Fields, Vanessa, EMNRD pWCO03106395333

From: Fields, Vanessa, EMNRD
Sent: Thursday, November 29, 2018 7:59 AM
To: Steven Moskal
Cc: Blagg, Jefferey; Vance Hixon; 'blagg_njv@yahoo.com'; Jody Gonzales
Subject: RE: GCU 169 Auger Plan

Good morning Steve,

Thank you for the follow-up email. What you have stated is correct per our phone conversation.

Thank you,

Vanessa Fields
Environmental Specialist
Oil Conservation Division
Energy, Minerals, & Natural Resources
1000 Rio Brazos, Aztec, NM 87410
(505)334-6178 ext 119
Cell: (505) 419-0463
vanessa.fields@state.nm.us

From: Steven Moskal <Steven.Moskal@BPX.COM>
Sent: Thursday, November 29, 2018 7:54 AM
To: Fields, Vanessa, EMNRD <Vanessa.Fields@state.nm.us>
Cc: Blagg, Jefferey <jeffcblagg@aol.com>; Vance Hixon <VANCE.HIXON@BPX.COM>; 'blagg_njv@yahoo.com' <blagg_njv@yahoo.com>; Jody Gonzales <JODY.GONZALES@BPX.COM>
Subject: [EXT] GCU 169 Auger Plan

Vanessa,

As discussed, BPX will plan to hand auger three locations within the footprint of the former BGT a depth of the bottom of the tank or at the groundwater interface. These three samples will be composited and submitted for lab analysis to determine if closure is achieved.

A groundwater sample will also be collected from the monitor well in the pit area, MW-6, if I remember correctly.

This work will be scheduled and we will notify the NMOCD within 48 hours or proceeding.

Thank you,

Steve Moskal
BPX Energy - WBU
Field Environmental Coordinator

bpx energy

BPX Energy
1199 Main Ave. Suite 101
Durango, CO 81301

November 1, 2018

Attention: Environmental Specialists
New Mexico Oil Conservation Division
1000 Rio Brazos Road
Aztec, NM 87410

Re: Gallegos Canyon Unit 169 Groundwater Closure Request
(I) Sec 35 – T29N – R12W, San Juan County
API #30-045-07670
3RP – 393

BPX Energy is requesting closure of the subject groundwater monitoring site based on the contents of the attached report. The report documents historical impacts, delineation activities and finding and subsequent groundwater monitoring at the site. Following BP's Groundwater Management Plan, BP believes the site qualifies for closure, meeting 4 consecutive quarters of water quality data below the regulatory standards for analyzed constituents of concern.

If you have any questions or concerns, please contact me at (505) 330-9179 or at Steven.Moskal@bpx.com.

Sincerely,

Steve Moskal
Field Environmental Coordinator

Groundwater
Closure Report

GCU 169

(I) Sec 35 – T29N – R12W
API: 30-045-07670
San Juan County, New Mexico

3RP-393

Prepared for:
BP America Production Co.
Farmington, New Mexico

Prepared by:
Blagg Engineering, Inc.
P.O. Box 87
Bloomfield, New Mexico 87413
(505)320-1183

October 31, 2018

GROUNDWATER
CLOSURE REPORT

GCU 169

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Appendix E: 1996 Pit Closures and 2003 BGT Closure Documentation

GROUNDWATER MONITORING
CLOSURE REPORT
GCU 169

INTRODUCTION

Blagg Engineering Inc. (BEI) has been retained by BP America Production Co. (BP) to conduct groundwater monitoring at the GCU 169, located in rural San Juan County, New Mexico at (I) Sec. 35 – T29N – R12W (Appendix A: Figures 1 and 2). The purpose of this monitoring has been to evaluate groundwater quality following replacement of a steel separator below grade tank (BGT) in February, 2003. A groundwater sample collected immediately below the BGT detected hydrocarbons in excess of New Mexico Oil Conservation Division NMOCD) standards. Investigation and remediation of the discovery was pursuant to BP's "Groundwater Management Plan" (GMP), as directed by the NMOCD.

Previous impacts at the GCU 169 included (1) and unlined blow pit, and (2) an unlined separator pit. Both were remediated via excavation in February, 1996. There were no groundwater monitor wells installed immediately following the 1996 pit remediations.

Groundwater monitor wells to evaluate water quality at the prior site impact areas were installed in September, 2011. Quarterly water sampling pursuant to the GMP was conducted beginning in October, 2011 and completed in September, 2017 when all requirements of the GMP had been achieved. Included herein is the analytical data confirming that requirements of the BP GMP have been met.

The initial 2003 pit closure report and the 1996 unlined pit remediation closure reports, all submitted to NMOCD, are included in Appendix E for reference.

SAMPLING PROCEDURES

Drilling positions for monitor wells MW-1 through MW-6 were determined based on the locations of the previously remediated unlined pits, the replaced separator steel pit and the anticipated groundwater gradient (Appendix A: Figure 3). The wells were strategically placed within, up-gradient and down-gradient of excavated areas.

Drilling operations were completed between September 26 – 27, 2011 by Kyvek Energy Services using a CME-75 hollow stem auger rig equipped with 5-foot long x 7-3/4 inch outside diameter, 4-inch inside diameter auger. While drilling soil samples were collected using a 2-inch diameter split spoon sampler and from drill cuttings. The wells were advanced to a total depth of between 19' – 20' below ground surface (Appendix C: Boring Logs).

Well completions consisted of a 15-foot long slotted screened section with riser extending to surface grade. The piping used for completion of the wells was a schedule 40 PVC with threaded connections. The annulus of the screened section was sand packed with washed graded silica 10/20 mesh from boring total depth (TD) to approximately 2 feet above the top screen slot. Hydrated bentonite/grout mix was placed immediately above the sand pack, with a concrete mix at the ground surface. The well tops were secured with a steel, secured well protector, concreted into place and locked.

APPENDIX A

Figures

Figure 1

BP - GCU #169

Legend

- RIVERS
- LAKES
- SJC Road Status
- Major Roads
- Private
- County Maintained
- Limited County Maintained
- City
- Oil and Gas roads
- ROADS
- SAN JUAN COUNTY
- NAVAJO RESERVATION
- PARCELS
- 2009 aerials

0 75 150 225 m.

Map center: 36° 40' 55.2" N, 108° 3' 48.8" W

Scale: 1:2,500

This map is a user generated static output from an Internet mapping site and is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. THIS MAP IS NOT TO BE USED FOR NAVIGATION.

Notes: Unit I, Sec. 35, T29N, R12W, San Juan County, NM

GCU169 parcel map 06-13-10

APPENDIX B

Laboratory Analytical Data Summary Spreadsheet

BP AMERICA PRODUCTION COMPANY

GROUNDWATER FIELD DATA & LAB BTEX RESULTS

GCU # 169 - BLOW & SEP. PITS
UNIT I, SEC. 35, T29N, R12W

Revised Date: October 31, 2018
Submitted by Blagg Engineering, Inc.

SAMPLE DATE	WELL NAME /NUMBER	Fluoride (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Nitrate-N (mg/L)	Iron (mg/L)	TDS (mg/L)
05/29/13	MW #1	0.36	9.2	170	4.2	0.037	646
05/29/13	MW #2	0.37	14	270	3.0	0.042	840
05/29/13	MW #3	0.31	17	200	ND	ND	814
05/29/13	MW #4	0.35	9.7	160	3.3	ND	672
05/29/13	MW #5	0.40	14	140	ND	1.2	715
05/29/13	MW #6	0.45	10	48	ND	0.60	545
NMWQCC GROUNDWATER STANDARDS		1.60	250	600	10	1.0	1,000

NOTES :

1) RESULTS IN BOLD RED TYPE INDICATE EXCEEDING NMWQCC STANDARDS .
2) RESULTS IN BOLD BLUE TYPE INDICATE BELOW NMWQCC STANDARDS AFTER PREVIOUS RESULTS IN BOLD RED TYPE EXCEEDED .
3) NMWQCC - New Mexico Water Quality Control Commission.
4) TDS - Total Dissolved Solids
5) mg/L - Milligrams per liter
6) Conduct. - Conductivity
7) µmhos - Micro-ohms
8) pH NMWQCC standards range between 6 -9
9) µg/L - Micrograms per liter
10) NA - Not available or not applicable
11) ND - Indicates not detected at the reporting limits (less than regulatory standards of at least a magnitude of 10) .
12) LP AGT - Low profile above-grade tank (used for source level purposes).

APPENDIX C

Boring Logs

The wells were initially developed on October 27, 2011 by using a new, dedicated disposable pump and tubing to recover water from each well until stable parameters (pH, conductivity and temperature) were achieved. The wells were initially sampled by hand bailing using a new, dedicated disposable bailer until stable parameters were achieved on October 28, 2011. Samples were placed into laboratory supplied containers with appropriate preservatives, labeled, placed on ice in an ice chest, then express delivered to a Pace Laboratories in Lenexa, Kansas with chain-of-custody documentation. Laboratory samples were analyzed via U.S EPA Method 8260 for volatile organic compounds.

Subsequent quarterly samples were collected using the same procedures as the first sample event, with the exception that samples were hand delivered to a representative of Hall Analytical Laboratories for subsequent analytical testing. General water chemistry parameters were tested on samples collected May 29, 2013.

FINDINGS

Initial analytical test results (Appendix B: Summary Water Quality Analytical Data Spreadsheet) on the water samples collect on May 28, 2011 determined that only well MW-6 indicated subsequent quarterly sampling would be required as stipulated in the BP GMP. Analytical results on MW-6 reported that only the constituent xylene exceeded regulatory standards. Subsequent quarterly test results indicated a fluctuation in xylene concentration over time but with a general overall decrease. The required four (4) consecutive quarters testing below regulatory standards for xylenes was achieved on the September 6, 2017 sample event. Down-gradient monitor well MW-3 was sampled on eight (8) separate occasions to demonstrate that no impacts were migrating off site.

All wells passed general water chemistry parameters on the May 29, 2013 sample event and pursuant to the BP GMP subsequent sampling was not required. All laboratory analytical reports are included in Appendix D.

REMEDIATION CLOSURE

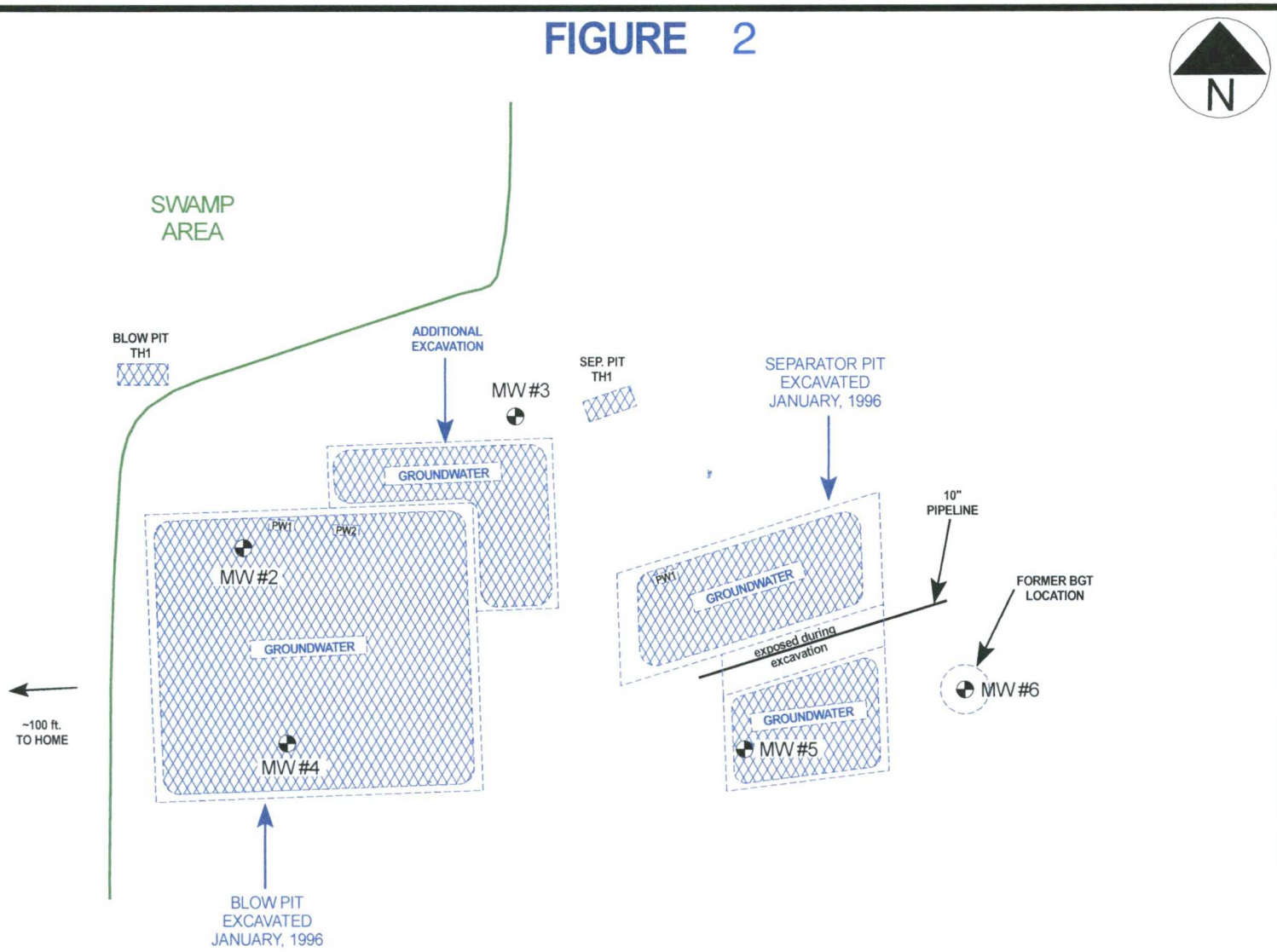
The laboratory analytical results of groundwater indicate that site closure of groundwater impacts has been achieved at all monitor well locations. It is Blagg Engineering, Inc's opinion that monitor wells are sufficiently placed to quantify remaining on-site, down-gradient and up-gradient residual water quality. It is possible that monitor wells placed at other locations could result in differing analytical results.

It is Blagg Engineering, Inc's professional opinion that the sampling and analytical testing conducted has been sufficient to determine that no groundwater impacts exceeding site closure standards for petroleum hydrocarbons remain at any monitor well points. There is no indication that additional site investigations are necessary, and closure is recommended.

Blagg Engineering, Inc.

Jeffrey C. Blagg, P.E.
President

FIGURE 2



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

0 40 80 FT.

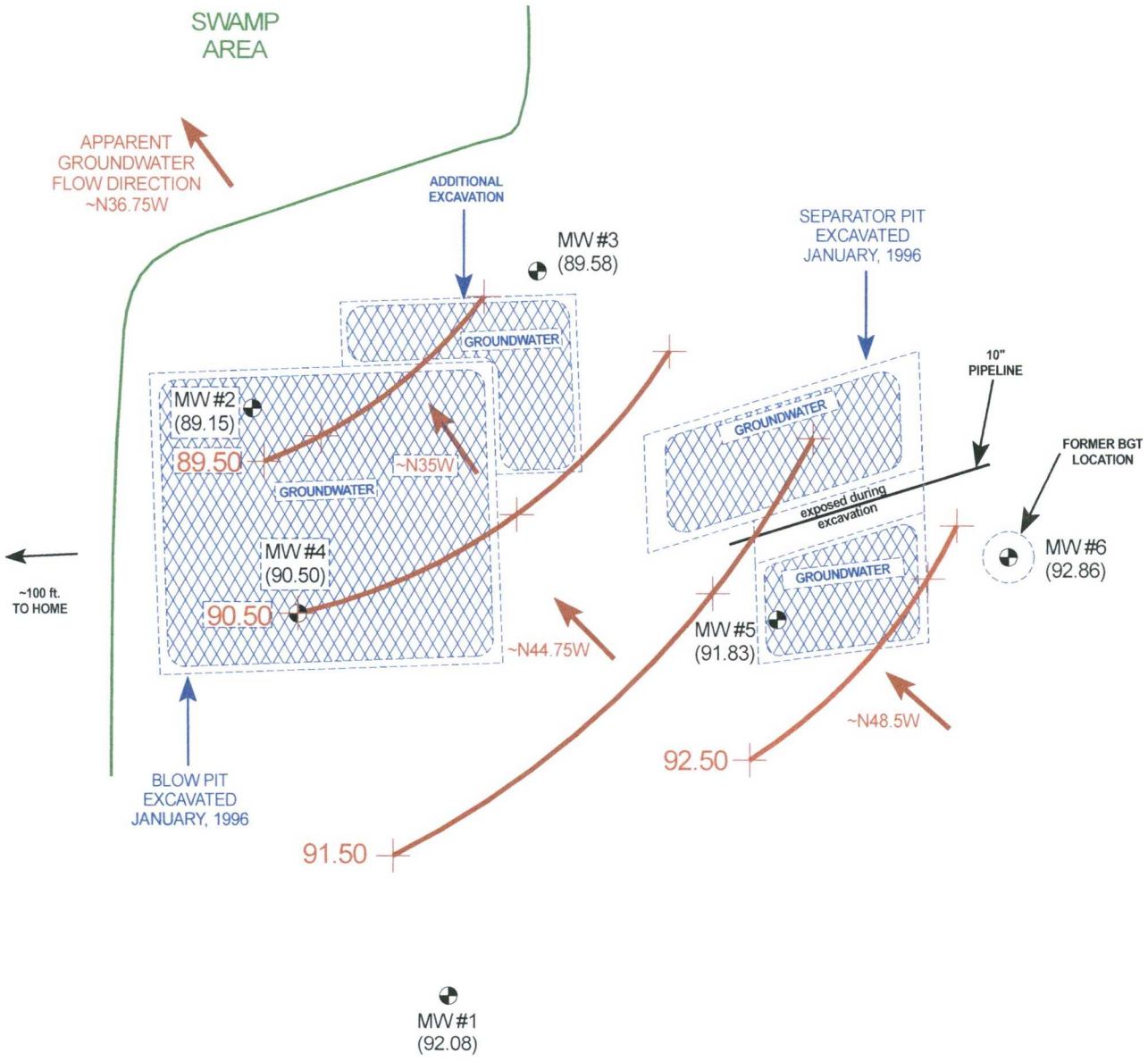
BP AMERICA PRODUCTION CO.
GCU # 169
NE/4 SE/4 SEC. 35, T29N, R12W
SAN JUAN COUNTY, NEW MEXICO

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: GCU 169 - SM.SKF
REVISED: 10-19-11 NJV

SITE MAP
09/11

FIGURE 3
(1st 1/4, 2013)
(Typical GW Contour Gradient)



PLUG & ABANDON MARKER ⊕

0 40 80 FT.

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

	Top of Well Elevation
MW #1	(100.00)
MW #2	(98.23)
MW #3	(97.71)
MW #4	(99.21)
MW #5	(100.80)
MW #6	(100.92)
⊕ MW #1 (92.08)	Groundwater Elevation as of 02/27/13.

BP AMERICA PRODUCTION CO.
GCU # 169
NE/4 SE/4 SEC. 35, T29N, R12W
SAN JUAN COUNTY, NEW MEXICO

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

PROJECT: MW SAMPLING
DRAWN BY: NJV
FILENAME: 02-27-13-GW.SKF
REVISED: 02-27-13 NJV

GROUNDWATER CONTOUR MAP
02/13

BP AMERICA PRODUCTION COMPANY

GROUNDWATER FIELD DATA & LAB BTEX RESULTS

GCU # 169 - BLOW & SEP. PITS
UNIT I, SEC. 35, T29N, R12W

Revised Date: October 31, 2018
Submitted by Blagg Engineering, Inc.

