: 10/5/2012

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Client Sample ID: MW # 2

Project: GCU # 107

Collection Date: 9/26/2012 5:20:00 PM

Lab ID: 1210005-001

Matrix: AQUEOUS

Received Date: 9/29/2012 10:00:00 AM

Analyses	Result	RL Qu	al 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

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- 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
 - S Spike Recovery outside accepted recovery limits 1 of 4

Lab Order 1210005

Date Reported: 10/5/2012

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Client Sample ID: MW # 3

GCU # 107 Project:

Collection Date: 9/26/2012 4:30:00 PM

1210005-002 Lab ID:

Matrix: AQUEOUS

Received Date: 9/29/2012 10:00:00 AM

Analyses	Result	RL Qu	al 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

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- Analyte detected below quantitation limits J
- Sample pH greater than 2
- RL Reporting Detection Limit

- 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
 - Spike Recovery outside accepted recovery limits 2 of 4

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	Rush		GCU # 107				NELSON VELEZ	NELSON VELEZ		29	Preservative Type	Cool		Cool								B	
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AIG	Standard	S S		# to		₩ Sct M		pler:	ъ.	ole T	Container Type and #	0/10		40 ml VOA - 2							ved by	and a	B W
I urn-Arouna i ime	5	Project Name		Project #:		Project Manager:		Sampler:	On Ice;	Sample Temperature:	Cont	40 ml V		40 m							Received by:	Showster	- Gee
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po	BP /		37	ID,	119		Leve		ł		Sar										3	3	Ished by:
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Chain-of-Custody Record	BLAGG ENGR. / BP AMERICA		Α.	18	(5		-					3	+	3		-				-		_	S.
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ha			Mailing Address:			email or Fax#:	QA/QC Package:	tion:	0	□ EDD (Type)	-	н		-		-							F -
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	Client:		Mail		Phone #:	ema	DAG D	Accr	Z		ă	3/5	1	9/2							Date:	92/	9 28 12

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

Units: %REC

Prep Date:

Analysis Date: 10/1/2012

SeqNo: 169940

Analyte

Result PQL SPK value SPK Ref Val

Surr: BFB

%REC LowLimit 84.0

HighLimit

RPDLimit Qual

17

20.00

119

Sample ID 2.5UG GRO LCS

SampType: LCS

TestCode: EPA Method 8015B: Gasoline Range

LCSW Client ID:

Batch ID: R5899

RunNo: 5899

Prep Date:

SeqNo: 169941

Units: %REC

Analysis Date: 10/1/2012 PQL

SPK value SPK Ref Val %REC LowLimit HighLimit

Qual

Analyte

98.8

%RPD

Surr: BFB

20.00

119

%RPD

20

69.8

69.8

RPDLimit

- Value exceeds Maximum Contaminant Level.
- Value above quantitation range E
- Analyte detected below quantitation limits
- Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded H Not Detected at the Reporting Limit ND
- Page 3 of 4
- RPD outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

17

WO#: 1210005

05-Oct-12

Client: Blagg Engineering
Project: GCU # 107

Surr: 4-Bromofluorobenzene

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 ND Ethylbenzene 1.0

 Xylenes, Total
 ND
 2.0

 Surr: 4-Bromofluorobenzene
 16
 20.00
 80.2
 69.7
 152

20.00

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 80 Benzene 20 1.0 20.00 0 100 120 Toluene 21 1.0 20.00 0 105 80 120 Ethylbenzene 22 1.0 20.00 0 108 80 120 2.0 60.00 0 109 80 Xylenes, Total 65 120