SAMPLE DATE	WELL NAME / NUMBER	DEPTH TO WATER (ft)	WELL DEPTH (ft)	TDS (mg/L)	CONDUCT. (umhos)	pH	FREE PHASE PRODUCT (ft)	BTEX US EPA METHOD 8021B or 8260B BENZENE (ppb)	TOLUENE (ppb)	ETHYL BENZENE (ppb)	TOTAL XYLENES (ppb)
10/28/11	MW #1	7.51	20.00		1,200	7.70		ND	ND	ND	ND
10/28/11	MW #2	8.76	20.00		1,500	7.61		ND	ND	ND	ND
10/28/11	MW #3	7.84	20.00		1,700	7.42		ND	ND	ND	ND
02/17/12		8.19			1,700	7.07		ND	ND	ND	ND
06/25/12		8.48			1,600	7.31		ND	ND	ND	ND
09/14/12		7.56			1,500	7.28		ND	ND	ND	ND
11/26/12		7.70			1,300	7.37		2.1	ND	ND	ND
05/29/13		8.27			1,400	6.92		ND	ND	ND	ND
08/24/13		7.72			1,000	7.51		ND	ND	ND	ND
09/06/17		8.83			900	7.08		ND	ND	ND	ND
10/28/11	MW #4	8.35	20.00		1,600	7.55		ND	ND	ND	ND
10/28/11	MW #5	8.47	20.00		1,500	7.67		ND	ND	ND	ND
10/28/11	MW #6	7.61	20.00		1,300	7.73		ND	16.7	125	388
02/17/12		8.18			1,200	7.11		ND	3.7	95	300
06/25/12		8.74			1,100	7.48		ND	40	300	1,400
09/14/12		7.44			1,200	7.44		ND	45	260	1,400
11/26/12		7.56			1,100	7.50		ND	18	230	850
02/27/13		8.06			1,100	7.15		ND	18	110	330
05/29/13		8.30			1,100	7.21		ND	14	220	910
08/24/13		7.54			800	7.68		ND	17	230	1,100
12/11/13		7.65			800	7.59		ND	5.1	240	880
02/26/14		7.97			900	6.90		5.2	1.8	180	560
05/27/14		8.41			900	7.24		ND	8.7	240	1,100
08/25/14		7.86			800	7.45		ND	12	190	980
11/25/14		7.60			800	7.64		ND	ND	180	920
03/10/15		8.08			900	7.21		ND	ND	150	420
05/14/15		8.58			900	7.14		2.9	ND	230	1,000
08/26/15		8.43			1,000	7.05		ND	16	240	1,300
12/02/15		8.06			900	7.23		ND	3.7	180	910
02/23/16		8.62			900	6.98		ND	1.9	200	750
06/06/16		9.13			900	7.30		2.0	5.2	170	840
08/18/16		8.80			900	7.27		ND	6.4	170	920
12/13/16		8.47			800	7.02		ND	ND	140	580
02/23/17		8.78			800	7.35		ND	ND	73	210
05/26/17		9.19			1,000	7.12		ND	ND	72	160
09/06/17		8.89			800	7.11		ND	ND	52	220
NMWQCC GROUNDWATER STANDARDS								10	750	750	620

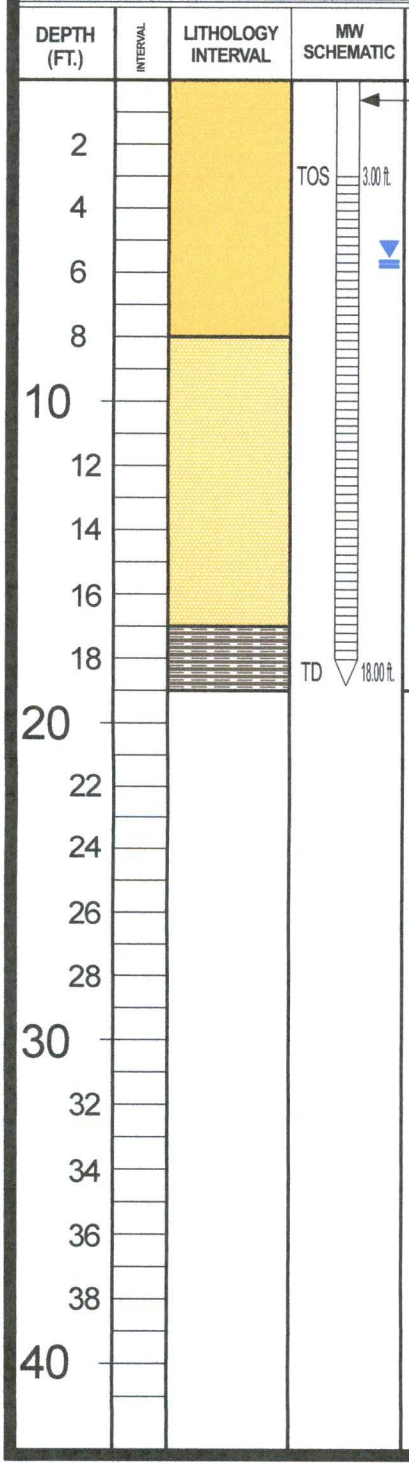
BLAGG ENGINEERING, INC.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW # 1

BORE / TEST HOLE REPORT

CLIENT:	BP AMERICA PRODUCTION CO.
LOCATION NAME:	GCU # 169 UNIT I, SEC. 35, T29N, R12W
CONTRACTOR:	BLAGG ENGINEERING, INC. / KYVEK ENERGY SERVICES, INC.
EQUIPMENT USED:	MOBILE DRILL RIG (CME 75) - HOLLOW STEM AUGER
BORING LOCATION:	95 FEET, N47.5W FROM PLUGGED & ABANDONED MARKER.

BORING #.....	BH - 1
MW #.....	1
PAGE #.....	1
DATE STARTED	09/26/11
DATE FINISHED	09/26/11
OPERATOR.....	KP
LOGGED BY.....	NJV



SAMPLE INTERVAL	SAMPLE TIME	FIELD OVM (ppm)	BLOW COUNT PER 6" & RECOVERY
7.00 8.50	1109	0.0	3-1-1

FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 2.00 FT. ABOVE GRADE.

PALE TO MODERATE YELLOWISH BROWN SILTY SAND TO SAND, NON COHESIVE, DRY TO MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 8.0 FT. BELOW GRADE).

GROUNDWATER ~ 5.56 ft. BELOW GRADE; MEASURED 09/29/11.

SAME AS ABOVE EXCEPT ALL SAND, COARSE GRAINED, SATURATED (8.0 - 17.0 FT. BELOW GRADE).

DARK YELLOWISH BROWN SILTY CLAY TO CLAY, COHESIVE, MEDIUM TO HIGHLY PLASTIC, WET, FIRM TO STIFF, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (17.0 - 19.0 FT. BELOW GRADE).

NOTES:

- SAND.
- SILTY SAND.
- SILTY CLAY TO CLAY.

TOS - Top of screen of monitor well.
TD - Total depth/bottom extent of monitor well.
OVM - Organic vapor meter or photoionization detector (PID).
ppm - parts per million or milligram per kilogram (mg/Kg).

OVM CALIBRATION:
52.4 ppm; RF = 0.52
(RF = response factor).
100 ppm calibration gas - isobutylene.
Date - 09/26/11.
Time - 1405.

Monitor well consist of 2 inch PVC piping - casing from 2.00 ft. above grade to 3.00 ft. below grade, 0.020 slotted screen between 3.00 to 18.00 ft. below grade, sand packed annular to 2.0 ft. below grade, bentonite grout to grade. Above-grade steel well protector encompassing exposed casing and secured with padlock.

DRAWING: GCU 169 MW1-BH-1. SKF | DATE: 09/27/11 | DWN BY: NJV

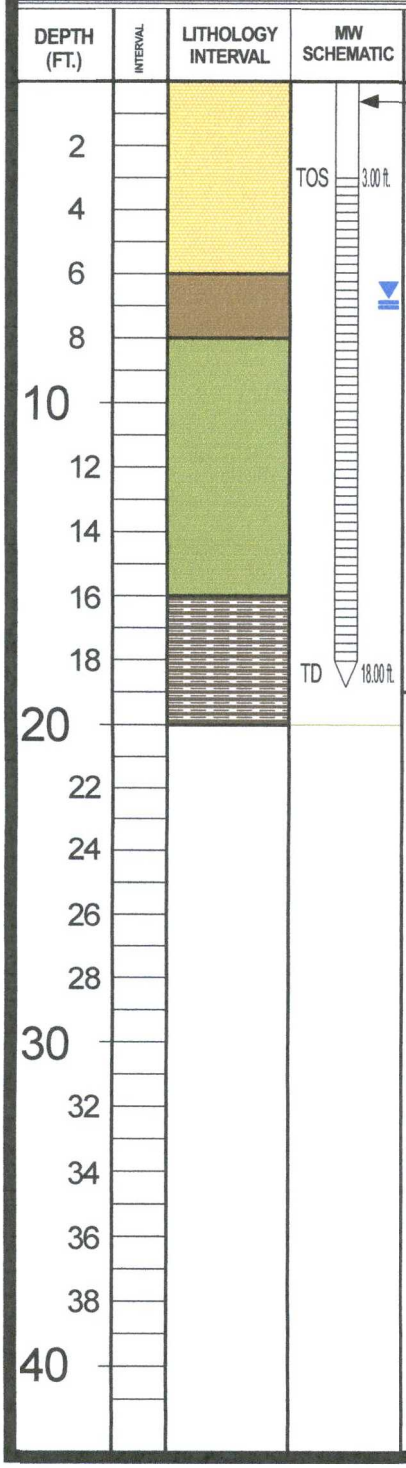
BLAGG ENGINEERING, INC.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW # 2

BORE / TEST HOLE REPORT

BORING #.....	BH - 2
MW #.....	2
PAGE #.....	2
DATE STARTED	09/26/11
DATE FINISHED	09/26/11
OPERATOR.....	KP
LOGGED BY.....	NJV

CLIENT: BP AMERICA PRODUCTION CO.
LOCATION NAME: GCU # 169 UNIT I, SEC. 35, T29N, R12W
CONTRACTOR: BLAGG ENGINEERING, INC. / KYVEK ENERGY SERVICES, INC.
EQUIPMENT USED: MOBILE DRILL RIG (CME 75) - HOLLOW STEM AUGER
BORING LOCATION: 232 FEET, N30W FROM PLUGGED & ABANDONED MARKER.



SAMPLE INTERVAL	SAMPLE TIME	FIELD OVM (ppm)	BLOW COUNT PER 6" & RECOVERY
7.00 8.50	1245	0.0	PUSH (0)

FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 2.00 FT. ABOVE GRADE.

DARK YELLOWISH ORANGE SAND, NON COHESIVE, DRY TO MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 6.0 FT. BELOW GRADE).

GROUNDWATER ~ 6.79 ft. BELOW GRADE; MEASURED 09/29/11.
SAME AS ABOVE EXCEPT DARK YELLOWISH BROWN (6.0 - 8.0 FT. BELOW GRADE).

LIGHT TO OLIVE GRAY SAND TO SILTY SAND, NON COHESIVE, SATURATED, LOOSE, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (8.0 - 16.0 FT. BELOW GRADE).

DARK YELLOWISH BROWN SILTY CLAY TO CLAY, COHESIVE, MEDIUM TO HIGHLY PLASTIC, WET, FIRM TO STIFF, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (17.0 - 19.0 FT. BELOW GRADE).

NOTES:
- SAND.
- SILTY CLAY TO CLAY.

TOS - Top of screen of monitor well.
TD - Total depth/bottom extent of monitor well.
OVM - Organic vapor meter or photoionization detector (PID).
ppm - parts per million or milligram per kilogram (mg/Kg).

OVM CALIBRATION:
52.4 ppm; RF = 0.52
(RF = response factor).
100 ppm calibration gas - isobutylene.
Date - 09/26/11.
Time - 1405.

Monitor well consist of 2 inch PVC piping - casing from 2.00 ft. above grade to 3.00 ft. below grade, 0.020 slotted screen between 3.00 to 18.00 ft. below grade, sand packed annular to 2.0 ft. below grade, bentonite grout to grade. Above-grade steel well protector encompassing exposed casing and secured with padlock.

DRAWING: GCU 169 MW2-BH-2. SKF | DATE: 09/27/11 | DWN BY: NJV

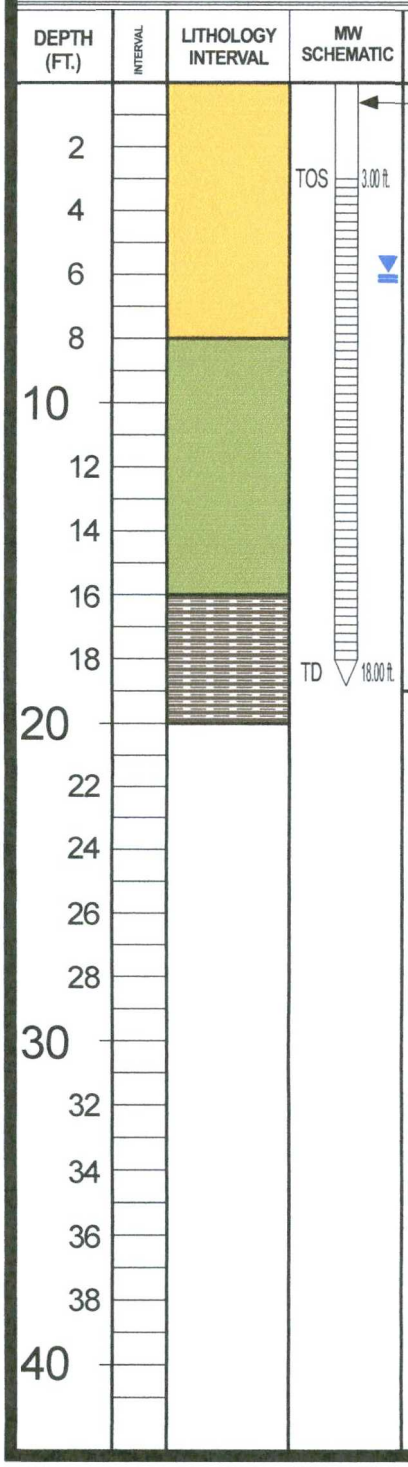
BLAGG ENGINEERING, INC.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW # 3

BORE / TEST HOLE REPORT

CLIENT:	BP AMERICA PRODUCTION CO.
LOCATION NAME:	GCU # 169 UNIT I, SEC. 35, T29N, R12W
CONTRACTOR:	BLAGG ENGINEERING, INC. / KYVEK ENERGY SERVICES, INC.
EQUIPMENT USED:	MOBILE DRILL RIG (CME 75) - HOLLOW STEM AUGER
BORING LOCATION:	238 FEET, N12W FROM PLUGGED & ABANDONED MARKER.

BORING #.....	BH - 3
MW #.....	3
PAGE #.....	3
DATE STARTED	09/26/11
DATE FINISHED	09/26/11
OPERATOR.....	KP
LOGGED BY.....	NJV



SAMPLE INTERVAL	SAMPLE TIME	FIELD OVM (ppm)	BLOW COUNT PER 6" & RECOVERY
7.00 8.50	1345	0.0	3-1-1

FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 2.00 FT. ABOVE GRADE.

PALE TO MODERATE YELLOWISH BROWN SAND TO SILTY SAND, NON COHESIVE, DRY TO MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 8.0 FT. BELOW GRADE).

GROUNDWATER ~ 5.95 ft. BELOW GRADE; MEASURED 09/29/11.

SAME AS ABOVE EXCEPT SATURATED (8.0 - 16.0 FT. BELOW GRADE).

MODERATE TO DARK YELLOWISH BROWN SILTY CLAY TO CLAY, COHESIVE, MEDIUM TO HIGHLY PLASTIC, WET, FIRM TO STIFF, NO APPARENT HYDRO - CARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (17.0 - 19.0 FT. BELOW GRADE).

NOTES:
- SAND.
- SILTY CLAY TO CLAY.

TOS - Top of screen of monitor well.
TD - Total depth/bottom extent of monitor well.
OVM - Organic vapor meter or photoionization detector (PID).
ppm - parts per million or milligram per kilogram (mg/Kg).

OVM CALIBRATION:
52.4 ppm; RF = 0.52
(RF = response factor).
100 ppm calibration gas - isobutylene.
Date - 09/26/11.
Time - 1405.

Monitor well consist of 2 inch PVC piping - casing from 2.00 ft. above grade to 3.00 ft. below grade, 0.020 slotted screen between 3.00 to 18.00 ft. below grade, sand packed annular to 2.0 ft. below grade, bentonite grout to grade. Above-grade steel well protector encompassing exposed casing and secured with padlock.

DRAWING: GCU 169 MW3-BH-3. SKF | DATE: 09/27/11 | DWN BY: NJV

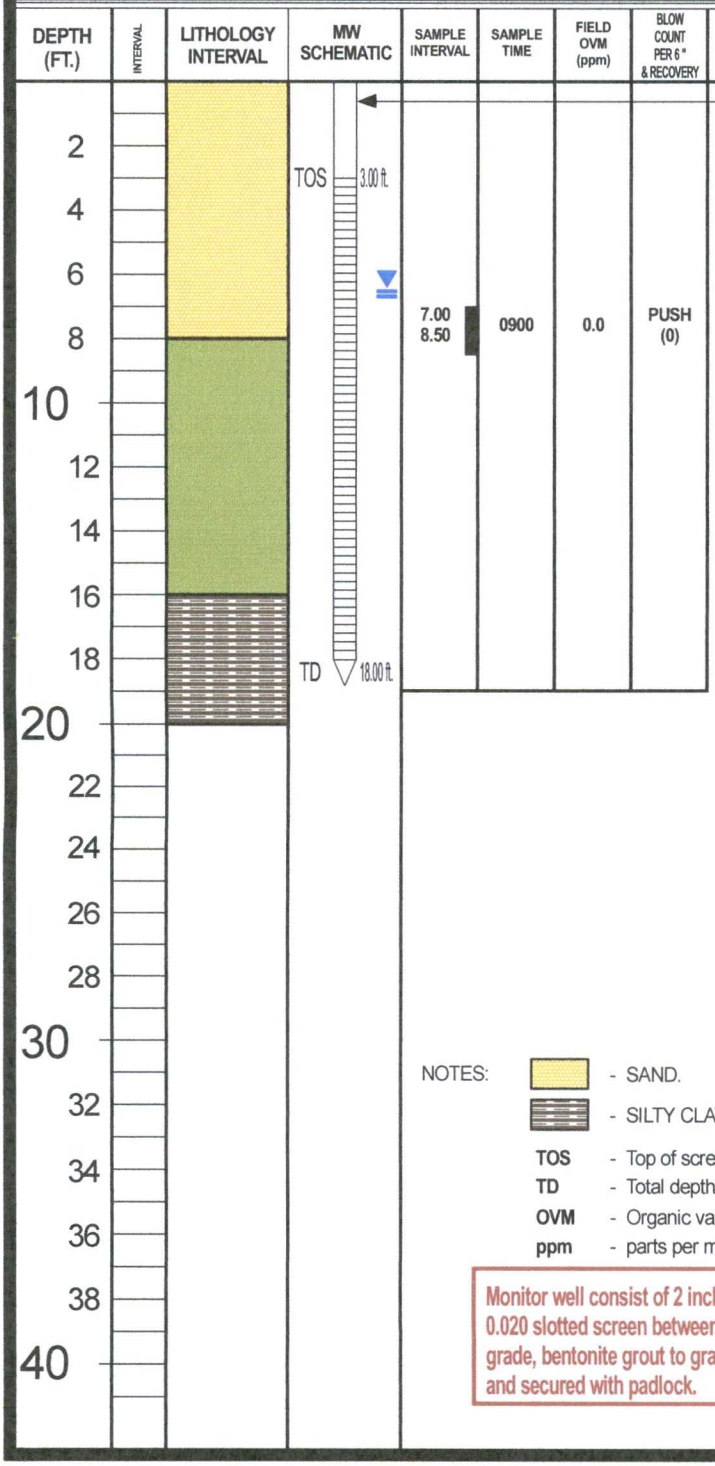
BLAGG ENGINEERING, INC.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW # 4

BORE / TEST HOLE REPORT

CLIENT:	BP AMERICA PRODUCTION CO.
LOCATION NAME:	GCU # 169 UNIT I, SEC. 35, T29N, R12W
CONTRACTOR:	BLAGG ENGINEERING, INC. / KYVEK ENERGY SERVICES, INC.
EQUIPMENT USED:	MOBILE DRILL RIG (CME 75) - HOLLOW STEM AUGER
BORING LOCATION:	186 FEET, N34.5W FROM PLUGGED & ABANDONED MARKER.

BORING #.....	BH - 4
MW #.....	4
PAGE #.....	4
DATE STARTED	09/27/11
DATE FINISHED	09/27/11
OPERATOR.....	KP
LOGGED BY.....	NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 2.00 FT. ABOVE GRADE.

DARK YELLOWISH ORANGE SAND, NON COHESIVE, DRY TO MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 8.0 FT. BELOW GRADE).

GROUNDWATER ~ 6.38 ft. BELOW GRADE; MEASURED 09/29/11.

LIGHT TO OLIVE GRAY SAND TO SILTY SAND, NON COHESIVE, SATURATED, LOOSE, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (8.0 - 16.0 FT. BELOW GRADE).

DARK YELLOWISH BROWN SILTY CLAY TO CLAY, COHESIVE, MEDIUM TO HIGHLY PLASTIC, WET, FIRM TO STIFF, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (17.0 - 19.0 FT. BELOW GRADE).

NOTES:
- SAND.
- SILTY CLAY TO CLAY.

TOS - Top of screen of monitor well.
TD - Total depth/bottom extent of monitor well.
OVM - Organic vapor meter or photoionization detector (PID).
ppm - parts per million or milligram per kilogram (mg/Kg).

OVM CALIBRATION:
52.4 ppm; RF = 0.52
(RF = response factor).
100 ppm calibration gas
- isobutylene.
Date - 09/26/11.
Time - 1405.

Monitor well consist of 2 inch PVC piping - casing from 2.00 ft. above grade to 3.00 ft. below grade, 0.020 slotted screen between 3.00 to 18.00 ft. below grade, sand packed annular to 2.0 ft. below grade, bentonite grout to grade. Above-grade steel well protector encompassing exposed casing and secured with padlock.

DRAWING: GCU 169 MW4-BH-4. SKF	DATE: 09/27/11	DWN BY: NJV

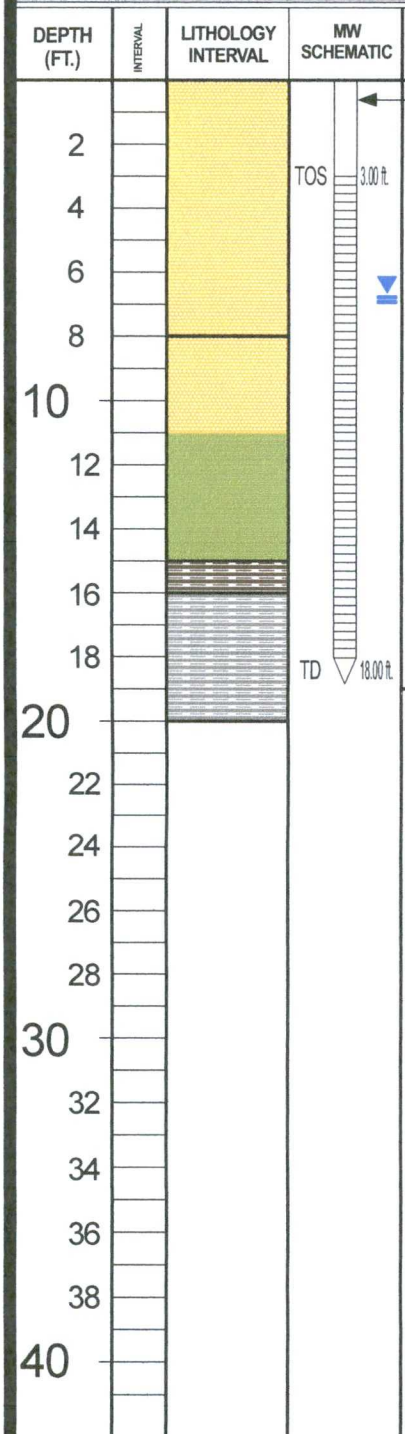
BLAGG ENGINEERING, INC.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW # 5

BORE / TEST HOLE REPORT

CLIENT:	BP AMERICA PRODUCTION CO.
LOCATION NAME:	GCU # 169 UNIT I, SEC. 35, T29N, R12W
CONTRACTOR:	BLAGG ENGINEERING, INC. / KYVEK ENERGY SERVICES, INC.
EQUIPMENT USED:	MOBILE DRILL RIG (CME 75) - HOLLOW STEM AUGER
BORING LOCATION:	152 FEET, N2.5E FROM PLUGGED & ABANDONED MARKER.

BORING #.....	BH - 5
MW #.....	5
PAGE #.....	5
DATE STARTED	09/27/11
DATE FINISHED	09/27/11
OPERATOR.....	KP
LOGGED BY.....	NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 2.00 FT. ABOVE GRADE.

DARK YELLOWISH ORANGE SAND, NON COHESIVE, DRY TO MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 8.0 FT. BELOW GRADE).

GROUNDWATER ~ 6.62 ft. BELOW GRADE; MEASURED 09/29/11.

MODERATE YELLOWISH BROWN SAND PHASING INTO SILTY CLAY, NON COHESIVE, SATURATED, LOOSE, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (8.0 - 15.0 FT. BELOW GRADE).

DARK YELLOWISH BROWN SILTY CLAY TO CLAY, COHESIVE, MEDIUM TO HIGHLY PLASTIC, WET, FIRM TO STIFF, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (15.0 - 16.0 FT. BELOW GRADE).

SAME AS ABOVE EXCEPT MEDIUM DARK GRAY AND AN APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (16.0 - 20.0 FT. BELOW GRADE).

NOTES:
- SAND.
- SAND TO SILTY CLAY.
- SILTY CLAY TO CLAY.

TOS - Top of screen of monitor well.
TD - Total depth/bottom extent of monitor well.
OVM - Organic vapor meter or photoionization detector (PID).
ppm - parts per million or milligram per kilogram (mg/Kg).

OVM CALIBRATION:
52.4 ppm; RF = 0.52
(RF = response factor).
100 ppm calibration gas
- isobutylene.
Date - 09/26/11.
Time - 1405.

Monitor well consist of 2 inch PVC piping - casing from 2.00 ft. above grade to 3.00 ft. below grade, 0.020 slotted screen between 3.00 to 18.00 ft. below grade, sand packed annular to 2.0 ft. below grade, bentonite grout to grade. Above-grade steel well protector encompassing exposed casing and secured with padlock.

DRAWING:	DATE:	DWN BY:
GCU 169 MW5-BH-5. SKF	09/27/11	NJV

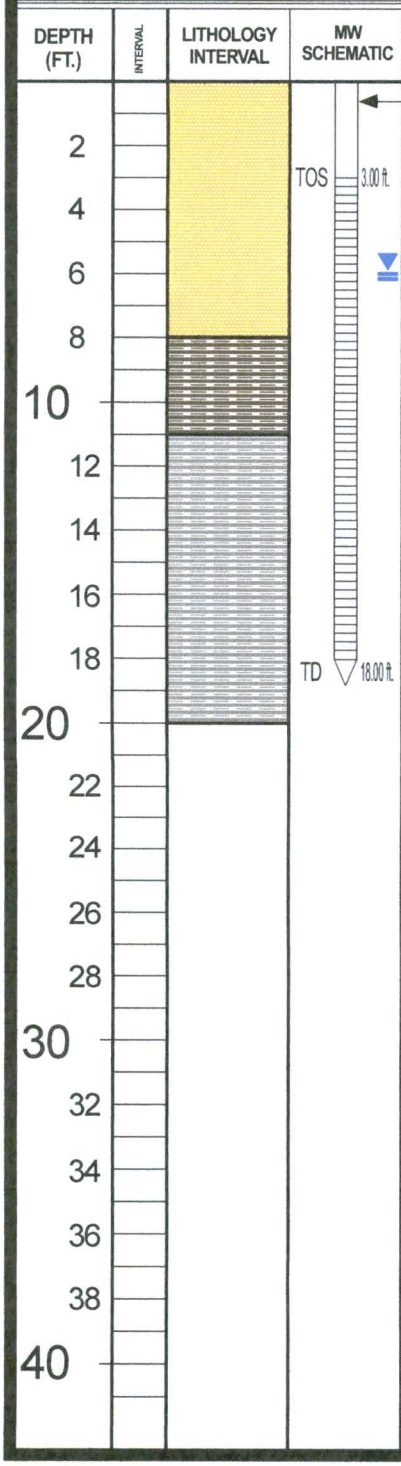
BLAGG ENGINEERING, INC.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW # 6

BORE / TEST HOLE REPORT

CLIENT:	BP AMERICA PRODUCTION CO.
LOCATION NAME:	GCU # 169 UNIT I, SEC. 35, T29N, R12W
CONTRACTOR:	BLAGG ENGINEERING, INC. / KYVEK ENERGY SERVICES, INC.
EQUIPMENT USED:	MOBILE DRILL RIG (CME 75) - HOLLOW STEM AUGER
BORING LOCATION:	177 FEET, N20E FROM PLUGGED & ABANDONED MARKER.

BORING #.....	BH - 6
MW #.....	6
PAGE #.....	6
DATE STARTED	09/27/11
DATE FINISHED	09/27/11
OPERATOR.....	KP
LOGGED BY.....	NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 2.00 FT. ABOVE GRADE.

DARK YELLOWISH ORANGE SAND, NON COHESIVE, DRY TO MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 8.0 FT. BELOW GRADE).

GROUNDWATER ~ 5.84 ft. BELOW GRADE; MEASURED 09/29/11.

MODERATE YELLOWISH BROWN SILTY CLAY TO CLAY, COHESIVE, MEDIUM PLASTIC, WET, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (8.0 - 11.0 FT. BELOW GRADE).

SAME AS ABOVE EXCEPT LIGHT TO MEDIUM GRAY AND SLIGHT APPARENT HYDRO - CARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (11.0 - 20.0 FT. BELOW GRADE).

NOTES:

- SAND.
- SILTY CLAY TO CLAY.

TOS - Top of screen of monitor well.
TD - Total depth/bottom extent of monitor well.
OVM - Organic vapor meter or photoionization detector (PID).
ppm - parts per million or milligram per kilogram (mg/Kg).

OVM CALIBRATION:
52.4 ppm; RF = 0.52
(RF = response factor).
100 ppm calibration gas
- isobutylene.
Date - 09/26/11.
Time - 1405.

Monitor well consist of 2 inch PVC piping - casing from 2.00 ft. above grade to 3.00 ft. below grade, 0.020 slotted screen between 3.00 to 18.00 ft. below grade, sand packed annular to 2.0 ft. below grade, bentonite grout to grade. Above-grade steel well protector encompassing exposed casing and secured with padlock.

DRAWING:	DATE:	DWN BY:
GCU 169 MW6-BH-6. SKF	09/27/11	NJV

APPENDIX D

Field Sampling Notes
and
Laboratory Analytical Data Reports

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY # : N / A

GCU # 169 - BLOW & SEP. PITS
UNIT I, SEC. 35, T29N, R12W

LABORATORY (S) USED : PACE ANALYTICAL

Date : October 28, 2011

DEVELOPER / SAMPLER : N J V

Filename : 10-28-11.WK4

PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	100.00	92.49	7.51	20.00	0905	7.70	1,200	14.7	6.25
2	98.23	89.47	8.76	20.00	1010	7.61	1,500	14.5	5.50
3	97.71	89.87	7.84	20.00	1105	7.42	1,700	14.3	6.00
4	99.21	90.86	8.35	20.00	1030	7.55	1,600	15.5	5.75
5	100.80	92.33	8.47	20.00	1135	7.67	1,500	15.4	5.75
6	100.92	93.31	7.61	20.00	1230	7.73	1,300	14.9	6.00

INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800
DATE & TIME =	10/28/2011	0855

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 gal. / ft. of water.

Comments or note well diameter if not standard 2 ".

Excellent recovery in all MW's. All MW's brown tint in appearance except MW # 6 (dark gray with slight apparent hydrocarbon odor detected physically). Used subsersible pump and vinyl clear tubing in all MW's for purging and sampling. Collected samples from MW # 1 , # 2 , # 3 on 10/28/11 , MW # 4 , # 5 , # 6 on 10/29/11 for BTEX per US EPA Method 8260B .

Top of casing MW # 1 ~ 2.00 ft., MW # 2 ~ 2.00 ft., MW # 3 ~ 2.00 ft., MW # 4 ~ 2.00 ft., MW # 5 ~ 2.00 ft., MW # 6 ~ 2.00 ft. above grade.

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Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: GCU #169
Pace Project No.: 60109248

Sample: MW #1 **Lab ID: 60109248001** Collected: 10/28/11 09:05 Received: 11/01/11 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	1		11/04/11 03:49	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		11/04/11 03:49	100-41-4	
Toluene	ND	ug/L	1.0	1		11/04/11 03:49	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		11/04/11 03:49	1330-20-7	
Dibromofluoromethane (S)	100	%	86-112	1		11/04/11 03:49	1868-53-7	
Toluene-d8 (S)	97	%	90-110	1		11/04/11 03:49	2037-26-5	
4-Bromofluorobenzene (S)	101	%	87-113	1		11/04/11 03:49	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	82-119	1		11/04/11 03:49	17060-07-0	
Preservation pH	**1.0**		1.0	1		11/04/11 03:49		

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ANALYTICAL RESULTS

Project: GCU #169
Pace Project No.: 60109248

Sample: MW #2 **Lab ID: 60109248002** Collected: 10/28/11 10:10 Received: 11/01/11 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	1		11/04/11 04:03	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		11/04/11 04:03	100-41-4	
Toluene	ND	ug/L	1.0	1		11/04/11 04:03	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		11/04/11 04:03	1330-20-7	
Dibromofluoromethane (S)	100	%	86-112	1		11/04/11 04:03	1868-53-7	
Toluene-d8 (S)	101	%	90-110	1		11/04/11 04:03	2037-26-5	
4-Bromofluorobenzene (S)	103	%	87-113	1		11/04/11 04:03	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	82-119	1		11/04/11 04:03	17060-07-0	
Preservation pH	**1.0**		1.0	1		11/04/11 04:03		

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ANALYTICAL RESULTS

Project: GCU #169
Pace Project No.: 60109248

Sample: MW #3 **Lab ID: 60109248003** Collected: 10/28/11 11:05 Received: 11/01/11 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	1		11/04/11 04:17	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		11/04/11 04:17	100-41-4	
Toluene	ND	ug/L	1.0	1		11/04/11 04:17	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		11/04/11 04:17	1330-20-7	
Dibromofluoromethane (S)	99	%	86-112	1		11/04/11 04:17	1868-53-7	
Toluene-d8 (S)	100	%	90-110	1		11/04/11 04:17	2037-26-5	
4-Bromofluorobenzene (S)	102	%	87-113	1		11/04/11 04:17	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	82-119	1		11/04/11 04:17	17060-07-0	
Preservation pH	**1.0**		1.0	1		11/04/11 04:17		

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ANALYTICAL RESULTS

Project: GCU #169
Pace Project No.: 60109248

Sample: MW #4 **Lab ID: 60109248004** Collected: 10/29/11 10:30 Received: 11/01/11 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	1		11/04/11 04:32	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		11/04/11 04:32	100-41-4	
Toluene	ND	ug/L	1.0	1		11/04/11 04:32	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		11/04/11 04:32	1330-20-7	
Dibromofluoromethane (S)	100	%	86-112	1		11/04/11 04:32	1868-53-7	
Toluene-d8 (S)	98	%	90-110	1		11/04/11 04:32	2037-26-5	
4-Bromofluorobenzene (S)	99	%	87-113	1		11/04/11 04:32	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	82-119	1		11/04/11 04:32	17060-07-0	
Preservation pH	**1.0**		1.0	1		11/04/11 04:32		

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ANALYTICAL RESULTS

Project: GCU #169
Pace Project No.: 60109248

Sample: MW #5 **Lab ID: 60109248005** Collected: 10/29/11 11:35 Received: 11/01/11 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	1		11/04/11 04:46	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		11/04/11 04:46	100-41-4	
Toluene	ND	ug/L	1.0	1		11/04/11 04:46	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		11/04/11 04:46	1330-20-7	
Dibromofluoromethane (S)	98	%	86-112	1		11/04/11 04:46	1868-53-7	
Toluene-d8 (S)	100	%	90-110	1		11/04/11 04:46	2037-26-5	
4-Bromofluorobenzene (S)	100	%	87-113	1		11/04/11 04:46	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	82-119	1		11/04/11 04:46	17060-07-0	
Preservation pH	**1.0**		1.0	1		11/04/11 04:46		

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ANALYTICAL RESULTS

Project: GCU #169
Pace Project No.: 60109248

Sample: MW #6 **Lab ID: 60109248006** Collected: 10/29/11 12:30 Received: 11/01/11 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	1		11/04/11 05:00	71-43-2	
Ethylbenzene	**125**	ug/L	1.0	1		11/04/11 05:00	100-41-4	
Toluene	**16.7**	ug/L	1.0	1		11/04/11 05:00	108-88-3	
Xylene (Total)	**388**	ug/L	15.0	5		11/06/11 01:54	1330-20-7	
Dibromofluoromethane (S)	99	%	86-112	1		11/04/11 05:00	1868-53-7	
Toluene-d8 (S)	102	%	90-110	1		11/04/11 05:00	2037-26-5	
4-Bromofluorobenzene (S)	106	%	87-113	1		11/04/11 05:00	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	82-119	1		11/04/11 05:00	17060-07-0	
Preservation pH	**1.0**		1.0	1		11/04/11 05:00		

Chain of Custody Record

Project Name: GCU # 169

BP BU/AR Region/Enfos Segment: SAN JUAN SOUTH O.C.

State or Lead Regulatory Agency: NMOCD

Requested Due Date (mm/dd/yy): 11/7/2011

Lab Name: PACE ANALYTICAL	BP/AR Facility No.: GCU # 169	Consultant/Contractor: BLAGG ENGR., INC.	
Address: 9608 LOIRET BLVD.	BP/AR Facility Address: Unit I, Sec. 35, T29N, R12W	Address: 110 N. 4th ST.	
LENEXA , KS 66219	Site Lat/Long: 36.68203 / 108.06355	BLOOMFIELD, NM 87413	
Lab PM: COLLEEN KOPORC	California Global ID No.:	Consultant/Contractor Project No.:	
Tele/Fax: 913-599-5665	Enfos Project No.:	Consultant/Contractor PM: JEFF C. BLAGG	
BP Contact: Jeff Peace	Provision or OOC (circle one)	Tele/Fax: 505-632-1199	
Address: 200 Energy Court	Phase/WBS:	Report Type & QC Level: STANDARD	
Farmington, NM 87401	Sub Phase/Task:	E-mail EDD To: blagg_njv@yahoo.com	
Tele/Fax: Office: (505) 326-9479 Cell: (505) 330-4937	Cost Element:	Invoice to: Consultant or BP or Atlantic Richfield Co. (circle one)	

Lab Bottle Order No:

Item No.	Sample Description	Time	Date	Matrix: Soil/Solid	Matrix: Water/Liquid	Matrix: Air	Laboratory No.	No. of Containers	Preservative: Unpreserved	Preservative: H_2SO_4	Preservative: HNO_3	Preservative: HCl	Preservative: $HgCl_2$	Preservative: Methanol	Requested Analysis: EPA 8260B (BTEX)	Sample Point Lat/Long and Comments
1	MW #1	0905	10/28/2011		X			2				X			X	2(09H) 001
2	MW #2	1010	10/28/2011		X			2				X			X	002
3	MW #3	1105	10/28/2011		X			2				X			X	003
4	MW #4	1030	10/29/2011		X			2				X			X	004
5	MW #5	1135	10/29/2011		X			2				X			X	005
6	MW #6	1230	10/29/2011		X			2				X			X	006
7																
8																
9																
10																Report BTEX constituents only

60109248

		Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Name:	NELSON VELEZ						
Sampler's Company:	BLAGG ENGR., INC.	BLAGG ENGR.	10/31/2011	1500		11/1/11	920
Shipment Date:	10/31/2011						
Shipment Method:	FED. EX.						
Shipment Tracking No:	8664 8408 4230						

Special Instructions: Send invoice directly to BP contact listed above and use Pay key code: ZPEACJDENV Work order #: N1491459.

Please send results via email to: jeffcblagg@aol.com & blagg_njv@yahoo.com.