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

Page 4 of 4



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87105

TEL: 505-345-3975 FAX: 505-345-410', Website: www.hallenvironmental.com

Sample Log-In Check List

Clie	nt Name:	BLAGG		/	/ v	Vork Or	der I	Num	ber:	1210005	
Rec	eived by/date	: At		09/29	12						
Log	ged By:	Lindsay Ma	angin	9/29/201	2 10:00:00 AM	Λ			0	411140	
Con	npleted By:	Lindsay Ma	angin	10/1/201	2 5:02:09 AM				0	44160	
Rev	iewed By:	A =	Κ	101	01/12						
Cha	in of Cust	ody	1	,	4						
1.	Were seals i	ntact?				Yes		No		Not Present ✓	
2.	Is Chain of C	Custody comp	olete?			Yes	V	No		Not Present	
3.	How was the	sample deli	vered?			Cour	ier				
Log	<u>In</u>										
4.	Coolers are	present? (see	19. for coole	er specific infor	mation)	Yes	V	No		NA 🗆	
5.	Was an atter	mpt made to	cool the samp	ples?		Yes	V	No		NA 🗆	
6.	Were all sam	nples receive	d at a temper	ature of >0° C	to 6.0°C	Yes	V	No		NA 🗆	
7.	Sample(s) in	proper conta	ainer(s)?			Yes	V	No			
8.	Sufficient sar	mple volume	for indicated	test(s)?		Yes	V	No			
9.	Are samples	(except VOA	and ONG) p	roperly preserv	ved?	Yes	V	No			
10.	Was preserv	ative added t	o bottles?			Yes		No	V	NA 🗆	
11.	VOA vials ha	ive zero head	ispace?			Yes	V	No		No VOA Vials	
12.	Were any sa	mple contain	ers received t	proken?		Yes		No	V		
13.	Does paperw (Note discrep			y)		Yes	V	No		# of preserved bottles checke for pH:	
14.	Are matrices	correctly ide	ntified on Cha	in of Custody?	100	Yes	V	No			(<2 or >12 unless noted)
15.	Is it clear who	at analyses w	vere requeste	d?		Yes	V	No		Adjusted	1?
16.	Were all hold (If no, notify of	The state of the s)		Yes	V	No		Checked	by:
Spe	cial Handl	ing (if app	licable)								
17.	Was client no	otified of all d	iscrepancies	with this order	?	Yes		No		NA 🗹	
	By Who				Date: Via: [eMa	il [Ph	none	☐ Fax ☐ In Perso	n
18.	Additional re	marks:									
19.	Cooler Infor	Temp °C	Condition	Seal Intact	Seal No S	Seal Da	te		Sign	ed 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 :

NJV

Filename: 11-28-12.WK4

PROJECT MANAGER:

NJV

WELL	WELL	WATER	DEPTH TO	TOTAL	SAMPLING	рН	CONDUCT	TEMP.	VOLUME
#	ELEV.	ELEV.	WATER	DEPTH	TIME		(umhos)	(celcius)	PURGED
	(ft)	(ft)	(ft)	(ft)					(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.	Sun	iny	
wind speed	0 - 5	direct.	ESE

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

Received Date: 11/29/2012 10:00:00 AM

Analyses	Result	RL Qu	al 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

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- 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
 - S Spike Recovery outside accepted recovery limits 1 of 3

Lab Order 1211A59

Date Reported: 12/6/2012

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 Da

Received Date: 11/29/2012 10:00:00 AM

Analyses	Result	RL Qu	al 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

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- 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
- S Spike Recovery outside accepted recovery limits 2 of 3

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HALL ENVIRONMENTAL	ANALYSIS LABORATORY								Э	Grab sampl	>	>										
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5	S	onn	iner	Fax 505-345-4107	is Re	140				Anions (F, Cl,			\vdash	-		-			-		min.	m B
2	S	www.hallenvironmental.com	Albuquerque, NM 87109	Fa	Analysis Request	IN	os voa	CON E	_	RCRA 8 Meta						-			-		Jeff Peace, 200 Energy Court, Farmington, NM 87401	Find Purchase Order in email from BP.
		halle		15	An	-		(н		6310 (PNA o			H	+					+		Cour	ema
-	1	WW.	4901 Hawkins NE -	Tel. 505-345-3975		-				EDB (Method				+					+	BP:	ergy	erin
I	<	3	wkin	-345						TPH (Method		-		+						70	O En	Po o
	1		1 Ha	505	Н		(ləsəiU)			TPH Method				+		+	+		+	ECTL	e, 20	hase
			490	Tel.						BTEX + MTB									- ks	BILL DIRECTLY TO BP:	Peac	Pur
							200			BTEX + MTB	>	>		_					Remarks:	BILL	Jeff	Find
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	Rush	34	GCU # 107				NELSON VELEZ	NELSON VELEZ		Preservative Type	Coo	000								لم		11/29
	R		S			1	LSC	LSC	Ire:	Type	HCI & Cool	HCI & Cool								0		=
ime		13	9			er:	Z	NELSC A Yes	rati	Pre	Ŧ	Ī								3		
Ind	ard	Name:				Manager			dui	# # p	4-2	OA-2								13		0
Aron	tand	ž		# #				ler:	le Te	Container Type and #	100	VO/							ed by:	190	ed by:	1
Turn-Around Time:	Standard	Project !		Project #:		Project		Sampler On ree	Sample Temperature:	Ty G	40 ml VOA - 2	40 ml V						1	Received	Markey	Received	M
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							Level 4 (Full Validation)			Sample Request ID												Socian
DIG						П	alida		1	ane	7	m										9
900	ICA			BLOOMFIELD, NM 87413			7			Rec	MW#2	MW#3							1	. 1	Va.	2
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Ö	NGR		P.O. BOX 87	NOC	(505) 632-1199			□ Other		Matrix	WATER	WATER							Relinquished by	R	Relinquished by:	Innette
of-(BLAGG ENGR. / BP AMERICA		P.C	BL	(50					ž	×	×							Relir		Reli	2
n-C	LAG		:5:				ài			Time	1420	1325								1500		0
Chain-of-Custody Record	B		dre		1	ax#:	skage	ion:	ype)	Ē	14	13						N.	Time:	T	Time:	8
Ö	,:		JB AC		#	or F	QC Packa Standard	creditati	EDD (Type)	e	3/12	1/12								1/2		7
	Client:	188	Mailing Address:		hone #:	email or Fax#:	AA/QC Package: ✓ Standard	Accreditation:] EC	Date	11/28/12	11/28/12							Date:	138	Safe:	128/12

Hall Environmental Analysis Laboratory, Inc.

WO#: 1211A59

06-Dec-12

Client:

Blagg Engineering

Project:

GCU #107

Sample ID 5ML RB	SampT	ype: ME	BLK	Tes	tCode: E	PA Method	8021B: Volat	iles			
Client ID: PBW	Batcl	n ID: R7	230	F	RunNo: 7	230					
Prep Date:	Analysis Date: 11/30/2012		5	SeqNo: 2	09612	Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	ND	1.0								R*	
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 LC	S Samp	SampType: LCS TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSW	Batcl	n ID: R7	230	F	RunNo: 7	230				
Prep Date:	Analysis D)ate: 11	1/30/2012	\$	SeqNo: 2	09613	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

Page 3 of 3



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87105

TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

Sample Log-In Check List

Work Order Number: 1211A59 BLAGG Client Name: Received by/date 11/29/2012 10:00:00 AM Logged By: Ashley Gallegos 11/29/2012 5:32:43 PM Completed By: **Ashley Gallegos** Reviewed By: Chain of Custody Not Present ✔ Yes No 1. Were seals intact? Yes V. No Not Present 2. Is Chain of Custody complete? 3. How was the sample delivered? Courier Log In NA 4. Coolers are present? (see 19. for cooler specific information) Yes V No Yes V No NA 5. Was an attempt made to cool the samples? Yes V No NA 6. Were all samples received at a temperature of >0° C to 6.0°C ✓ No 7. Sample(s) in proper container(s)? ✓ No 8. Sufficient sample volume for indicated test(s)? 9. Are samples (except VOA and ONG) properly preserved? ✓ No No NA 10. Was preservative added to bottles? V No No VOA Vials 11. VOA vials have zero headspace? No 12. Were any sample containers received broken? # of preserved 13. Does paperwork match bottle labels? V: No Yes bottles checked (Note discrepancies on chain of custody) for pH: V No (<2 or >12 unless noted) 14. Are matrices correctly identified on Chain of Custody? Adjusted? ✓ No 15 Is it clear what analyses were requested? Yes V No 16. Were all holding times able to be met? (If no, notify customer for authorization.) Checked by: Special Handling (if applicable) Yes | No NA V 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:

Seal Intact | Seal No

Signed By

19. Cooler Information

Cooler No Temp °C Condition

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 :

NJV

Filename: 02-27-13.WK4

PROJECT MANAGER:

NJV

WELL	WELL	WATER	DEPTH TO	TOTAL	SAMPLING	pН	CONDUCT	TEMP.	VOLUME
#	ELEV. (ft)	ELEV. (ft)	WATER (ft)	DEPTH (ft)	TIME		(umhos)	(celcius)	PURGED (gal.)
1	100.00	71.82	28.18	36.08	-		-	10 A 10	-
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 =

DATE & TIME =

NOTES: Volume of water purged from well prior to sampling; V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores).

4.01/7.00/10.00 2,800 1500 02/24/13

(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.	Sur	nny	
wind speed	0 - 5	direct.	sw

Lab Order 1303142

Date Reported: 3/7/2013

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

1303142-001

Client Sample ID: MW #2

Project: GCU #107

Lab ID:

Collection Date: 2/27/2013 1:40:00 PM

Matrix: AQUEOUS

Received Date: 3/5/2013 9:55:00 AM

Analyses	Result	RL Qu	al 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

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- 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
- S Spike Recovery outside accepted recovery limits 1 of 2

Air Bubblor IV or All **ANALYSIS LABORATORY** 5 pt. composite sample HALL ENVIRONMENTAL Grab sample > 4901 Hawkins NE - Albuquerque, NM 87109 Jeff Peace, 200 Energy Court, Farmington, NM 87401 Chloride (300.0) Tel. 505-345-3975 Fax 505-345-4107 www.hallenvironmental.com (AOV-imac) 07S8 Analysis Request (AOV) 80628 8081 Pesticides / 8082 PCB's Find Purchase Order in email from BP. Anions (F, Cl, NO3, NO2, PO4, SO4) RCRA 8 Metals (HA9 10 AN9) OIE8 BILL DIRECTLY TO 8P: EDB (Method 504.1) TPH (Method 418.1) TPH Method 8015B (Gas/Diesel) Remarks: BTEX + MTBE + TPH (Gas only) BIEX + MIDE + IMD? (8021B) 26 00 HEAL NO: 7 5 Time Time 3/4/13 NO **NELSON VELEZ NELSON VELEZ** GCU # 107 Preservative Rush HCI & Cool Sample Temperature: A Yes Turn-Around Time: Project Manager Received by: 40 ml VOA - 2 Project Name: Standard
 Standard Type and # Container Received by: Project #: Sampler: On Ice: Sample Request ID Level 4 (Full Validation) Chain-of-Custody Record MW # 2 **BLOOMFIELD, NM 87413** BLAGG ENGR. / BP AMERICA town t (505) 632-1199 Relinquished by: Relinquished by: P.O. BOX 87 □ Other Matrix WATER 220 Time 1340 Mailing Address: 5 QA/QC Package: Time: ☐ EDD (Type) email or Fax#: Accreditation: Standard O NELAP Phone #: 2/27/13 Date Client: 7

Hall Environmental Analysis Laboratory, Inc.