Custody Seals In Place: Yes (No) | Temp Blank: (Yes) No | Cooler Temp on Receipt: 4.1 °F/C | Trip Blank: Yes (No) | MS/MSD Sample Submitted: Yes (No)

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

CERTIFICATIONS

Project: GCU #169
Pace Project No.: 60109248

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
A2LA Certification #: 2456.01
Arkansas Certification #: 05-008-0
Illinois Certification #: 001191
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-08-TX
Utah Certification #: 9135995665

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SAMPLE SUMMARY

Project: GCU #169
Pace Project No.: 60109248

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60109248001	**MW #1**	Water	10/28/11 09:05	11/01/11 09:20
60109248002	**MW #2**	Water	10/28/11 10:10	11/01/11 09:20
60109248003	**MW #3**	Water	10/28/11 11:05	11/01/11 09:20
60109248004	**MW #4**	Water	10/29/11 10:30	11/01/11 09:20
60109248005	**MW #5**	Water	10/29/11 11:35	11/01/11 09:20
60109248006	**MW #6**	Water	10/29/11 12:30	11/01/11 09:20

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SAMPLE ANALYTE COUNT

Project: GCU #169
Pace Project No.: 60109248

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60109248001	**MW #1**	EPA 8260	PRG	9
60109248002	**MW #2**	EPA 8260	PRG	9
60109248003	**MW #3**	EPA 8260	PRG	9
60109248004	**MW #4**	EPA 8260	PRG	9
60109248005	**MW #5**	EPA 8260	PRG	9
60109248006	**MW #6**	EPA 8260	HMW, PRG	9

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

PROJECT NARRATIVE

Project: GCU #169
Pace Project No.: 60109248

Method: **EPA 8260**
Description: 8260 MSV UST, Water
Client: BP-Blagg Engineering
Date: November 08, 2011

General Information:
6 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

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

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

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

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

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

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

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

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

QC Batch: MSV/41357

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

QC Batch: MSV/41413

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

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

Additional Comments:

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

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QUALITY CONTROL DATA

Project: GCU #169
Pace Project No.: 60109248

QC Batch: MSV/41357 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 60109248001, 60109248002, 60109248003, 60109248004, 60109248005, 60109248006

METHOD BLANK: 903661 Matrix: Water
Associated Lab Samples: 60109248001, 60109248002, 60109248003, 60109248004, 60109248005, 60109248006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	11/04/11 03:06	
Ethylbenzene	ug/L	ND	1.0	11/04/11 03:06	
Toluene	ug/L	ND	1.0	11/04/11 03:06	
Xylene (Total)	ug/L	ND	3.0	11/04/11 03:06	
1,2-Dichloroethane-d4 (S)	%	97	82-119	11/04/11 03:06	
4-Bromofluorobenzene (S)	%	101	87-113	11/04/11 03:06	
Dibromofluoromethane (S)	%	98	86-112	11/04/11 03:06	
Toluene-d8 (S)	%	98	90-110	11/04/11 03:06	

LABORATORY CONTROL SAMPLE: 903662

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	19.5	98	82-117	
Ethylbenzene	ug/L	20	19.8	99	79-121	
Toluene	ug/L	20	19.1	95	80-120	
Xylene (Total)	ug/L	60	59.9	100	79-120	
1,2-Dichloroethane-d4 (S)	%			97	82-119	
4-Bromofluorobenzene (S)	%			102	87-113	
Dibromofluoromethane (S)	%			103	86-112	
Toluene-d8 (S)	%			101	90-110	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: GCU #169
Pace Project No.: 60109248

QC Batch: MSV/41413
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 60109248006

METHOD BLANK: 905103 Matrix: Water
Associated Lab Samples: 60109248006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Xylene (Total)	ug/L	ND	3.0	11/06/11 01:21	
1,2-Dichloroethane-d4 (S)	%	114	82-119	11/06/11 01:21	
4-Bromofluorobenzene (S)	%	110	87-113	11/06/11 01:21	
Dibromofluoromethane (S)	%	109	86-112	11/06/11 01:21	
Toluene-d8 (S)	%	109	90-110	11/06/11 01:21	

LABORATORY CONTROL SAMPLE: 905104

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	60	50.5	84	79-120	
1,2-Dichloroethane-d4 (S)	%			114	82-119	
4-Bromofluorobenzene (S)	%			97	87-113	
Dibromofluoromethane (S)	%			112	86-112	
Toluene-d8 (S)	%			105	90-110	

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QUALIFIERS

Project: GCU #169
Pace Project No.: 60109248

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

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

BATCH QUALIFIERS

Batch: MSV/41357

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/41413

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: GCU #169
Pace Project No.: 60109248

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60109248001	**MW #1**	EPA 8260	MSV/41357		
60109248002	**MW #2**	EPA 8260	MSV/41357		
60109248003	**MW #3**	EPA 8260	MSV/41357		
60109248004	**MW #4**	EPA 8260	MSV/41357		
60109248005	**MW #5**	EPA 8260	MSV/41357		
60109248006	**MW #6**	EPA 8260	MSV/41357		
60109248006	**MW #6**	EPA 8260	MSV/41413		

Pace Analytical
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Sample Condition Upon Receipt – ESI Tech Specs

Client Name: BP BLACK ENG. Project #: 60109248

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

Optional
Proj Due Date: 11/11
Proj Name:

Tracking #: 866484084230 Pace Shipping Label Used? Yes ☐ No ☒

Custody Seal on Cooler/Box Present: Yes ☐ No ☒ Seals intact: Yes ☐ No ☒

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

Thermometer Used: T-191 / T-194 **Type of Ice:** Wet Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 4.1

Date and initials of person examining contents: DMS 11/1/11 1100

Temperature should be above freezing to 6°C

Chain of Custody present:	☒Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☒Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☒Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☒Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☒Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☐Yes ☒No ☐N/A	6.
Rush Turn Around Time requested: (<72hr)	☐Yes ☒No ☐N/A	7. 4 day TAT
Sufficient volume:	☐Yes ☒No ☐N/A	8. 2 vals each.
Correct containers used:	☒Yes ☐No ☐N/A	
-Pace containers used:	☐Yes ☒No ☐N/A	9.
Containers intact:	☒Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☒N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☒N/A	12.
Sample labels match COC:	☒Yes ☐No ☐N/A	
-Includes date/time/ID/analyses Matrix: water		13.
All containers needing preservation have been checked.	☐Yes ☐No ☒N/A	
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☒N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☐Yes ☒No	Initial when completed mk / Lot # of added preservative
Trip Blank present:	☐Yes ☒No ☐N/A	
Pace Trip Blank lot # (if purchased): n/a		15.
Headspace in VOA vials (>6mm):	☐Yes ☒No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☒N/A	17. List State:

Client Notification/ Resolution: Copy COC to Client? (Y) / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Temp Log: Record start and finish times when unpacking cooler, if >20 min, recheck sample temps.

Start: 1100	Start:
End: 1110	End:
Temp:	Temp:

Project Manager Review: CBK Date: 11/2/11

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

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY # : N / A

GCU # 169 - BLOW & SEP. PITS
UNIT I, SEC. 35, T29N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : February 17, 2012

DEVELOPER / SAMPLER : N J V

Filename : 02-17-12.WK4

PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	100.00	91.98	8.02	20.00	-	-	-	-	-
2	98.23	89.10	9.13	20.00	-	-	-	-	-
3	97.71	89.52	8.19	20.00	1045	7.07	1,700	11.4	5.75
4	99.21	90.44	8.77	20.00	-	-	-	-	-
5	100.80	91.73	9.07	20.00	-	-	-	-	-
6	100.92	92.74	8.18	20.00	1140	7.11	1,200	9.6	5.75

INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800
DATE & TIME =	02/16/2012	1000

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

Ideally a minimum of three (3) wellbore volumes: 2.00 " well diameter = 0.49 gal. / ft. of water.

Comments or note well diameter if not standard 2 ".

Excellent recovery in MW # 3 & # 6 . MW # 3 - brown tint in appearance , MW # 6 - dark gray with slight apparent hydrocarbon odor detected physically) . Used subsersible pump and vinyl clear tubing in both MW ' s for purging and sampling . Collected samples from MW # 3 & # 6 for BTEX per US EPA Method 80210B .

Top of casing MW # 1 ~ 2.00 ft. , MW # 2 ~ 2.00 ft. , MW # 3 ~ 2.00 ft. , MW # 4 ~ 2.00 ft. , MW # 5 ~ 2.00 ft. , MW # 6 ~ 2.00 ft. above grade .

Analytical Report
Lab Order **1202760**
Date Reported: **2/29/2012**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU #169
Lab ID: 1202760-001 **Matrix:** AQUEOUS

Client Sample ID: MW #3
Collection Date: 2/17/2012 10:45:00 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	1.0		µg/L	1	2/24/2012 7:23:30 PM
Toluene	ND	1.0		µg/L	1	2/24/2012 7:23:30 PM
Ethylbenzene	ND	1.0		µg/L	1	2/24/2012 7:23:30 PM
Xylenes, Total	ND	2.0		µg/L	1	2/24/2012 7:23:30 PM
Surr: 4-Bromofluorobenzene	110	76.5-115		%REC	1	2/24/2012 7:23:30 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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU #169
Lab ID: 1202760-002

Client Sample ID: MW #6
Collection Date: 2/17/2012 11:40:00 AM
Matrix: AQUEOUS **Received Date:** 2/22/2012 9:54:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	1.0		µg/L	1	2/24/2012 7:52:19 PM
Toluene	3.7	1.0		µg/L	1	2/24/2012 7:52:19 PM
Ethylbenzene	95	1.0		µg/L	1	2/24/2012 7:52:19 PM
Xylenes, Total	300	20		µg/L	10	2/27/2012 4:53:49 PM
Surr: 4-Bromofluorobenzene	176	76.5-115	S	%REC	1	2/24/2012 7:52:19 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

Chain-of-Custody Record

Client: BLAGG ENGR. / BP AMERICA

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

Phone #: (505) 632-1199

email or Fax#:

QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name:
GCU # 169

Project #:

Project Manager:
NELSON VELEZ

Sampler: NELSON VELEZ

On Ice: ☑ Yes ☐ No

Sample Temperature: 1.5

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

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1202760	BTEX + ~~MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO3, NO2, PO4, SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride (300.0)				Air Bubbles (Y or N)
2/17/12	1045	WATER	MW #3	40 ml VOA - 2	HCl & Cool	- 1	V															
2/17/12	1140	WATER	MW #6	40 ml VOA - 2	HCl & Cool	-2	V															

Analysis Request

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

Remarks:

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

Work Order: N1520107 Paykey: ZPEACJDENV

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1202760**

29-Feb-12

Client: Blagg Engineering
Project: GCU #169

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

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

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

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

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

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

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

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

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: BLAGG Work Order Number: **1202760**

Received by/date: LM 2/22/12

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

Completed By: **Michelle Garcia** 2/22/2012 3:58:56 PM Michelle Garcia

Reviewed By: 2/22/12

Chain of Custody

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

Log In

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

Special Handling (if applicable)

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

Person Notified: Date

By Whom: Via: eMail Phone Fax In Person

Regarding:

Client Instructions:

18. Additional remarks:

19. **Cooler Information**

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

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY # : N / A

GCU # 169 - BLOW & SEP. PITS
UNIT I, SEC. 35, T29N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : June 29, 2012

DEVELOPER / SAMPLER : N J V

Filename : 06-29-12.WK4

PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	100.00	91.70	8.30	20.00	-	-	-	-	-
2	98.23	88.87	9.36	20.00	-	-	-	-	-
3	97.71	89.23	8.48	20.00	0845	7.31	1,600	16.3	5.75
4	99.21	90.18	9.03	20.00	-	-	-	-	-
5	100.80	91.43	9.37	20.00	-	-	-	-	-
6	100.92	92.18	8.74	20.00	0935	7.48	1,100	16.5	5.50

INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800
DATE & TIME =	06/23/1912	0645

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

Ideally a minimum of three (3) wellbore volumes: 2.00 " well diameter = 0.49 gal. / ft. of water.

Comments or note well diameter if not standard 2 ".

Excellent recovery in MW # 3 & # 6 . MW # 3 - brown tint in appearance , MW # 6 - dark gray with slight apparent hydrocarbon odor detected physically) . Used subsersible pump and vinyl clear tubing in both MW ' s for purging and sampling . Collected samples from MW # 3 & # 6 for BTEX per US EPA Method 80210B .

Top of casing MW # 1 ~ 2.00 ft. , MW # 2 ~ 2.00 ft. , MW # 3 ~ 2.00 ft. , MW # 4 ~ 2.00 ft. , MW # 5 ~ 2.00 ft. , MW # 6 ~ 2.00 ft. above grade .

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: MW # 3
Project: GCU # 169
Collection Date: 6/29/2012 8:45:00 AM
Lab ID: 1207172-001
Matrix: AQUEOUS
Received Date: 7/6/2012 9:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**
Benzene	ND	1.0		µg/L	1	7/6/2012 5:06:56 PM
Toluene	ND	1.0		µg/L	1	7/6/2012 5:06:56 PM
Ethylbenzene	ND	1.0		µg/L	1	7/6/2012 5:06:56 PM
Xylenes, Total	ND	2.0		µg/L	1	7/6/2012 5:06:56 PM
Surr: 1,2-Dichloroethane-d4	93.6	70-130		%REC	1	7/6/2012 5:06:56 PM
Surr: 4-Bromofluorobenzene	101	70-130		%REC	1	7/6/2012 5:06:56 PM
Surr: Dibromofluoromethane	104	69.8-130		%REC	1	7/6/2012 5:06:56 PM
Surr: Toluene-d8	95.3	70-130		%REC	1	7/6/2012 5:06:56 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU # 169
Lab ID: 1207172-002
Matrix: AQUEOUS
Client Sample ID: MW # 6
Collection Date: 6/29/2012 9:35:00 AM
Received Date: 7/6/2012 9:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**
Benzene	ND	1.0		µg/L	1	7/6/2012 5:35:19 PM
Toluene	40	1.0		µg/L	1	7/6/2012 5:35:19 PM
Ethylbenzene	300	10		µg/L	10	7/10/2012 3:27:05 PM
Xylenes, Total	1400	20		µg/L	10	7/10/2012 3:27:05 PM
Surr: 1,2-Dichloroethane-d4	96.4	70-130		%REC	1	7/6/2012 5:35:19 PM
Surr: 4-Bromofluorobenzene	94.0	70-130		%REC	1	7/6/2012 5:35:19 PM
Surr: Dibromofluoromethane	103	69.8-130		%REC	1	7/6/2012 5:35:19 PM
Surr: Toluene-d8	92.5	70-130		%REC	1	7/6/2012 5:35:19 PM

Qualifiers:

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

Chain-of-Custody Record

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

Mailing Address: **P.O. BOX 87**
BLOOMFIELD, NM 87413

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

email or Fax#:

QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name:
GCU # 169

Project #:

Project Manager:
NELSON VELEZ

Sampler: **NELSON VELEZ**

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.0

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

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1207172	BTEX + ~~MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO3, NO2, PO4, SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride (300.0)		Grab sample	5 pt. composite sample
6/29/12	0845	WATER	MW # 3	40 ml VOA - 2	HCl & Cool	-001	✓													✓	
6/29/12	0935	WATER	MW # 6	40 ml VOA - 2	HCl & Cool	-002	✓													✓	

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Date	Time
7/5/12	1430		Christine Walker	7/5/12	1430
7/5/12	1727	Christine Walker	Michelle Garcia	07/06/12	0945

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

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories.

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1207172**

16-Jul-12

Client: Blagg Engineering
Project: GCU # 169

Sample ID **5ml-rb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **R3963**	RunNo: **3963**
Prep Date:	Analysis Date: **7/6/2012**	SeqNo: **113355** 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: 1,2-Dichloroethane-d4	9.4		10.00		93.7	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		112	70	130			
Surr: Dibromofluoromethane	10		10.00		101	69.8	130			
Surr: Toluene-d8	9.3		10.00		93.5	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **R3963**	RunNo: **3963**
Prep Date:	Analysis Date: **7/6/2012**	SeqNo: **113356** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	97.8	84.1	126			
Toluene	18	1.0	20.00	0	91.8	80	120			
Surr: 1,2-Dichloroethane-d4	9.8		10.00		98.0	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		113	70	130			
Surr: Dibromofluoromethane	11		10.00		106	69.8	130			
Surr: Toluene-d8	9.1		10.00		90.9	70	130			

Sample ID **5ml-rb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **R3944**	RunNo: **3944**
Prep Date:	Analysis Date: **7/10/2012**	SeqNo: **114321** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 1,2-Dichloroethane-d4	9.3		10.00		93.4	70	130			
Surr: 4-Bromofluorobenzene	12		10.00		115	70	130			
Surr: Dibromofluoromethane	10		10.00		100	70	130			
Surr: Toluene-d8	9.7		10.00		97.5	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **R3944**	RunNo: **3944**
Prep Date:	Analysis Date: **7/10/2012**	SeqNo: **114322** Units: **%REC**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	9.3		10.00		93.4	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		108	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	9.6		10.00		95.6	70	130			

Qualifiers:

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

ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: BLAGG Work Order Number: 1207172

Received by/date: MG 07/06/12

Logged By: **Lindsay Mangin** 7/6/2012 9:45:00 AM

Completed By: **Lindsay Mangin** 7/6/2012 10:34:57 AM

Reviewed By: 07/06/12

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

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

Regarding: _____

Client Instructions: _____

18. Additional remarks:

19. **Cooler Information**

COOLER NO	TEMP °C	CONDITION	SEAL INTACT	
1	1.0°	GOOD	YES	07/06/12

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY # : N / A

GCU # 169 - BLOW & SEP. PITS
UNIT I, SEC. 35, T29N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : September 14, 2012

DEVELOPER / SAMPLER : N J V

Filename : 09-14-12.WK4

PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	100.00	92.74	7.26	20.00	-	-	-	-	-
2	98.23	90.74	7.49	20.00	-	-	-	-	-
3	97.71	90.15	7.56	20.00	1145	7.28	1,500	17.3	6.00
4	99.21	91.16	8.05	20.00	-	-	-	-	-
5	100.80	92.55	8.25	20.00	-	-	-	-	-
6	100.92	93.48	7.44	20.00	1230	7.44	1,200	21.5	6.25

INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800
DATE & TIME =	09/12/12	1050

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 gal. / ft. of water.

Comments or note well diameter if not standard 2 ".

Excellent recovery in MW # 3 & # 6 . MW # 3 - brown tint in appearance , MW # 6 - dark gray with slight apparent hydrocarbon odor detected physically) . Used subsersible pump and vinyl clear tubing in both MW ' s for purging and sampling . Collected samples from MW # 3 & # 6 for BTEX per US EPA Method 80210B . for BTEX per US EPA Method 8260B .

Top of casing MW # 1 ~ 2.00 ft. , MW # 2 ~ 2.00 ft. , MW # 3 ~ 2.00 ft. , MW # 4 ~ 2.00 ft. , MW # 5 ~ 2.00 ft. , MW # 6 ~ 2.00 ft. above grade .

Analytical Report
Lab Order **1209727**
Date Reported: **9/21/2012**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU #169
Lab ID: 1209727-001 **Matrix:** AQUEOUS

Client Sample ID: MW #3
Collection Date: 9/14/2012 11:45:00 AM
Received Date: 9/18/2012 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	9/19/2012 12:32:08 AM
Toluene	ND	1.0		µg/L	1	9/19/2012 12:32:08 AM
Ethylbenzene	ND	1.0		µg/L	1	9/19/2012 12:32:08 AM
Xylenes, Total	ND	2.0		µg/L	1	9/19/2012 12:32:08 AM
Surr: 4-Bromofluorobenzene	81.8	69.7-152		%REC	1	9/19/2012 12:32:08 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU #169
Lab ID: 1209727-002 **Matrix:** AQUEOUS

Client Sample ID: MW #6
Collection Date: 9/14/2012 12:30:00 PM
Received Date: 9/18/2012 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	10		µg/L	10	9/19/2012 1:02:18 AM
Toluene	45	10		µg/L	10	9/19/2012 1:02:18 AM
Ethylbenzene	260	10		µg/L	10	9/19/2012 1:02:18 AM
Xylenes, Total	1400	20		µg/L	10	9/19/2012 1:02:18 AM
Surr: 4-Bromofluorobenzene	79.5	69.7-152		%REC	10	9/19/2012 1:02:18 AM

Qualifiers:

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

Chain-of-Custody Record

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

Mailing Address: **P.O. BOX 87**
BLOOMFIELD, NM 87413

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

email or Fax#:

QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name:
GCU # 169

Project #:

Project Manager:
NELSON VELEZ

Sampler: **NELSON VELEZ** NV

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.7

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

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1209727	BTEX + ~~MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO3, NO2, PO4, SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride (300.0)		Grab sample	5 pt. composite sample
9/14/12	1145	WATER	MW # 3	40 ml VOA - 2	HCl & Cool	-001	√													√	
9/14/12	1230	WATER	MW # 6	40 ml VOA - 2	HCl & Cool	-002	√													√	

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Date	Time
9/17/12	0825			9/17/12	825
9/17/12	1740			9/18/12	1000

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1209727**

21-Sep-12

Client: Blagg Engineering
Project: GCU #169

Sample ID	**5ML RB**	SampType:	**MBLK**	TestCode:	**EPA Method 8015B: Gasoline Range**					
Client ID:	**PBW**	Batch ID:	**R5614**	RunNo:	**5614**					
Prep Date:		Analysis Date:	**9/18/2012**	SeqNo:	**160860**	Units:	**%REC**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	19		20.00		93.2	69.8	119			

Sample ID	**2.5UG GRO LCS**	SampType:	**LCS**	TestCode:	**EPA Method 8015B: Gasoline Range**					
Client ID:	**LCSW**	Batch ID:	**R5614**	RunNo:	**5614**					
Prep Date:		Analysis Date:	**9/18/2012**	SeqNo:	**160861**	Units:	**%REC**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	21		20.00		104	69.8	119			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1209727**

21-Sep-12

Client: Blagg Engineering
Project: GCU #169

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R5614**	RunNo: **5614**
Prep Date:	Analysis Date: **9/18/2012**	SeqNo: **160875** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	19		20.00		94.2	69.7	152			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R5614**	RunNo: **5614**
Prep Date:	Analysis Date: **9/18/2012**	SeqNo: **160876** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	98.5	80	120			
Toluene	20	1.0	20.00	0	102	80	120			
Ethylbenzene	21	1.0	20.00	0	105	80	120			
Xylenes, Total	64	2.0	60.00	0	107	80	120			
Surr: 4-Bromofluorobenzene	19		20.00		92.6	69.7	152			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: BLAGG Work Order Number: 1209727

Received by/date: LM 09/18/12

Logged By: **Anne Thorne** 9/18/2012 10:00:00 AM Anne Thorne

Completed By: **Anne Thorne** 9/18/2012 Anne Thorne

Reviewed By: IO 09/18/12

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

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

Person Notified: _____ Date _____

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

Regarding: _____

Client Instructions: _____

18. Additional remarks: -cool Sample pH@ 7.0 - cool Sample pH@ 5.5 NB 9/19/12

19. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.8	Good	Yes			

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

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

CHAIN-OF-CUSTODY # : N / A

GCU # 169
UNIT I, SEC. 35, T29N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : February 27, 2013
Filename : GCU 169 mw log 02-27-13.xls

DEVELOPER / SAMPLER : N J V
PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	100.00	92.08	7.92	20.00	-	-	-	-	-
2	98.23	89.15	9.08	20.00	-	-	-	-	-
3	97.71	89.58	8.13	20.00	-	-	-	-	-
4	99.21	90.50	8.71	20.00	-	-	-	-	-
5	100.80	91.83	8.97	20.00	-	-	-	-	-
6	100.92	92.86	8.06	20.00	1025	7.15	1,100	9.3	6.00

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

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

Ideally a minimum of three (3) wellbore volumes: 2.00" well diameter = 0.49 gal./ft. of water.