WO#:

1303142 07-Mar-13

Client:

Blagg Engineering

Project:

GCU #107

Sample ID: 5ML RB	Samp	Гуре: МЕ	BLK	Tes	tCode: E	PA Method	8021B: Volat	iles		
Client ID: PBW	Batc	h ID: R8	983	F	RunNo: 8	983				
Prep Date:	Analysis [Date: 3/	5/2013	5	SeqNo: 2	56581	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0							7	
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	SampT	ype: LC	S	Tes	tCode: El	PA Method	8021B: Volat	tiles		
Client ID: LCSW	Batcl	n ID: R8	983	F	RunNo: 8	983				
Prep Date:	Analysis D	Date: 3/	5/2013	5	SeqNo: 2	56582	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

RPD outside accepted recovery limits

- ND Not Detected at the Reporting Limit
- Page 2 of 2



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87105

TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

Sample Log-In Check List

Clie	nt Name: BLAGG		Work Ord	ler N	umt	oer:	13031	42	•
Rec	eived by/date: AT 03	3/04/13							
Logg	ged By: Anne Thorne	3/5/2013 9:55:00 AN	И			an	A.		
Con	npleted By: Anne Thome	3/5/2013				De	A.		
Rev	riewed By: MA	02/05/13				Clari	4 /		
Cha	nin of Custody	- VAIVIII							7
	Were seals intact?		Yes	П	No		Not	Present 🗸	
	Is Chain of Custody complete	2			No			Present	
	How was the sample delivered		Couri						
Log	ıIn								
		for cooler specific information)	Yes	V	No			NA 🗆	
5.	Was an attempt made to cool	the samples?	Yes	V	No			NA 🗆	
6.	Were all samples received at	a temperature of >0° C to 6.0°C	Yes	V	No			NA 🗆	
7.	Sample(s) in proper container	(s)?	Yes	V	No			-	
8.	Sufficient sample volume for in		Yes	V	No				
9.	Are samples (except VOA and		Yes	~	No				
77.	Was preservative added to bo		Yes		No	V		NA 🗌	
11.	VOA vials have zero headspar	ce?	Yes	~	No		No V	OA Vials	
20.53	Were any sample containers r		Yes		No	~	Г		
13.	Does paperwork match bottle (Note discrepancies on chain		Yes	V	No			# of preserved bottles checked for pH:	
14.	Are matrices correctly identifie	d on Chain of Custody?	Yes	V	No				or >12 unless noted)
15.	Is it clear what analyses were	requested?	Yes		No			Adjusted?	A STATE OF THE STA
16.	Were all holding times able to (If no, notify customer for auth		Yes	V	No			Checked by:	
Spe	cial Handling (if applica	able)					L		
17.	Was client notified of all discre	epancies with this order?	Yes		No			NA 🗹	
	Person Notified: By Whom: Regarding: Client Instructions:	Date Via:	eMail] Pł	none	☐ Fa	ax In Person	
18.	Additional remarks:								
19.	Cooler Information Cooler No Temp °C C	ondition Seal Intact Seal No	Seal Dat	e		Signe	ed By	T	
	1 1.0 Go					J. /	,	- 1 1 X	

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 :

NJV

Filename: 05-31-13.WK4

PROJECT MANAGER:

NJV

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pН	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 =

DATE & TIME =

4.01/7.00/10.00 2,800 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.	Suni	ny	
wind speed	5 - 15	direct.	W

Lab Order 1306210

Date Reported: 6/13/2013

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Client Sample ID: MW #2

Project: GCU #107

Collection Date: 5/31/2013 12:00:00 PM

Lab ID: 1306210-001

Matrix: AQUEOUS 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.

- * 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

Lab Order 1306210

Date Reported: 6/13/2013

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Client Sample ID: MW #3

Project: GCU #107

Collection Date: 5/31/2013 11:00:00 AM

Lab ID: 1306210-002

Matrix: AQUEOUS Received Date: 6/5/2013 10:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES				703	Analys	t: NSB
Benzene	ND	1.0	μg/L	1	6/7/2013 6:39:35 PM	R1117
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.
- 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

Page 2 of 3

- P Sample pH greater than 2 for VOA and TOC only
- RL Reporting Detection Limit

ANALYSIS LABORATORY 2 pt. composite sample HALL ENVIRONMENTAL his nossibility. Any sub-contracted data will he clearly notated on the analytical renort Grab sample > > 4901 Hawkins NE - Albuquerque, NM 87109 Jeff Peace, 200 Energy Court, Farmington, NM 87401 Fax 505-345-4107 www.hallenvironmental.com Nitrate N / Nitrite N **Analysis Request** Iron, Ferrous (filtered) Find Purchase Order in email from BP. Total Dissolved Solids Anions (F,Cl,NO3,NO2,PO4,SO4) RCRA 8 Metals Tel. 505-345-3975 (2MI20\(\sigma \) 10 OIE8) HA9 BILL DIRECTLY TO BP: EDB (Method 504.1) TPH (Method 418.1) TPH 8015B (GRO / DRO / MRO) Remarks: BTEX + MTBE + TPH (Gas only) TMB (8021B) > BTEX + MTBE A13 120 2007 000 126 Time HEAL NO WHB C **NELSON VELEZ NELSON VELEZ** GCU # 107 Preservative Rush HCI & Cool HCI & Cool Туре N Yes Sample Temperature: I urn-Around 11me: Project Manager: Standard Project Name: Muster 40 ml VOA - 2 40 ml VOA - 2 Type and # Container Received by: Received by Project #: Sampler: On Ice: Sample Request ID Level 4 (Full Validation) Chain-of-Custody Record Whater Worker **MW#3 BLOOMFIELD, NM 87413** BLAGG ENGR. / BP AMERICA (505) 632-1199 Relinquished by Relinquished by: P.O. BOX 87 □ Other Matrix WATER WATER 1730 Time 1200 1100 Mailing Address: 424 QA/QC Package: Time: □ EDD (Type) email or Fax# Accreditation: ✓ Standard O NELAP Phone #: 5/31/13 5/31/13 4/13 Date Client: 64 13 Date:

Hall Environmental Analysis Laboratory, Inc.

WO#: 1306210

13-Jun-13

Client:

Blagg Engineering

Duningto

GCII#107

Sample ID 5ML RB SampType: MBLK				TestCode: EPA Method 8021B: Volatiles										
Client ID:	PBW	Batch ID: R11177			F	RunNo: 11177								
Prep Date:		Analysis Da	ate: 6/	7/2013		SeqNo: 3	15996	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-Brom	ofluorobenzene	18		20.00	the girls of	91.4	69.4	129	1.1	100				
Sample ID 100NG BTEX LCS SampType: LCS					Tes	TestCode: EPA Method 8021B: Volatiles								
Client ID:	LCSW	Batch ID: R11177			F	RunNo: 1	1177							
Prep Date:		Analysis Da	ate: 6	7/2013		SeqNo: 3	15997	Units: µg/L						
rep Date.		raidiyaia De	. 0/	1/2013		ocqivo.	10001	Olito. pg/L						
Analyte		Result	PQL	- The state of the	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						
Kylenes, Total		57	2.0	60.00	0	95.3	80	120						
Surr: 4-Brome	ofluorobenzene	19		20.00		94.2	69.4	129						
Sample ID 5ML RB SampType: MBLK				Tes	TestCode: EPA Method 8021B: Volatiles									
Client ID:	PBW	Batch	ID: R1	1218	F	RunNo: 1	1218							
Prep Date:		Analysis Da	ate: 6/	11/2013	\$	SeqNo: 3	17557	Units: µg/L						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual			
Xylenes, Total		ND	2.0											
Tylenes, rotal	ofluorobenzene	18		20.00		88.4	69.4	129		F2 17				
	Olid Or OD OLIZOTTO													
Surr: 4-Brom	100NG BTEX LCS	SampTy	rpe: LC	s	Tes	tCode: E	PA Method	8021B: Volat	les					
Surr: 4-Brom	100NG BTEX LCS		rpe: LC			tCode: E	a mak offer and a sector	8021B: Volat	les	7 (8)				

Qualifiers:

Analyte

Xylenes, Total

Surr: 4-Bromofluorobenzene

Value exceeds Maximum Contaminant Level.