Comments or note well diameter if not standard 2 ".

Excellent recovery in MW # 6 . MW # 6 - dark gray with slight apparent hydrocarbon odor detected physically) .
Purged well using 2 inch submersible electric pump , new / clear vinyl tubing , and with brass adjustable flow valve attachment added near sampling end of tubing . Collected sample from MW # 6 only for BTEX per US EPA Method 8260B .

Top of casing MW # 1 ~ 2.00 ft. , MW # 2 ~ 2.00 ft. , MW # 3 ~ 2.00 ft. , MW # 4 ~ 2.00 ft. , MW # 5 ~ 2.00 ft. , MW # 6 ~ 2.00 ft. above grade .

on-site	9:40 AM	temp	27 F
off-site	10:35 AM	temp	30 F
sky cond.		Sunny	
wind speed	0 - 5	direct.	CALM

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **1303137**
Date Reported: **3/7/2013**

CLIENT: Blagg Engineering
Project: GCU #169
Lab ID: 1303137-001

Client Sample ID: MW #6
Collection Date: 2/27/2013 10:25:00 AM
Matrix: AQUEOUS **Received Date:** 3/5/2013 9:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	5.0		µg/L	5	3/6/2013 12:33:22 AM
Toluene	ND	5.0		µg/L	5	3/6/2013 12:33:22 AM
Ethylbenzene	110	5.0		µg/L	5	3/6/2013 12:33:22 AM
Xylenes, Total	330	10		µg/L	5	3/6/2013 12:33:22 AM
Surr: 4-Bromofluorobenzene	99.4	69.7-152		%REC	5	3/6/2013 12:33:22 AM

Qualifiers:

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

Chain-of-Custody Record

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

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

BLOOMFIELD, NM 87413

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

email or Fax#:

QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name:
GCU # 169

Project #:

Project Manager:
NELSON VELEZ

Sampler: **NELSON VELEZ**

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.5

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

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1303137	BTEX + ~~MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO3, NO2, PO4, SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride (300.0)		Grab sample	5 pt. composite sample	
2/27/13	1025	WATER	MW # 6	40 ml VOA - 2	HCl & Cool	-001	✓													✓		

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Date	Time
3/4/13	911		Christine Walters	3/4/13	911
3/4/13	1730	Christine Walters		03/05/13	0955

Remarks:

BILL DIRECTLY TO BP:

Jeff Peace, 200 Energy Court, Farmington, NM 87401

Find Purchase Order in email from BP.

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1303137**

07-Mar-13

Client: Blagg Engineering

Project: GCU #169

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

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

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

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

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: BLAGG Work Order Number: 1303137

Received by/date: AG 03/05/13

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

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

Reviewed By: 03/06/13

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

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

Person Notified: _____ Date _____

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

Regarding: _____

Client Instructions: _____

18. Additional remarks:

19. **Cooler Information**

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

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

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

CHAIN-OF-CUSTODY # : N / A

GCU # 169
UNIT I, SEC. 35, T29N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : May 29, 2013
Filename : GCU 169 mw log 05-29-13.xls

DEVELOPER / SAMPLER : N J V
PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	100.00	91.92	8.08	20.00	0815	7.32	1,100	13.1	5.75
2	98.23	89.02	9.21	20.00	0915	7.00	1,300	13.4	5.25
3	97.71	89.44	8.27	20.00	1010	6.92	1,400	13.6	5.75
4	99.21	90.35	8.86	20.00	1110	7.02	1,200	13.4	5.50
5	100.80	91.69	9.11	20.00	1210	7.04	1,200	12.8	5.25
6	100.92	92.62	8.30	20.00	1315	7.21	1,100	13.7	5.75
			INSTRUMENT CALIBRATIONS =			4.01/7.00/10.00	2,800		
			DATE & TIME =			05/28/13	0600		

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

Ideally a minimum of three (3) wellbore volumes: 2.00" well diameter = 0.49 gal./ft. of water.

Comments or note well diameter if not standard 2 ".

Excellent recovery in all MW's. MW # 6 - dark gray with slight apparent hydrocarbon odor detected physically), all other wells - light brownish tint. Purged well using 2 inch submersible electric pump, new / clear vinyl tubing, and with brass adjustable flow valve attachment added near sampling end of tubing. Collected sample from all MW's for BTEX per US EPA Method 8260B & general chemistry constituents.

Top of casing MW # 1 ~ 2.00 ft., MW # 2 ~ 2.00 ft., MW # 3 ~ 2.00 ft., MW # 4 ~ 2.00 ft., MW # 5 ~ 2.00 ft., MW # 6 ~ 2.00 ft. above grade.

on-site	7:15 AM	temp	52 F
off-site	1:15 PM	temp	69 F
sky cond.		Sunny	
wind speed	5 - 15	direct.	WSW-WNW

Analytical Report
Lab Order **1305B97**
Date Reported: **6/10/2013**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU #169
Lab ID: 1305B97-001 **Matrix:** AQUEOUS

Client Sample ID: MW #1
Collection Date: 5/29/2013 8:15:00 AM
Received Date: 5/31/2013 10:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Fluoride	0.36	0.10		mg/L	1	5/31/2013 8:56:25 PM	R11029
Chloride	9.2	0.50		mg/L	1	5/31/2013 8:56:25 PM	R11029
Sulfate	170	10		mg/L	20	5/31/2013 9:08:50 PM	R11029
Nitrate+Nitrite as N	4.2	1.0		mg/L	5	6/1/2013 12:15:02 AM	R11029
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **JLF**	
Iron	0.037	0.020		mg/L	1	6/4/2013 2:46:41 PM	R11088
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	646	40.0	*	mg/L	1	6/5/2013 6:04:00 PM	7747

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU #169
Lab ID: 1305B97-002 **Matrix:** AQUEOUS

Client Sample ID: MW #2
Collection Date: 5/29/2013 9:15:00 AM
Received Date: 5/31/2013 10:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Fluoride	0.37	0.10		mg/L	1	5/31/2013 9:46:05 PM	R11029
Chloride	14	0.50		mg/L	1	5/31/2013 9:46:05 PM	R11029
Sulfate	270	10		mg/L	20	5/31/2013 9:58:30 PM	R11029
Nitrate+Nitrite as N	3.0	1.0		mg/L	5	6/1/2013 12:27:27 AM	R11029
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **JLF**	
Iron	0.042	0.020		mg/L	1	6/4/2013 2:52:01 PM	R11088
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	840	40.0	*	mg/L	1	6/5/2013 6:04:00 PM	7747

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU #169
Lab ID: 1305B97-003 **Matrix:** AQUEOUS

Client Sample ID: MW #3
Collection Date: 5/29/2013 10:10:00 AM
Received Date: 5/31/2013 10:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	2.0	P	µg/L	2	5/31/2013 8:38:12 PM	R11006
Toluene	ND	2.0	P	µg/L	2	5/31/2013 8:38:12 PM	R11006
Ethylbenzene	ND	2.0	P	µg/L	2	5/31/2013 8:38:12 PM	R11006
Xylenes, Total	ND	4.0	P	µg/L	2	5/31/2013 8:38:12 PM	R11006
Surr: 4-Bromofluorobenzene	91.3	69.4-129	P	%REC	2	5/31/2013 8:38:12 PM	R11006
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Fluoride	0.31	0.10		mg/L	1	5/31/2013 10:10:55 PM	R11029
Chloride	17	0.50		mg/L	1	5/31/2013 10:10:55 PM	R11029
Sulfate	200	10		mg/L	20	5/31/2013 10:23:19 PM	R11029
Nitrate+Nitrite as N	ND	1.0		mg/L	5	6/1/2013 12:39:52 AM	R11029
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **JLF**	
Iron	ND	0.020		mg/L	1	6/4/2013 3:05:05 PM	R11088
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	814	40.0	*	mg/L	1	6/5/2013 6:04:00 PM	7747

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU #169
Lab ID: 1305B97-004 **Matrix:** AQUEOUS

Client Sample ID: MW #4
Collection Date: 5/29/2013 11:10:00 AM
Received Date: 5/31/2013 10:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Fluoride	0.35	0.10		mg/L	1	5/31/2013 10:35:43 PM	R11029
Chloride	9.7	0.50		mg/L	1	5/31/2013 10:35:43 PM	R11029
Sulfate	160	10		mg/L	20	5/31/2013 10:48:08 PM	R11029
Nitrate+Nitrite as N	3.3	1.0		mg/L	5	6/1/2013 12:52:17 AM	R11029
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **JLF**	
Iron	ND	0.020		mg/L	1	6/4/2013 3:10:20 PM	R11088
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	672	40.0	*	mg/L	1	6/5/2013 6:04:00 PM	7747

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: MW #5
Project: GCU #169
Collection Date: 5/29/2013 12:10:00 PM
Lab ID: 1305B97-005
Matrix: AQUEOUS
Received Date: 5/31/2013 10:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Fluoride	0.40	0.10		mg/L	1	5/31/2013 11:00:33 PM	R11029
Chloride	14	0.50		mg/L	1	5/31/2013 11:00:33 PM	R11029
Sulfate	140	10		mg/L	20	5/31/2013 11:12:58 PM	R11029
Nitrate+Nitrite as N	ND	1.0		mg/L	5	6/1/2013 1:04:42 AM	R11029
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **JLF**	
Iron	1.2	0.10	*	mg/L	5	6/4/2013 3:19:10 PM	R11088
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	715	100	*	mg/L	1	6/5/2013 6:04:00 PM	7747

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU #169
Lab ID: 1305B97-006 **Matrix:** AQUEOUS

Client Sample ID: MW #6
Collection Date: 5/29/2013 1:15:00 PM
Received Date: 5/31/2013 10:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	5.0		µg/L	5	5/31/2013 11:09:34 PM	R11006
Toluene	14	5.0		µg/L	5	5/31/2013 11:09:34 PM	R11006
Ethylbenzene	220	5.0		µg/L	5	5/31/2013 11:09:34 PM	R11006
Xylenes, Total	910	10		µg/L	5	5/31/2013 11:09:34 PM	R11006
Surr: 4-Bromofluorobenzene	128	69.4-129		%REC	5	5/31/2013 11:09:34 PM	R11006
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Fluoride	0.45	0.10		mg/L	1	5/31/2013 11:25:24 PM	R11029
Chloride	10	0.50		mg/L	1	5/31/2013 11:25:24 PM	R11029
Sulfate	48	10		mg/L	20	5/31/2013 11:37:49 PM	R11029
Nitrate+Nitrite as N	ND	1.0		mg/L	5	6/1/2013 1:17:07 AM	R11029
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **JLF**	
Iron	0.60	0.020	*	mg/L	1	6/4/2013 3:21:25 PM	R11088
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	545	100	*	mg/L	1	6/5/2013 6:04:00 PM	7747

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

Qualifiers:

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

Chain-of-Custody Record

Client: BLAGG ENGR. / BP AMERICA

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

Phone #: (505) 632-1199

email or Fax#:

QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name: GCU # 169

Project #:

Project Manager: NELSON VELEZ

Sampler: NELSON VELEZ NV

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.0

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1305897	BTEX + ~~MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals NV	Anions (F,Cl,~~NO3,NO2,PO4,~~SO4)	Total Dissolved Solids	Iron, Ferrous (filtered)	Nitrate N / ~~Nitrite N~~ NV			Grab sample	5 pt. composite sample	
5/29/13	0815	WATER	MW # 1	500 ml - 1	Cool	-001								✓	✓					✓		
5/29/13	0815	WATER	MW # 1	250 ml - 1	HNO_3 & Cool	-001										✓				✓		
5/29/13	0815	WATER	MW # 1	250 ml - 1	H_2SO_4	-001											✓			✓		
5/29/13	0915	WATER	MW # 2	500 ml - 1	Cool	-002								✓	✓					✓		
5/29/13	0915	WATER	MW # 2	250 ml - 1	HNO_3 & Cool	-002										✓				✓		
5/29/13	0915	WATER	MW # 2	250 ml - 1	H_2SO_4	-002											✓			✓		
5/29/13	1010	WATER	MW # 3	40 ml VOA - 2	HCl & Cool	-003	✓													✓		
5/29/13	1010	WATER	MW # 3	500 ml - 1	Cool	-003								✓	✓					✓		
5/29/13	1010	WATER	MW # 3	250 ml - 1	HNO_3 & Cool	-003										✓				✓		
5/29/13	1010	WATER	MW # 3	250 ml - 1	H_2SO_4	-003											✓			✓		

Date	Time	Relinquished by	Received by	Date	Time
5/30/13	835			5/30/13	835
5/30/13	1745			05/31/13	1015

Remarks: pg. 1 OF 2

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

Chain-of-Custody Record

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

Mailing Address: **P.O. BOX 87**
BLOOMFIELD, NM 87413

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

email or Fax#:

QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other_____
☐ EDD (Type) _____

Turn-Around Time:
☑ Standard ☐ Rush _____

Project Name:
GCU # 169

Project #:

Project Manager:
NELSON VELEZ

Sampler: **NELSON VELEZ**

On Ice: ☑ Yes ☐ No

Sample Temperature:

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1305897	BTEX + ~~MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,~~NO3,NO2,PO4,~~SO4)	Total Dissolved Solids	Iron, Ferrous (filtered)	Nitrate N / ~~Nitrite N~~			Grab sample	5 pt. composite sample	
5/29/13	1110	WATER	MW # 4	500 ml - 1	Cool	-004								√	√					√		
5/29/13	1110	WATER	MW # 4	250 ml - 1	HNO_3 & Cool	-004										√				√		
5/29/13	1110	WATER	MW # 4	250 ml - 1	H_2SO_4	-004											√			√		
5/29/13	1210	WATER	MW # 5	500 ml - 1	Cool	-005								√	√					√		
5/29/13	1210	WATER	MW # 5	250 ml - 1	HNO_3 & Cool	-005										√				√		
5/29/13	1210	WATER	MW # 5	250 ml - 1	H_2SO_4	-005											√			√		
5/29/13	1315	WATER	MW # 6	40 ml VOA - 2	HCl & Cool	-006	√													√		
5/29/13	1315	WATER	MW # 6	500 ml - 1	Cool	-006								√	√					√		
5/29/13	1315	WATER	MW # 6	250 ml - 1	HNO_3 & Cool	-006										√				√		
5/29/13	1315	WATER	MW # 6	250 ml - 1	H_2SO_4	-006											√			√		

Date:	Time:	Relinquished by:	Received by:	Date	Time
5/30/13	835	Jeff Blagg	Christine Walker	5/30/13	835
Date:	Time:	Relinquished by:	Received by:	Date	Time
5/30/13	1745	Christine Walker			

Remarks: pg. 2 of 2

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1305B97**

10-Jun-13

Client: Blagg Engineering
Project: GCU #169

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **R11088**	RunNo: **11088**
Prep Date:	Analysis Date: **6/4/2013**	SeqNo: **313880** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	ND	0.020								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **R11088**	RunNo: **11088**
Prep Date:	Analysis Date: **6/4/2013**	SeqNo: **313881** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.53	0.020	0.5000	0	106	85	115			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1305B97**

10-Jun-13

Client: Blagg Engineering

Project: GCU #169

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R11029**	RunNo: **11029**
Prep Date:	Analysis Date: **5/31/2013**	SeqNo: **311788** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Sulfate	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R11029**	RunNo: **11029**
Prep Date:	Analysis Date: **5/31/2013**	SeqNo: **311789** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.49	0.10	0.5000	0	97.9	90	110			
Chloride	4.6	0.50	5.000	0	91.1	90	110			
Sulfate	9.4	0.50	10.00	0	93.7	90	110			
Nitrate+Nitrite as N	3.3	0.20	3.500	0	94.7	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1305B97**

10-Jun-13

Client: Blagg Engineering
Project: GCU #169

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R11006**	RunNo: **11006**
Prep Date:	Analysis Date: **5/31/2013**	SeqNo: **311533** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	19		20.00		92.7	69.4	129			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R11006**	RunNo: **11006**
Prep Date:	Analysis Date: **5/31/2013**	SeqNo: **311534** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	96.9	80	120			
Toluene	19	1.0	20.00	0	96.3	80	120			
Ethylbenzene	20	1.0	20.00	0	97.9	80	120			
Xylenes, Total	59	2.0	60.00	0	99.1	80	120			
Surr: 4-Bromofluorobenzene	19		20.00		96.7	69.4	129			

Sample ID **1305B22-001AMS**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BatchQC**	Batch ID: **R11006**	RunNo: **11006**
Prep Date:	Analysis Date: **5/31/2013**	SeqNo: **311540** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	110	5.0	100.0	10.86	103	80	120			
Toluene	100	5.0	100.0	8.760	93.7	80	120			
Ethylbenzene	120	5.0	100.0	25.18	94.0	80	120			
Xylenes, Total	1200	10	300.0	808.2	123	80	120			S
Surr: 4-Bromofluorobenzene	100		100.0		104	69.4	129			

Sample ID **1305B22-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BatchQC**	Batch ID: **R11006**	RunNo: **11006**
Prep Date:	Analysis Date: **5/31/2013**	SeqNo: **311541** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	110	5.0	100.0	10.86	103	80	120	0.0529	20	
Toluene	100	5.0	100.0	8.760	94.5	80	120	0.826	20	
Ethylbenzene	120	5.0	100.0	25.18	94.0	80	120	0.0168	20	
Xylenes, Total	1100	10	300.0	808.2	109	80	120	3.68	20	
Surr: 4-Bromofluorobenzene	100		100.0		103	69.4	129	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1305B97**

10-Jun-13

Client: Blagg Engineering

Project: GCU #169

Sample ID **MB-7747**	SampType: **MBLK**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **PBW**	Batch ID: **7747**	RunNo: **11104**
Prep Date: **6/4/2013**	Analysis Date: **6/5/2013**	SeqNo: **314064** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID **LCS-7747**	SampType: **LCS**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **LCSW**	Batch ID: **7747**	RunNo: **11104**
Prep Date: **6/4/2013**	Analysis Date: **6/5/2013**	SeqNo: **314065** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1020	20.0	1000	0	102	80	120			

Sample ID **1305B81-002BMS**	SampType: **MS**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **BatchQC**	Batch ID: **7747**	RunNo: **11104**
Prep Date: **6/4/2013**	Analysis Date: **6/5/2013**	SeqNo: **314073** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1230	20.0	1000	212.0	101	80	120			

Sample ID **1305B81-002BMSD**	SampType: **MSD**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **BatchQC**	Batch ID: **7747**	RunNo: **11104**
Prep Date: **6/4/2013**	Analysis Date: **6/5/2013**	SeqNo: **314074** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1240	20.0	1000	212.0	103	80	120	1.38	5	

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: BLAGG | Work Order Number: 1305B97 | RcptNo: 1

Received by/date: AG 05/31/13

Logged By: Michelle Garcia 5/31/2013 10:15:00 AM Michelle Garcia

Completed By: Michelle Garcia 5/31/2013 11:25:11 AM Michelle Garcia

Reviewed By: AT 05/31/13

Chain of Custody

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

Log In

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

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

By Whom: _____ Via: eMail Phone Fax In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

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

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

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

CHAIN-OF-CUSTODY # : N / A

GCU # 169
UNIT I, SEC. 35, T29N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : August 24, 2013
Filename : GCU 169 mw log 08-24-13.xls

DEVELOPER / SAMPLER : N J V
PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	100.00	92.57	7.43	20.00	-	-	-	-	-
2	98.23	89.56	8.67	20.00	-	-	-	-	-
3	97.71	89.99	7.72	20.00	0855	7.51	1,000	16.9	6.00
4	99.21	90.94	8.27	20.00	-	-	-	-	-
5	100.80	92.40	8.40	20.00	-	-	-	-	-
6	100.92	93.38	7.54	20.00	0940	7.68	800	19.5	6.00

INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800
DATE & TIME =	08/20/13	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 gal./ft. of water.

Comments or note well diameter if not standard 2 ".

Excellent recovery in MW # 3 & # 6 . MW # 3 - brown tint in appearance , MW # 6 - dark gray with slight apparent hydrocarbon odor detected physically) . Used subsersible pump and vinyl clear tubing in both MW ' s for purging and sampling . Collected samples from MW # 3 & # 6 for BTEX per US EPA Method 80210B .

Top of casing MW # 1 ~ 2.00 ft. , MW # 2 ~ 2.00 ft. , MW # 3 ~ 2.00 ft. , MW # 4 ~ 2.00 ft. , MW # 5 ~ 2.00 ft. , MW # 6 ~ 2.00 ft. above grade .

on-site	8:15 AM	temp	68 F
off-site	9:45 AM	temp	71 F
sky cond.		Cloudy	
wind speed	0 - 5	direct.	CALM

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU # 169
Lab ID: 1308C28-001 **Matrix:** AQUEOUS

Client Sample ID: MW # 3
Collection Date: 8/24/2013 8:55:00 AM
Received Date: 8/28/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	9/3/2013 1:22:02 PM	R13042
Toluene	ND	1.0		µg/L	1	9/3/2013 1:22:02 PM	R13042
Ethylbenzene	ND	1.0		µg/L	1	9/3/2013 1:22:02 PM	R13042
Xylenes, Total	ND	2.0		µg/L	1	9/3/2013 1:22:02 PM	R13042
Surr: 1,2-Dichloroethane-d4	84.6	70-130		%REC	1	9/3/2013 1:22:02 PM	R13042
Surr: 4-Bromofluorobenzene	86.1	70-130		%REC	1	9/3/2013 1:22:02 PM	R13042
Surr: Dibromofluoromethane	85.4	70-130		%REC	1	9/3/2013 1:22:02 PM	R13042
Surr: Toluene-d8	93.4	70-130		%REC	1	9/3/2013 1:22:02 PM	R13042

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU # 169
Lab ID: 1308C28-002 **Matrix:** AQUEOUS

Client Sample ID: MW # 6
Collection Date: 8/24/2013 9:40:00 AM
Received Date: 8/28/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	5.0		µg/L	5	9/3/2013 1:54:04 PM	R13042
Toluene	17	5.0		µg/L	5	9/3/2013 1:54:04 PM	R13042
Ethylbenzene	230	5.0		µg/L	5	9/3/2013 1:54:04 PM	R13042
Xylenes, Total	1100	10		µg/L	5	9/3/2013 1:54:04 PM	R13042
Surr: 1,2-Dichloroethane-d4	87.5	70-130		%REC	5	9/3/2013 1:54:04 PM	R13042
Surr: 4-Bromofluorobenzene	85.7	70-130		%REC	5	9/3/2013 1:54:04 PM	R13042
Surr: Dibromofluoromethane	81.3	70-130		%REC	5	9/3/2013 1:54:04 PM	R13042
Surr: Toluene-d8	87.5	70-130		%REC	5	9/3/2013 1:54:04 PM	R13042

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

Qualifiers:

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E	Value above quantitation range
J	Analyte detected below quantitation limits
O	RSD is greater than RSDlimit
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
P	Sample pH greater than 2 for VOA and TOC only.
RL	Reporting Detection Limit

Chain-of-Custody Record

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

Mailing Address: **P.O. BOX 87**
BLOOMFIELD, NM 87413

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

email or Fax#:

QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name: **GCU # 169**

Project #:

Project Manager: **NELSON VELEZ**

Sampler: **NELSON VELEZ**

On Ice: ☑ Yes ☐ No

Sample Temperature: 1.0

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1308025	BTEX + ~~MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride (soil - 300.0 / water - 300.1)		Grab sample	5 pt. composite sample	
8/24/13	0855	WATER	MW # 3	40 ml VOA - 2	HCl & Cool	-001	✓													✓		
8/24/13	0940	WATER	MW # 6	40 ml VOA - 2	HCl & Cool	-002	✓													✓		

Date:	Time:	Relinquished by:	Received by:	Date	Time
8/27/13	1045			8/27/13	1045
8/27/13	1717			08/28/13	1000

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1308C28**

04-Sep-13

Client: Blagg Engineering

Project: GCU # 169

Sample ID **5ml rb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **R13042**	RunNo: **13042**
Prep Date:	Analysis Date: **9/3/2013**	SeqNo: **372381** 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: 1,2-Dichloroethane-d4	8.3		10.00		83.2	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		96.6	70	130			
Surr: Dibromofluoromethane	8.4		10.00		84.2	70	130			
Surr: Toluene-d8	8.7		10.00		86.6	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **R13042**	RunNo: **13042**
Prep Date:	Analysis Date: **9/3/2013**	SeqNo: **372382** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	91.1	70	130			
Toluene	18	1.0	20.00	0	91.5	82.2	124			
Surr: 1,2-Dichloroethane-d4	8.7		10.00		86.6	70	130			
Surr: 4-Bromofluorobenzene	8.8		10.00		88.5	70	130			
Surr: Dibromofluoromethane	8.0		10.00		80.3	70	130			
Surr: Toluene-d8	8.5		10.00		85.4	70	130			

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: BLAGG | Work Order Number: 1308C28 | RcptNo: 1

Received by/date: 08/28/13

Logged By: Lindsay Mangin | 8/28/2013 10:00:00 AM

Completed By: Lindsay Mangin | 8/28/2013 10:45:57 AM

Reviewed By: mg 08/28/13

Chain of Custody

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

Log In

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

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

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

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

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

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

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

CHAIN-OF-CUSTODY # : N / A

GCU # 169
UNIT I, SEC. 35, T29N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : December 11, 2013
Filename : GCU 169 mw log 12-11-13.xls

DEVELOPER / SAMPLER : N J V
PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	100.00	92.42	7.58	20.00	-	-	-	-	-
2	98.23	89.46	8.77	20.00	-	-	-	-	-
3	97.71	89.90	7.81	20.00	-	-	-	-	-
4	99.21	90.81	8.40	20.00	-	-	-	-	-
5	100.80	92.21	8.59	20.00	-	-	-	-	-
6	100.92	93.27	7.65	20.00	1010	7.59	800	12.3	6.00

INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800
DATE & TIME =	12/09/13	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 gal./ft. of water.

Comments or note well diameter if not standard 2 ".

Excellent recovery in MW # 6 . MW # 6 - dark gray with slight apparent hydrocarbon odor detected physically) .
Purged well using 2 inch submersible electric pump , new / clear vinyl tubing , and with brass adjustable flow valve attachment added near sampling end of tubing . Collected sample from MW # 6 only for BTEX per US EPA Method 8260B .

Top of casing MW # 1 ~ 2.00 ft. , MW # 2 ~ 2.00 ft. , MW # 3 ~ 2.00 ft. , MW # 4 ~ 2.00 ft. , MW # 5 ~ 2.00 ft. , MW # 6 ~ 2.00 ft. above grade .

on-site	9:30 AM	temp	14 F
off-site	10:30 AM	temp	20 F
sky cond.		Sunny	
wind speed	0 - 5	direct.	CALM

Analytical Report
Lab Order **1312585**
Date Reported: **12/18/2013**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU #169
Lab ID: 1312585-001 **Matrix:** AQUEOUS

Client Sample ID: MW #6
Collection Date: 12/11/2013 10:10:00 AM
Received Date: 12/13/2013 10:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	5.0		µg/L	5	12/17/2013 10:08:43 PM	R15572
Toluene	5.1	5.0		µg/L	5	12/17/2013 10:08:43 PM	R15572
Ethylbenzene	240	5.0		µg/L	5	12/17/2013 10:08:43 PM	R15572
Xylenes, Total	880	10		µg/L	5	12/17/2013 10:08:43 PM	R15572
Surr: 4-Bromofluorobenzene	148	85-136	S	%REC	5	12/17/2013 10:08:43 PM	R15572

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

Qualifiers:

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

Chain-of-Custody Record

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

Mailing Address: **P.O. BOX 87**
BLOOMFIELD, NM 87413

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

email or Fax#:

QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other

☐ EDD (Type)

☑ Standard ☐ Rush

Project Name:
GCU # 169

Project #:

Project Manager:
NELSON VELEZ

Sampler: **NELSON VELEZ**

On Ice: ☑ Yes ☐ No

Sample Temperature: 1.0

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

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1312585	BTEX + MTBE + TMB's (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride (soil - 300.0 / water - 300.1)		Grab sample	5 pt. composite sample
Analysis Request																					
12/11/13	1010	WATER	MW #3R 6	40 ml VOA - 2	HCl & Cool	-001	✓													✓	
			AK 12/16/13																		

Date: 12/12/13 Time: 1453 Relinquished by: [signature]
Received by: [signature] Date: 12/12/13 Time: 1433

Date: 12/12/13 Time: 1747 Relinquished by: [signature]
Received by: [signature] Date: 12/13/13 Time: 1040

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1312585**

18-Dec-13

Client: Blagg Engineering
Project: GCU #169

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R15572**	RunNo: **15572**
Prep Date:	Analysis Date: **12/17/2013**	SeqNo: **448255** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	20		20.00		97.8	85	136			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R15572**	RunNo: **15572**
Prep Date:	Analysis Date: **12/17/2013**	SeqNo: **448256** 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	105	80	120			
Ethylbenzene	21	1.0	20.00	0	103	80	120			
Xylenes, Total	63	2.0	60.00	0	105	80	120			
Surr: 4-Bromofluorobenzene	20		20.00		102	85	136			

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: BLAGG Work Order Number: 1312585 RcptNo: 1

Received by/date: RM 12/13/13

Logged By: Ashley Gallegos 12/13/2013 10:40:00 AM AG

Completed By: Ashley Gallegos 12/13/2013 11:15:26 AM AG

Reviewed By: dtm

Chain of Custody

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

Log In

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

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes X No ☐ ~~NA ☐~~ AG 12/16/13

Person Notified:	NV	Date:	
By Whom:	AG	Via: ☐ eMail ☒ Phone ☐ Fax ☐ In Person	
Regarding:	See Below		
Client Instructions:			

17. Additional remarks: Per NV Sample ID is MW #6 AG 12/16/13

18. **Cooler Information**

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

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

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

CHAIN-OF-CUSTODY # : N / A

GCU # 169
UNIT I, SEC. 35, T29N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : February 26, 2014

Filename : GCU 169 mw log 02-26-14.xls

DEVELOPER / SAMPLER : N J V

PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	100.00	92.06	7.94	20.00	-	-	-	-	-
2	98.23	89.20	9.03	20.00	-	-	-	-	-
3	97.71	89.63	8.08	20.00	-	-	-	-	-
4	99.21	90.50	8.71	20.00	-	-	-	-	-
5	100.80	91.84	8.96	20.00	-	-	-	-	-
6	100.92	92.95	7.97	20.00	1315	6.90	900	11.3	6.00
			INSTRUMENT CALIBRATIONS =			4.01/7.00/10.00	2,800		
			DATE & TIME =			02/24/14	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 gal./ft. of water.

Comments or note well diameter if not standard 2 ".

Excellent recovery in MW # 6 . MW # 6 - dark gray with slight apparent hydrocarbon odor detected physically) .
Purged well using 2 inch submersible electric pump , new / clear vinyl tubing , and with brass adjustable flow valve attachment added near sampling end of tubing . Collected sample from MW # 6 only for BTEX per US EPA Method 8021B .

Top of casing MW # 1 ~ 2.00 ft. , MW # 2 ~ 2.00 ft. , MW # 3 ~ 2.00 ft. , MW # 4 ~ 2.00 ft. , MW # 5 ~ 2.00 ft. , MW # 6 ~ 2.00 ft. above grade .

on-site	**12:15 PM**	temp	**57 F**
off-site	**1:20 PM**	temp	**60 F**
sky cond.	**Mostly sunny**		
wind speed	**0 - 10**	direct.	**W**

Analytical Report
Lab Order **1402B44**
Date Reported: **3/5/2014**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU #169
Lab ID: 1402B44-001
Matrix: AQUEOUS
Client Sample ID: MW # 6
Collection Date: 2/26/2014 1:15:00 PM
Received Date: 2/28/2014 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **JMP**	
Benzene	5.2	1.0		µg/L	1	2/28/2014 4:03:05 PM	R17037
Toluene	1.8	1.0		µg/L	1	2/28/2014 4:03:05 PM	R17037
Ethylbenzene	180	10		µg/L	10	3/3/2014 1:41:52 PM	R17069
Xylenes, Total	560	20		µg/L	10	3/3/2014 1:41:52 PM	R17069
Surr: 4-Bromofluorobenzene	126	85-136		%REC	10	3/3/2014 1:41:52 PM	R17069

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

Qualifiers:

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

Chain-of-Custody Record

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

Mailing Address: **P.O. BOX 87**
BLOOMFIELD, NM 87413

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

email or Fax#:

QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other _____
☐ EDD (Type) _____

Turn-Around Time:
☑ Standard ☐ Rush _____

Project Name:
GCU # 169

Project #:

Project Manager:
NELSON VELEZ

Sampler: **NELSON VELEZ** NV

On Ice: ☑ Yes ☐ No

Sample Temperature: 1.0

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1402B14	BTEX + ~~MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride (soil - 300.0 / water - 300.1)		Grab sample	5 pt. composite sample	
2/26/14	1315	WATER	MW # 6	40 ml VOA - 2	HCl & Cool	-001	✓													✓		

Date:	Time:	Relinquished by:	Received by:	Date	Time
2/27/14	1600		Christine Walters	2/27/14	1600
2/27/14	1728	Christine Walters		02/28/14	1000

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1402B44**

05-Mar-14

Client: Blagg Engineering
Project: GCU #169

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R17037**	RunNo: **17037**
Prep Date:	Analysis Date: **2/28/2014**	SeqNo: **490141** 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								
Surr: 4-Bromofluorobenzene	20		20.00		102	85	136			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R17037**	RunNo: **17037**
Prep Date:	Analysis Date: **2/28/2014**	SeqNo: **490142** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	97.2	80	120			
Toluene	20	1.0	20.00	0	98.4	80	120			
Surr: 4-Bromofluorobenzene	23		20.00		114	85	136			

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R17069**	RunNo: **17069**
Prep Date:	Analysis Date: **3/3/2014**	SeqNo: **490953** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	21		20.00		104	85	136			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R17069**	RunNo: **17069**
Prep Date:	Analysis Date: **3/3/2014**	SeqNo: **490954** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Ethylbenzene	20	1.0	20.00	0	98.9	80	120			
Xylenes, Total	59	2.0	60.00	0	98.9	80	120			
Surr: 4-Bromofluorobenzene	22		20.00		111	85	136			

Sample ID **1402B46-001AMS**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BatchQC**	Batch ID: **R17069**	RunNo: **17069**
Prep Date:	Analysis Date: **3/3/2014**	SeqNo: **490966** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Ethylbenzene	39	2.0	40.00	0	97.7	69.4	135			
Xylenes, Total	120	4.0	120.0	0.9800	98.5	72.4	135			
Surr: 4-Bromofluorobenzene	44		40.00		111	85	136			

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
- 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
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1402B44**

05-Mar-14

Client: Blagg Engineering

Project: GCU #169

Sample ID	**1402B46-001AMSD**	SampType:	**MSD**	TestCode:	**EPA Method 8021B: Volatiles**
Client ID:	**BatchQC**	Batch ID:	**R17069**	RunNo:	**17069**
Prep Date:		Analysis Date:	**3/3/2014**	SeqNo:	**490967** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Ethylbenzene	39	2.0	40.00	0	98.5	69.4	135	0.877	20	
Xylenes, Total	120	4.0	120.0	0.9800	98.0	72.4	135	0.548	20	
Surr: 4-Bromofluorobenzene	46		40.00		114	85	136	0	0	

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
- 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
- P Sample pH greater than 2.
- RL Reporting Detection Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: BLAGG | Work Order Number: 1402B44 | RcptNo: 1

Received by/date: AG 02/28/14

Logged By: **Lindsay Mangin** 2/28/2014 10:00:00 AM

Completed By: **Lindsay Mangin** 2/28/2014 2:14:00 PM

Reviewed By: IO 02/28/2014

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

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

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

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

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

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

CHAIN-OF-CUSTODY # : N / A

GCU # 169
UNIT I, SEC. 35, T29N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : May 27, 2014
Filename : GCU 169 mw log 05-27-14.xls

DEVELOPER / SAMPLER : N J V
PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	100.00	91.85	8.15	20.00	-	-	-	-	-
2	98.23	89.04	9.19	20.00	-	-	-	-	-
3	97.71	89.49	8.22	20.00	-	-	-	-	-
4	99.21	90.34	8.87	20.00	-	-	-	-	-
5	100.80	91.59	9.21	20.00	-	-	-	-	-
6	100.92	92.51	8.41	20.00	1050	7.24	900	16.0	5.75

INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800
DATE & TIME =	05/27/14	0530

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 gal./ft. of water.

Comments or note well diameter if not standard 2 ".

Excellent recovery in MW # 6 . MW # 6 - dark gray with slight apparent hydrocarbon odor detected physically) .
Purged well using 2 inch submersible electric pump , new / clear vinyl tubing , and with brass adjustable flow valve attachment added near sampling end of tubing . Collected sample from MW # 6 only for BTEX per US EPA Method 8021B .

Top of casing MW # 1 ~ 2.00 ft. , MW # 2 ~ 2.00 ft. , MW # 3 ~ 2.00 ft. , MW # 4 ~ 2.00 ft. , MW # 5 ~ 2.00 ft. , MW # 6 ~ 2.00 ft. above grade .

on-site	**10:00 AM**	temp	**67 F**
off-site	**11:00 AM**	temp	**73 F**
sky cond.		**Sunny**	
wind speed	**0 - 5**	direct.	**SE**

Analytical Report
Lab Order: **1405D12**
Date Reported: **6/4/2014**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU # 169
Lab Order: 1405D12

Lab ID: 1405D12-001
Client Sample ID: MW # 6
Collection Date: 5/27/2014 10:50:00 AM
Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	5.0		µg/L	5	6/3/2014 2:52:11 AM	R18994
Toluene	8.7	5.0		µg/L	5	6/3/2014 2:52:11 AM	R18994
Ethylbenzene	240	5.0		µg/L	5	6/3/2014 2:52:11 AM	R18994
Xylenes, Total	1100	10		µg/L	5	6/3/2014 2:52:11 AM	R18994
Surr: 4-Bromofluorobenzene	158	82.9-139	S	%REC	5	6/3/2014 2:52:11 AM	R18994

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

Qualifiers:

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

Chain of Custody Record

Client:	BLAGG ENGR. / BP AMERICA
Mailing Address:	P.O. BOX 87 BLOOMFIELD, NM 87413
Phone #:	(505) 632-1199
email or Fax#:	
QA/QC Package:	☑ Standard ☐ Level 4 (Full Validation)
Accreditation:	☐ NELAP ☐ Other ☐ EDD (Type)

☑ Standard ☐ Rush

Project Name: **GCU # 169**

Project #:

Project Manager: **NELSON VELEZ**

Sampler: **NELSON VELEZ** NV

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.1°

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1405D12	BTEX + ~~MTBE + TMBs~~ (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride (soil - 300.0 / water - 300.1)		Grab sample	5 pt. composite sample	
5/27/14	1050	WATER	MW # 6	40 ml VOA - 2	HCl & Cool	-001	✓													✓		

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Date	Time
5/29/14	1444		Christine Walker	5/29/14	1444
Date:	Time:	Relinquished by:	Received by:	Date	Time
5/29/14	1747	Christine Walker	Celina Sisneros	05/30/14	1142

Remarks:

BILL DIRECTLY TO BP:

Jeff Peace, 200 Energy Court, Farmington, NM 87401

Find Purchase Order in email from BP.