Result

52

18

PQL

2.0

SPK value SPK Ref Val

60.00

20.00

- Value above quantitation range E
- Analyte detected below quantitation limits
- RSD is greater than RSDlimit 0
- RPD outside accepted recovery limits

- Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

%REC

0

87.0

87.6

LowLimit

80

69.4

HighLimit

120

129

%RPD

RPDLimit

Qual

- Sample pH greater than 2 for VOA and TOC only. P
- Reporting Detection Limit

Page 3 of 3



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87105

TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

Sample Log-In Check List

Client	Name: BLA	GG			Order Number	: 13062	210			RcptNo:	1
Receiv	red by/date:	mo	1	105	13						
Logged	d By: An	ne Thorn)	6/5/2013	10:00:00 AN	ı		ann	An		
Comple	eted By: An	ne Thorn	Ð	6/5/2013	1			an	1		İ
Review	ved By:	1	2	Diolr	5/12			0			
Chain	of Custody	1	O	00							
1. Cu	stody seals into	act on san	nple bottles?			Yes		No		Not Present ☑	
2. Is	Chain of Custon	dy comple	te?			Yes	v	No		Not Present	
3. Ho	w was the sam	ple delive	red?			Cour	ier				
Log I	<u>n</u>										
4. w	as an attempt r	made to co	ool the samp	les?		Yes	V	No		NA 🗆	
5. W	ere all samples	received	at a tempera	ture of >0° C	to 6.0°C	Yes	V	No		NA 🗆	
6. Sa	imple(s) in prop	oer contain	ner(s)?			Yes	V	No			
7. Su	fficient sample	volume fo	or indicated to	est(s)?		Yes	V	No			
8. Are	e samples (exc	ept VOA a	ind ONG) pro	perly preserve	ed?	Yes-	V	No.		***	
9. Wa	as preservative	added to	bottles?			Yes		No	Y	NA 🗆	
10.vo	A vials have ze	ero heads	pace?			Yes	V	No		No VOA Vials	
11. W	ere any sample	containe	rs received b	roken?		Yes		No	V		
										# of preserved bottles checked	
	es paperwork r					Yes	V	No		for pH:	or >12 unless noted)
	ote discrepanci e matrices corre					Yes	~	No		Adjusted?	
100	it clear what an						V	No			
15.W	ere all holding to	imes able	to be met?			100	V	No		Checked by:	•
(11)	no, noury custo	mor for a	autorization.)								
Speci	al Handling	(if appl	icable)								
16.W	as client notified	d of all dis	crepancies v	vith this order?		Yes		No		NA ☑	a sector of the
	Person Noti	fied:			Date:	tractation to the		- 5 CUAT, SPAIN SPENIA	-		
	By Whom:				Via:	eMa	il 🗌	Phone	Fax	☐ In Person	
	Regarding:		- Control parent stream	the and the transfer and	etinen en i en 1 augustus etter	fante, a allested		V-188-8-3-3-3-1-1-1-8	rattur-tu-	aundidations re-a-stanges	
	Client Instru	ictions:	a' so diambilitarida sub Misson		C. C. C. Land Mark Spirit Spirit Spirit		MARK PT TO THE	emiliation value	Minde Mines on	and distance 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
17. A	dditional remark	ks:									
18. <u>C</u>	ooler Informat	ion					0191-0294				
5	Cooler No 17	Temp °C			Seal No	Seal Da	te	Signed I	Ву		
[1 1.	0	Good	Yes							