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1405D12**

04-Jun-14

Client: Blagg Engineering
Project: GCU # 169

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R18994**	RunNo: **18994**
Prep Date:	Analysis Date: **6/2/2014**	SeqNo: **548807** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	22		20.00		109	82.9	139			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R18994**	RunNo: **18994**
Prep Date:	Analysis Date: **6/2/2014**	SeqNo: **548808** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	97.2	80	120			
Toluene	19	1.0	20.00	0	96.7	80	120			
Ethylbenzene	19	1.0	20.00	0	96.2	80	120			
Xylenes, Total	60	2.0	60.00	0	99.9	80	120			
Surr: 4-Bromofluorobenzene	22		20.00		110	82.9	139			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: BLAGG | Work Order Number: 1405D12 | RcptNo: 1

Received by/date: CS 05/30/14

Logged By: **Michelle Garcia** 5/30/2014 11:12:00 AM Michelle Garcia

Completed By: **Michelle Garcia** 5/30/2014 3:04:56 PM Michelle Garcia

Reviewed By: 05/30/14

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

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

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.1	Good	Yes			

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

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

CHAIN-OF-CUSTODY # : N / A

GCU # 169
UNIT I, SEC. 35, T29N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : August 25, 2014
Filename : GCU 169 mw log 08-25-14.xls

DEVELOPER / SAMPLER : N J V
PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	100.00	92.39	7.61	20.00	-	-	-	-	-
2	98.23	88.43	9.80	20.00	-	-	-	-	-
3	97.71	89.80	7.91	20.00	-	-	-	-	-
4	99.21	90.80	8.41	20.00	-	-	-	-	-
5	100.80	92.16	8.64	20.00	-	-	-	-	-
6	100.92	93.06	7.86	20.00	1000	7.45	800	19.4	6.00

INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800
DATE & TIME =	08/25/14	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 gal./ft. of water.

Comments or note well diameter if not standard 2 ".

Excellent recovery in MW # 6 . MW # 6 - dark gray with slight apparent hydrocarbon odor detected physically) .
Purged well using 2 inch submersible electric pump , new / clear vinyl tubing , and with brass adjustable flow
valve attachment added near sampling end of tubing . Collected sample from MW # 6 only for BTEX per
US EPA Method 8021B .

Top of casing MW # 1 ~ 2.00 ft. , MW # 2 ~ 2.00 ft. , MW # 3 ~ 2.00 ft. , MW # 4 ~ 2.00 ft. , MW # 5 ~ 2.00 ft. ,
MW # 6 ~ 2.00 ft. above grade .

on-site	**9:00 AM**	temp	**68 F**
off-site	**10:15 AM**	temp	**75 F**
sky cond.		**Mostly sunny**	
wind speed	**0 -10**	direct.	**E ESE**

Analytical Report
Lab Order **1408D05**
Date Reported: **8/28/2014**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU # 169
Lab ID: 1408D05-001 **Matrix:** AQUEOUS

Client Sample ID: MW # 6
Collection Date: 8/25/2014 10:00:00 AM
Received Date: 8/26/2014 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	5.0		µg/L	5	8/26/2014 11:34:24 PM	R20809
Toluene	12	5.0		µg/L	5	8/26/2014 11:34:24 PM	R20809
Ethylbenzene	190	5.0		µg/L	5	8/26/2014 11:34:24 PM	R20809
Xylenes, Total	980	10		µg/L	5	8/26/2014 11:34:24 PM	R20809
Surr: 4-Bromofluorobenzene	143	82.9-139	S	%REC	5	8/26/2014 11:34:24 PM	R20809

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
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
P	Sample pH greater than 2.
RL	Reporting Detection Limit

Chain-of-Custody Record

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

Mailing Address: **P.O. BOX 87**
BLOOMFIELD, NM 87413

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

email or Fax#:

QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name:
GCU # 169

Project #:

Project Manager:
NELSON VELEZ

Sampler: **NELSON VELEZ** NV

On Ice: ☒ Yes ☐ No

Sample Temperature: 2 C

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1408D05	BTEX + ~~MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride (soil - 300.0 / water - 300.1)		Grab sample	5 pt. composite sample	Air Bubbles (Y or N)
8/25/14	1000	WATER	MW # 6	40 ml VOA - 2	HCl & Cool	-001	✓													✓		

Date: 8/25/14 Time: 1540 Relinquished by: [signature] Received by: [signature] Date: 8/25/14 Time: 1540

Date: 8/25/14 Time: 1715 Relinquished by: [signature] Received by: [signature] Date: 08/26/14 Time: 0745

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1408D05**

28-Aug-14

Client: Blagg Engineering
Project: GCU # 169

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R20809**	RunNo: **20809**
Prep Date:	Analysis Date: **8/26/2014**	SeqNo: **605937** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	21		20.00		104	82.9	139			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R20809**	RunNo: **20809**
Prep Date:	Analysis Date: **8/26/2014**	SeqNo: **605938** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	98.2	80	120			
Toluene	20	1.0	20.00	0	98.9	80	120			
Ethylbenzene	20	1.0	20.00	0	101	80	120			
Xylenes, Total	64	2.0	60.00	0	107	80	120			
Surr: 4-Bromofluorobenzene	23		20.00		117	82.9	139			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: BLAGG | Work Order Number: 1408D05 | RcptNo: 1

Received by/date: 08/26/14
Logged By: Lindsay Mangin 8/26/2014 7:45:00 AM
Completed By: Lindsay Mangin 8/26/2014 8:38:13 AM
Reviewed By: 08/26/14

Chain of Custody

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

Log In

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

Special Handling (if applicable)

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

Person Notified: _____ Date: _____
By Whom: _____ Via: eMail Phone Fax In Person
Regarding: _____
Client Instructions: _____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.6	Good	Yes			

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

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

CHAIN-OF-CUSTODY # : N / A

GCU # 169
UNIT I, SEC. 35, T29N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : November 25, 2014
Filename : GCU 169 mw log 11-25-14.xls

DEVELOPER / SAMPLER : N J V
PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	100.00		-	20.00	-	-	-	-	-
2	98.23		-	20.00	-	-	-	-	-
3	97.71		-	20.00	-	-	-	-	-
4	99.21		-	20.00	-	-	-	-	-
5	100.80		-	20.00	-	-	-	-	-
6	100.92		7.60	20.00	1500	7.64	800	14.3	6.00
					INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800		
					DATE & TIME =	11/24/14	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 gal./ft. of water.

Comments or note well diameter if not standard 2 ".

Excellent recovery in MW # 6 . MW # 6 - dark gray with slight apparent hydrocarbon odor detected physically) .
Purged well using 2 inch submersible electric pump , new / clear vinyl tubing , and with brass adjustable flow valve attachment added near sampling end of tubing . Collected sample from MW # 6 only for BTEX per US EPA Method 8021B .

Top of casing MW # 1 ~ 2.00 ft. , MW # 2 ~ 2.00 ft. , MW # 3 ~ 2.00 ft. , MW # 4 ~ 2.00 ft. , MW # 5 ~ 2.00 ft. , MW # 6 ~ 2.00 ft. above grade .

on-site	**2:15 PM**	temp	**45 F**
off-site	**3:30 PM**	temp	**44 F**
sky cond.		**Mostly sunny**	
wind speed	**15 - 20**	direct.	**WNW**

Analytical Report
Lab Order **1411B02**
Date Reported: **12/2/2014**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU #169
Lab ID: 1411B02-001
Matrix: AQUEOUS
Client Sample ID: MW #6
Collection Date: 11/25/2014 3:00:00 PM
Received Date: 11/26/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	5.0		µg/L	5	11/27/2014 1:26:44 AM	R22836
Toluene	ND	5.0		µg/L	5	11/27/2014 1:26:44 AM	R22836
Ethylbenzene	180	5.0		µg/L	5	11/27/2014 1:26:44 AM	R22836
Xylenes, Total	920	10		µg/L	5	11/27/2014 1:26:44 AM	R22836
Surr: 4-Bromofluorobenzene	139	66.6-167		%REC	5	11/27/2014 1:26:44 AM	R22836

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
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
P	Sample pH greater than 2.
RL	Reporting Detection Limit

Chain-of-Custody Record

Client: BLAGG ENGR. / BP AMERICA

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

Phone #: (505) 632-1199

email or Fax#:

QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name:
GCU # 169

Project #:

Project Manager:
NELSON VELEZ

Sampler: NELSON VELEZ

On Ice: ☑ Yes ☐ No

Sample Temperature: 13

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1411802	BTEX ~~+ MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride (soil - 300.0 / water - 300.1)		Grab sample	5 pt. composite sample	
11/25/14	1500	WATER	MW # 6	40 ml VOA - 2	HCl & Cool	-001	✓													✓		

Relinquished by: Nelson Velez — Date: 11/25/14 — Time: 1532
Received by: Christine Walker — Date: 11/25/14 — Time: 1532

Relinquished by: Christine Walker — Date: 11/25/14 — Time: 1815
Received by: [signature] — Date: 11/26/14 — Time: 0700

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1411B02**

02-Dec-14

Client: Blagg Engineering

Project: GCU #169

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R22836**	RunNo: **22836**
Prep Date:	Analysis Date: **11/26/2014**	SeqNo: **673944** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	19		20.00		95.6	66.6	167			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R22836**	RunNo: **22836**
Prep Date:	Analysis Date: **11/26/2014**	SeqNo: **673945** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	99.4	80	120			
Toluene	20	1.0	20.00	0	101	80	120			
Ethylbenzene	20	1.0	20.00	0	102	80	120			
Xylenes, Total	64	2.0	60.00	0	107	80	120			
Surr: 4-Bromofluorobenzene	21		20.00		107	66.6	167			

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
- 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
- P Sample pH greater than 2.
- RL Reporting Detection Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: BLAGG Work Order Number: 1411B02 RcptNo: 1

Received by/date: KM 11/26/14

Logged By: **Ashley Gallegos** 11/26/2014 7:00:00 AM AG

Completed By: **Ashley Gallegos** 11/26/2014 10:11:17 AM AG

Reviewed By: CS 11/26/14

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

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

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.3	Good	Yes			

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

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

CHAIN-OF-CUSTODY # : N / A

GCU # 169
UNIT I, SEC. 35, T29N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : March 10, 2015
Filename : GCU 169 mw log 03-10-15.xls

DEVELOPER / SAMPLER : N J V
PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	100.00	91.99	8.01	20.00	-	-	-	-	-
2	98.23	89.15	9.08	20.00	-	-	-	-	-
3	97.71	89.53	8.18	20.00	-	-	-	-	-
4	99.21	90.46	8.75	20.00	-	-	-	-	-
5	100.80	91.78	9.02	20.00	-	-	-	-	-
6	100.92	92.84	8.08	20.00	0905	7.21	900	9.6	4.50

INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800
DATE & TIME =	03/10/15	0630

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 gal./ft. of water.

Comments or note well diameter if not standard 2 ".

Excellent recovery in MW # 6 . MW # 6 - dark gray with slight apparent hydrocarbon odor detected physically) .
Purged well using 2 inch submersible electric pump , new / clear vinyl tubing , and with brass adjustable flow valve attachment added near sampling end of tubing . Collected sample from MW # 6 only for BTEX per US EPA Method 8021B .

Top of casing MW # 1 ~ 2.00 ft. , MW # 2 ~ 2.00 ft. , MW # 3 ~ 2.00 ft. , MW # 4 ~ 2.00 ft. , MW # 5 ~ 2.00 ft. , MW # 6 ~ 2.00 ft. above grade .

on-site	**8:15 AM**	temp	**45 F**
off-site	**9:15 AM**	temp	**51 F**
sky cond.		**Sunny**	
wind speed	**0 - 10**	direct.	**E - ESE**

Analytical Report
Lab Order **1503483**
Date Reported: **3/13/2015**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU #169
Lab ID: 1503483-001 **Matrix:** AQUEOUS

Client Sample ID: MW #6
Collection Date: 3/10/2015 9:05:00 AM
Received Date: 3/11/2015 8:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	2.5		µg/L	5	3/12/2015 4:23:31 PM	R24802
Toluene	ND	5.0		µg/L	5	3/12/2015 4:23:31 PM	R24802
Ethylbenzene	150	5.0		µg/L	5	3/12/2015 4:23:31 PM	R24802
Xylenes, Total	420	10		µg/L	5	3/12/2015 4:23:31 PM	R24802
Surr: 4-Bromofluorobenzene	153	80-120	S	%REC	5	3/12/2015 4:23:31 PM	R24802

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
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
P	Sample pH Not In Range
RL	Reporting Detection Limit

Chain-of-Custody Record

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

Mailing Address: **P.O. BOX 87**
BLOOMFIELD, NM 87413

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

email or Fax#:

QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other_____
☐ EDD (Type) _____

Turn-Around Time:
☑ Standard ☐ Rush _____

Project Name:
GCU # 169

Project #:

Project Manager:
NELSON VELEZ

Sampler: **NELSON VELEZ**

On Ice: ☑ Yes ☐ No

Sample Temperature: 3.1

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1503483	BTEX + ~~MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	Total Dissolved Solids	Iron, Ferrous (**filtered**)	Nitrate N / Nitrite N			Grab sample	5 pt. composite sample	
3/10/15	0905	WATER	MW # 6	40 ml VOA - 2	HCl & Cool	-001	✓													✓		

Date:	Time:	Relinquished by:	Received by:	Date	Time
3/10/15	1609			3/10/15	1609
3/10/15	1840			12/11/15	0811

Remarks:

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

Paykey: ZEVH01REME

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1503483**

13-Mar-15

Client: Blagg Engineering
Project: GCU #169

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R24802**	RunNo: **24802**
Prep Date:	Analysis Date: **3/12/2015**	SeqNo: **730484** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	22		20.00		112	80	120			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R24802**	RunNo: **24802**
Prep Date:	Analysis Date: **3/12/2015**	SeqNo: **730485** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	109	80	120			
Toluene	21	1.0	20.00	0	107	80	120			
Ethylbenzene	21	1.0	20.00	0	105	80	120			
Xylenes, Total	63	2.0	60.00	0	105	80	120			
Surr: 4-Bromofluorobenzene	24		20.00		120	80	120			S

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: BLAGG Work Order Number: 1503483 RcptNo: 1

Received by/date: AM 03/11/15

Logged By: **Ashley Gallegos** 3/11/2015 8:10:00 AM AG

Completed By: **Ashley Gallegos** 3/11/2015 3:33:20 PM AG

Reviewed By: IO 03/12/15

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

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

Person Notified: _____ Date _____

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

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.1	Good	Yes			

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

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

CHAIN-OF-CUSTODY # : N / A

GCU # 169
UNIT I, SEC. 35, T29N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : May 14, 2015
Filename : GCU 169 mw log 2015-05-14.xls

DEVELOPER / SAMPLER : N J V
PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	100.00	-	-	20.00	-	-	-	-	-
2	98.23	-	-	20.00	-	-	-	-	-
3	97.71	-	-	20.00	-	-	-	-	-
4	99.21	-	-	20.00	-	-	-	-	-
5	100.80	-	-	20.00	-	-	-	-	-
6	100.92	-	8.58	20.00	0845	7.14	900	13.3	4.00

INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800
DATE & TIME =	05/11/15	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 gal./ft. of water.

Comments or note well diameter if not standard 2 ".

Excellent recovery in MW # 6 . MW # 6 - dark gray with slight apparent hydrocarbon odor detected physically) .
Purged well using 2 inch submersible electric pump , new / clear vinyl tubing , and with brass adjustable flow valve attachment added near sampling end of tubing . Collected sample from MW # 6 only for BTEX per US EPA Method 8021B .

Top of casing MW # 1 ~ 2.00 ft. , MW # 2 ~ 2.00 ft. , MW # 3 ~ 2.00 ft. , MW # 4 ~ 2.00 ft. , MW # 5 ~ 2.00 ft. , MW # 6 ~ 2.00 ft. above grade .

on-site	**7:50 AM**	temp	**53 F**
off-site	**9:00 AM**	temp	**55 F**
sky cond.		**Cloudy**	
wind speed	**5 - 15**	direct.	**NE - ESE**

Analytical Report
Lab Order **1505686**
Date Reported: **5/18/2015**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU #169
Lab ID: 1505686-001 **Matrix:** AQUEOUS

Client Sample ID: MW # 6
Collection Date: 5/14/2015 8:45:00 AM
Received Date: 5/15/2015 7:26:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	2.9	2.5		µg/L	5	5/15/2015 1:54:53 PM	R26234
Toluene	ND	5.0		µg/L	5	5/15/2015 1:54:53 PM	R26234
Ethylbenzene	230	5.0		µg/L	5	5/15/2015 1:54:53 PM	R26234
Xylenes, Total	1000	10		µg/L	5	5/15/2015 1:54:53 PM	R26234
Surr: 4-Bromofluorobenzene	134	80-120	S	%REC	5	5/15/2015 1:54:53 PM	R26234

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

Qualifiers:

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

Chain-of-Custody Record

Client: BLAGG ENGR. / BP AMERICA

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

Phone #: (505) 632-1199

Email or Fax#:

QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name: GCU # 169

Project #:

Project Manager: NELSON VELEZ

Sampler: NELSON VELEZ NV

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.2

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

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1505686	BTEX + ~~MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	Total Dissolved Solids	Iron, Ferrous (filtered)	Nitrate N / Nitrite N			Grab sample	5 pt. composite sample	Air Bubbles (Y or N)
5/14/15	0845	WATER	MW # 6	40 ml VOA - 2	HCl & Cool	-001	✓													✓		

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Date	Time
5/14/15	1537		Mista Walker	5/14/15	1537
5/14/15	1848			05/15/15	0726

Remarks:

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

Paykey: ZEVH01REME

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1505686**

18-May-15

Client: Blagg Engineering

Project: GCU #169

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R26234**	RunNo: **26234**
Prep Date:	Analysis Date: **5/15/2015**	SeqNo: **779458** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	104	80	120			
Toluene	21	1.0	20.00	0	106	80	120			
Ethylbenzene	21	1.0	20.00	0	106	80	120			
Xylenes, Total	62	2.0	60.00	0	103	80	120			
Surr: 4-Bromofluorobenzene	19		20.00		94.3	80	120			

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R26234**	RunNo: **26234**
Prep Date:	Analysis Date: **5/15/2015**	SeqNo: **779481** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	18		20.00		92.1	80	120			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: **BLAGG** Work Order Number: **1505686** RcptNo: **1**

Received by/date: AT 05/15/15

Logged By: **Lindsay Mangin** **5/15/2015 7:26:00 AM**

Completed By: **Lindsay Mangin** **5/15/2015 8:08:52 AM**

Reviewed By: 5-15-15

Chain of Custody

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

Log In

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

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

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

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.2	Good	Yes			

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

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

CHAIN-OF-CUSTODY # : N / A

GCU # 169
UNIT I, SEC. 35, T29N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : August 26, 2015
Filename : GCU 169 mw log 2015-08-26.xls

DEVELOPER / SAMPLER : N J V
PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	100.00	-	-	20.00	-	-	-	-	-
2	98.23	-	-	20.00	-	-	-	-	-
3	97.71	-	-	20.00	-	-	-	-	-
4	99.21	-	-	20.00	-	-	-	-	-
5	100.80	-	-	20.00	-	-	-	-	-
6	100.92	-	8.43	20.00	0845	7.05	1,000	17.5	4.25
					INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800		
					DATE & TIME =	08/19/15	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 gal./ft. of water.

Comments or note well diameter if not standard 2 ".

Excellent recovery in MW # 6 . MW # 6 - dark gray with slight apparent hydrocarbon odor detected physically) .
Purged well using 2 inch submersible electric pump , new / clear vinyl tubing , and with brass adjustable flow
valve attachment added near sampling end of tubing . Collected sample from MW # 6 only for BTEX per
US EPA Method 8021B .

Top of casing MW # 1 ~ 2.00 ft. , MW # 2 ~ 2.00 ft. , MW # 3 ~ 2.00 ft. , MW # 4 ~ 2.00 ft. , MW # 5 ~ 2.00 ft. ,
MW # 6 ~ 2.00 ft. above grade .

on-site	**7:45 AM**	temp	**65 F**
off-site	**8:45 AM**	temp	**64 F**
sky cond.		**Cloudy**	
wind speed	**0 - 5**	direct.	**E**

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **1508E35**
Date Reported: **9/4/2015**

CLIENT: Blagg Engineering
Project: GCU # 169
Lab ID: 1508E35-001
Matrix: AQUEOUS
Client Sample ID: MW # 6
Collection Date: 8/26/2015 8:35:00 AM
Received Date: 8/28/2015 8:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	2.0	D	µg/L	2	9/2/2015 4:28:19 PM	A28626
Toluene	16	2.0	D	µg/L	2	9/2/2015 4:28:19 PM	A28626
Ethylbenzene	240	20		µg/L	20	9/2/2015 4:00:44 PM	A28626
Xylenes, Total	1300	30		µg/L	20	9/2/2015 4:00:44 PM	A28626
Surr: 1,2-Dichloroethane-d4	106	70-130	D	%REC	2	9/2/2015 4:28:19 PM	A28626
Surr: 4-Bromofluorobenzene	103	70-130	D	%REC	2	9/2/2015 4:28:19 PM	A28626
Surr: Dibromofluoromethane	113	70-130	D	%REC	2	9/2/2015 4:28:19 PM	A28626
Surr: Toluene-d8	95.3	70-130	D	%REC	2	9/2/2015 4:28:19 PM	A28626

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix		

Chain-of-Custody Record

Client: BLAGG ENGR. / BP AMERICA

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

Phone #: (505) 632-1199

email or Fax#:

QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name:
GCU # 169

Project #:

Project Manager:
NELSON VELEZ

Sampler: NELSON VELEZ NV

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.3 + 0.3CF = 2.6

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

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1508E35
8/26/15	0835	WATER	MW # 6	40 ml VOA - 2	HCl & Cool	-001

Analysis Request

BTEX + ~~MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	Total Dissolved Solids	Iron, Ferrous (filtered)	Nitrate N / Nitrite N			Grab sample	5 pt. composite sample
✓													✓	

Date	Time	Relinquished by:	Received by:	Date	Time
8/27/15	1600		Christie Wade	8/27/15	1600
8/27/15	1910	Christie Wade		08/28/15	0825

Remarks:

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

Paykey: ZEVH01REME

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1508E35**

04-Sep-15

Client: Blagg Engineering

Project: GCU # 169

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **A28626**	RunNo: **28626**
Prep Date:	Analysis Date: **9/2/2015**	SeqNo: **866329** 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	1.5								
Surr: 1,2-Dichloroethane-d4	9.6		10.00		95.7	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		105	70	130			
Surr: Dibromofluoromethane	11		10.00		108	70	130			
Surr: Toluene-d8	9.8		10.00		98.1	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **A28626**	RunNo: **28626**
Prep Date:	Analysis Date: **9/2/2015**	SeqNo: **866330** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	98.9	70	130			
Toluene	19	1.0	20.00	0	97.2	70	130			
Surr: 1,2-Dichloroethane-d4	9.7		10.00		97.1	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		105	70	130			
Surr: Dibromofluoromethane	11		10.00		108	70	130			
Surr: Toluene-d8	9.7		10.00		97.2	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix		

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: **BLAGG** Work Order Number: **1508E35** RcptNo: **1**

Received by/date: 08/28/15

Logged By: **Lindsay Mangin** **8/28/2015 8:25:00 AM**

Completed By: **Lindsay Mangin** **8/31/2015 6:21:43 AM**

Reviewed By: 08/31/15

Chain of Custody

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

Log In

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

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

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

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.6	Good	Yes			

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

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

CHAIN-OF-CUSTODY # : N / A

GCU # 169
UNIT I, SEC. 35, T29N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : December 2, 2015
Filename : GCU 169 mw log 2015-12-02.xls

DEVELOPER / SAMPLER : N J V
PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	100.00	92.07	7.93	20.00	-	-	-	-	-
2	98.23	-	-	20.00	-	-	-	-	-
3	97.71	89.63	8.08	20.00	-	-	-	-	-
4	99.21	90.56	8.65	20.00	-	-	-	-	-
5	100.80	91.88	8.92	20.00	-	-	-	-	-
6	100.92	92.86	8.06	20.00	1315	7.23	900	12.7	5.75
					INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800		
					DATE & TIME =	12/02/15	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 gal./ft. of water.

Comments or note well diameter if not standard 2 ".

Excellent recovery in MW # 6 . MW # 6 - medium gray with slight apparent hydrocarbon odor detected physically.
Purged well using 2 inch submersible electric pump , new / clear vinyl tubing , and with brass adjustable flow
valve attachment added near sampling end of tubing . Collected sample from MW # 6 only for BTEX per
US EPA Method 8021B .

Top of casing MW # 1 ~ 2.00 ft. , MW # 2 ~ 2.00 ft. , MW # 3 ~ 2.00 ft. , MW # 4 ~ 2.00 ft. , MW # 5 ~ 2.00 ft. ,
MW # 6 ~ 2.00 ft. above grade .

on-site	**12:30 PM**	temp	**34 F**
off-site	**1:30 PM**	temp	**35 F**
sky cond.		**Partly cloudy**	
wind speed	**0 - 5**	direct.	**E - SE**

Analytical Report
Lab Order **1512207**
Date Reported: **12/11/2015**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU #169
Lab ID: 1512207-001
Matrix: AQUEOUS
Client Sample ID: MW #6
Collection Date: 12/2/2015 1:15:00 PM
Received Date: 12/4/2015 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	12/9/2015 10:33:15 PM	A30730
Toluene	3.7	1.0		µg/L	1	12/9/2015 10:33:15 PM	A30730
Ethylbenzene	180	10		µg/L	10	12/10/2015 4:52:52 PM	A30773
Xylenes, Total	910	15		µg/L	10	12/10/2015 4:52:52 PM	A30773
Surr: 1,2-Dichloroethane-d4	104	70-130		%REC	1	12/9/2015 10:33:15 PM	A30730
Surr: 4-Bromofluorobenzene	91.4	70-130		%REC	1	12/9/2015 10:33:15 PM	A30730
Surr: Dibromofluoromethane	99.5	70-130		%REC	1	12/9/2015 10:33:15 PM	A30730
Surr: Toluene-d8	98.0	70-130		%REC	1	12/9/2015 10:33:15 PM	A30730

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix		

Chain-of-Custody Record

Client: BLAGG ENGR. / BP AMERICA

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

Phone #: (505) 632-1199

email or Fax#:

QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name:
GCU # 169

Project #:

Project Manager:
NELSON VELEZ

Sampler: NELSON VELEZ

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.3

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

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1512207	BTEX + ~~MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	Total Dissolved Solids	Iron, Ferrous (filtered)	Nitrate N / Nitrite N			Grab Sample	5 pt. composite sample	
12/2/15	1315	WATER	MW # 6	40 ml VOA - 2	HCl & Cool	-001	✓													✓		

Analysis Request

Date	Time	Relinquished by	Received by	Date	Time
12/3/15	1732			12/3/15	1732
12/3/15	1741			12/04/15	0900

Remarks:

BILL DIRECTLY TO BP:
200 Energy Court, Farmington, NM 87401 Attn.: S. Moskal

VID: VHIXONEVRM

If necessary, samples submitted to Hall Environmental may be subcontracted to ...

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1512207**

11-Dec-15

Client: Blagg Engineering
Project: GCU #169

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **A30730**	RunNo: **30730**
Prep Date:	Analysis Date: **12/9/2015**	SeqNo: **938973** 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								
Surr: 1,2-Dichloroethane-d4	10		10.00		99.6	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	9.9		10.00		99.3	70	130			
Surr: Toluene-d8	9.5		10.00		95.0	70	130			

Sample ID **100ng lcsc**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **A30730**	RunNo: **30730**
Prep Date:	Analysis Date: **12/9/2015**	SeqNo: **938974** 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	70	130			
Toluene	21	1.0	20.00	0	103	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		105	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		96.0	70	130			
Surr: Dibromofluoromethane	11		10.00		105	70	130			
Surr: Toluene-d8	10		10.00		99.6	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **A30773**	RunNo: **30773**
Prep Date:	Analysis Date: **12/10/2015**	SeqNo: **940002** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		102	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		99.7	70	130			
Surr: Dibromofluoromethane	11		10.00		107	70	130			
Surr: Toluene-d8	9.5		10.00		94.8	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **A30773**	RunNo: **30773**
Prep Date:	Analysis Date: **12/10/2015**	SeqNo: **940003** Units: **%REC**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	10		10.00		103	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		96.4	70	130			
Surr: Dibromofluoromethane	10		10.00		99.6	70	130			
Surr: Toluene-d8	9.5		10.00		94.8	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix		

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: BLAGG | Work Order Number: 1512207 | RcptNo: 1

Received by/date: 12/04/15

Logged By: Joe Archuleta 12/4/2015 8:00:00 AM

Completed By: Joe Archuleta 12/4/2015 11:16:30 AM

Reviewed By: 12/04/15

Chain of Custody

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

Log In

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

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

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

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.3	Good	Yes			

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

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

CHAIN-OF-CUSTODY # : N / A

GCU # 169
UNIT I, SEC. 35, T29N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : February 23, 2016
Filename : GCU 169 mw log 2016-02-23.xls

DEVELOPER / SAMPLER : N J V
PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	100.00	91.59	8.41	20.00	-	-	-	-	-
2	98.23	-	-	20.00	-	-	-	-	-
3	97.71	89.17	8.54	20.00	-	-	-	-	-
4	99.21	90.12	9.09	20.00	-	-	-	-	-
5	100.80	91.35	9.45	20.00	-	-	-	-	-
6	100.92	92.30	8.62	20.00	1250	6.98	900	9.3	5.00

INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800
DATE & TIME =	02/23/16	0630

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 gal./ft. of water.

Comments or note well diameter if not standard 2 ".

Excellent recovery in MW # 6 . MW # 6 - medium gray with slight apparent hydrocarbon odor detected physically. Purged well using 2 inch submersible electric pump , new / clear vinyl tubing , and with brass adjustable flow valve attachment added near sampling end of tubing . Collected sample from MW # 6 only for BTEX per US EPA Method 8021B .

Top of casing MW # 1 ~ 2.00 ft. , MW # 2 ~ 2.00 ft. , MW # 3 ~ 2.00 ft. , MW # 4 ~ 2.00 ft. , MW # 5 ~ 2.00 ft. , MW # 6 ~ 2.00 ft. above grade .

on-site	**12:00 PM**	temp	**39 F**
off-site	**1:30 PM**	temp	**42 F**
sky cond.		**Cloudy**	
wind speed	**0 - 10**	direct.	**W - NW**

Analytical Report
Lab Order **1602A70**
Date Reported: **3/1/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU #169
Lab ID: 1602A70-001

Client Sample ID: MW #6
Collection Date: 2/23/2016 1:30:00 PM
Matrix: AQUEOUS
Received Date: 2/25/2016 7:20:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	2/26/2016 10:31:40 AM	R32443
Toluene	1.9	1.0		µg/L	1	2/26/2016 10:31:40 AM	R32443
Ethylbenzene	200	10		µg/L	10	2/26/2016 10:07:00 AM	R32443
Xylenes, Total	750	20		µg/L	10	2/26/2016 10:07:00 AM	R32443
Surr: 4-Bromofluorobenzene	374	65-127	S	%Rec	1	2/26/2016 10:31:40 AM	R32443

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Chain-of-Custody Record

Client: BLAGG ENGR. / BP AMERICA

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

Phone #: (505) 632-1199

Email or Fax#:

QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name:
GCU # 169

Project #:

Project Manager:
NELSON VELEZ

Sampler: NELSON VELEZ NV

On Ice: ☑ Yes ☐ No

Sample Temperature: 1, 2

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

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1602470	BTEX + ~~MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	Total Dissolved Solids	Iron, Ferrous (filtered)	Nitrate N / Nitrite N			Grab sample	5 pt. composite sample	Air Bubbles (Y or N)
2/23/16	1330	WATER	MW # 6	40 ml VOA - 2	HCl & Cool	-001	✓													✓		

Analysis Request

Date: 2/24/16 Time: 1609 Relinquished by: [signature]
Received by: Christie Walters Date: 2/24/16 Time: 1609

Date: 24/16 Time: 1814 Relinquished by: Christie Walters
Received by: [signature] Date: 02/25/16 Time: 0720

Remarks:

BILL DIRECTLY TO BP:
200 Energy Court, Farmington, NM 87401 Attn.: John Ritchie

VID: VRITCJWFEC

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1602A70**

01-Mar-16

Client: Blagg Engineering

Project: GCU #169

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R32443**	RunNo: **32443**
Prep Date:	Analysis Date: **2/26/2016**	SeqNo: **992135** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	21		20.00		106	65	127			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R32443**	RunNo: **32443**
Prep Date:	Analysis Date: **2/26/2016**	SeqNo: **992136** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	90.8	80	120			
Toluene	19	1.0	20.00	0	94.9	80	120			
Ethylbenzene	19	1.0	20.00	0	95.8	80	120			
Xylenes, Total	58	2.0	60.00	0	96.5	80	120			
Surr: 4-Bromofluorobenzene	24		20.00		119	65	127			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: BLAGG Work Order Number: 1602A70 RcptNo: 1

Received by/date: CM 02/25/16

Logged By: Anne Thorne 2/25/2016 7:20:00 AM Anne Thorne

Completed By: Anne Thorne 2/25/2016 Anne Thorne

Reviewed By: JA 02/25/16

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

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

Person Notified: _____ Date _____

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

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.2	Good	Yes			

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

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

CHAIN-OF-CUSTODY # : N / A

GCU # 169
UNIT I, SEC. 35, T29N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : June 6, 2016
Filename : GCU 169 mw log 2016-06-06.xls

DEVELOPER / SAMPLER : N J V
PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	100.00	91.15	8.85	20.00	-	-	-	-	-
2	98.23	-	-	20.00	-	-	-	-	-
3	97.71	88.77	8.94	20.00	-	-	-	-	-
4	99.21	89.68	9.53	20.00	-	-	-	-	-
5	100.80	90.88	9.92	20.00	-	-	-	-	-
6	100.92	91.79	9.13	20.00	0925	7.30	900	14.9	5.25
					INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800		
					DATE & TIME =	06/02/16	0700		

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 gal./ft. of water.

Comments or note well diameter if not standard 2 ".

Excellent recovery in MW # 6 . MW # 6 - medium gray with slight apparent hydrocarbon odor detected physically. Purged well using 2 inch submersible electric pump , new / clear vinyl tubing , and with brass adjustable flow valve attachment added near sampling end of tubing . Collected sample from MW # 6 only for BTEX per US EPA Method 8021B .

Top of casing MW # 1 ~ 2.00 ft. , MW # 2 ~ 2.00 ft. , MW # 3 ~ 2.00 ft. , MW # 4 ~ 2.00 ft. , MW # 5 ~ 2.00 ft. , MW # 6 ~ 2.00 ft. above grade .

on-site	**8:40 AM**	temp	**73 F**
off-site	**9:40 AM**	temp	**77 F**
sky cond.	**Mostly sunny**		
wind speed	**0 - 10**	direct.	**ENE - E**

Analytical Report
Lab Order **1606468**
Date Reported: **6/16/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 169
Lab ID: 1606468-001
Matrix: AQUEOUS
Client Sample ID: MW #6
Collection Date: 6/6/2016 9:25:00 AM
Received Date: 6/9/2016 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	2.0	1.0		µg/L	1	6/13/2016 10:41:42 AM	B34875
Toluene	5.2	1.0		µg/L	1	6/13/2016 10:41:42 AM	B34875
Ethylbenzene	170	20		µg/L	20	6/14/2016 1:45:10 PM	B34904
Xylenes, Total	840	40		µg/L	20	6/14/2016 1:45:10 PM	B34904
Surr: 4-Bromofluorobenzene	295	87.9-146	S	%Rec	1	6/13/2016 10:41:42 AM	B34875

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Chain-of-Custody Record

Client: BLAGG ENGR. / BP AMERICA

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

Phone #: (505) 632-1199

Email or Fax#:

QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name: GCU # 169

Project #:

Project Manager: NELSON VELEZ

Sampler: NELSON VELEZ NV

On Ice: ☑ Yes ☐ No

Sample Temperature: 1.3

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

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1600644 68	BTEX + ~~MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	Total Dissolved Solids	8260B (VOA)	8270 (Semi-VOA)	Anions / Cations Balance		Grab sample	5 pt. composite sample	Air Bubbles (Y or N)
6/6/16	0925	WATER	MW # 6	40 ml VOA - 2	HCl & Cool	-001	✓													✓		

Analysis Request

Date	Time	Relinquished by:	Received by:	Date	Time
6/8/16	1815		Christie Walters	6/8/16	1815
6/8/16	1844	Christie Walters		06/09/16	0800

Remarks:

BILL DIRECTLY TO BP:
200 Energy Court, Farmington, NM 87401 Attn.: John Ritchie

VID: VDRINKJWA1

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1606468**

16-Jun-16

Client: Blagg Engineering
Project: GCU 169

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **B34875**	RunNo: **34875**
Prep Date:	Analysis Date: **6/13/2016**	SeqNo: **1077031** 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								
Surr: 4-Bromofluorobenzene	22		20.00		110	87.9	146			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **B34875**	RunNo: **34875**
Prep Date:	Analysis Date: **6/13/2016**	SeqNo: **1077032** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	99.4	80	120			
Toluene	19	1.0	20.00	0	94.7	80	120			
Surr: 4-Bromofluorobenzene	23		20.00		115	87.9	146			

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **B34904**	RunNo: **34904**
Prep Date:	Analysis Date: **6/14/2016**	SeqNo: **1078033** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	22		20.00		110	87.9	146			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **B34904**	RunNo: **34904**
Prep Date:	Analysis Date: **6/14/2016**	SeqNo: **1078034** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Ethylbenzene	18	1.0	20.00	0	89.8	80	120			
Xylenes, Total	54	2.0	60.00	0	89.7	80	120			
Surr: 4-Bromofluorobenzene	24		20.00		119	87.9	146			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: BLAGG Work Order Number: 1606468 RcptNo: 1

Received by/date: 06/09/16

Logged By: Ashley Gallegos 6/9/2016 8:00:00 AM

Completed By: Ashley Gallegos 6/9/2016 12:35:52 PM

Reviewed By: 06/09/16

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

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

Person Notified: _____ Date _____

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

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.3	Good	Yes			

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

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

CHAIN-OF-CUSTODY # : N / A

GCU # 169
UNIT I, SEC. 35, T29N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : August 18, 2016
Filename : GCU 169 mw log 2016-08-18.xls

DEVELOPER / SAMPLER : N J V
PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	100.00	-	-	20.00	-	-	-	-	-
2	98.23	-	-	20.00	-	-	-	-	-
3	97.71	-	-	20.00	-	-	-	-	-
4	99.21	-	-	20.00	-	-	-	-	-
5	100.80	-	-	20.00	-	-	-	-	-
6	100.92	92.12	8.80	20.00	1250	7.27	900	19.8	5.50
					INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800		
					DATE & TIME =	08/18/16	0630		

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 gal./ft. of water.

Comments or note well diameter if not standard 2 ".

Excellent recovery in MW # 6 . MW # 6 - medium gray with slight apparent hydrocarbon odor detected physically.
Purged well using 2 inch submersible electric pump , new / clear vinyl tubing , and with brass adjustable flow valve attachment added near sampling end of tubing . Collected sample from MW # 6 only for BTEX per US EPA Method 8021B .

Top of casing MW # 1 ~ 2.00 ft. , MW # 2 ~ 2.00 ft. , MW # 3 ~ 2.00 ft. , MW # 4 ~ 2.00 ft. , MW # 5 ~ 2.00 ft. , MW # 6 ~ 2.00 ft. above grade .

on-site	**12:00 PM**	temp	**46 F**
off-site	**1:00 PM**	temp	**52 F**
sky cond.		**Cloudy**	
wind speed	**0 - 5**	direct.	**W**

Analytical Report
Lab Order **1608C14**
Date Reported: **8/25/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 169
Lab ID: 1608C14-001

Client Sample ID: MW # 6
Collection Date: 8/18/2016 12:50:00 PM
Matrix: AQUEOUS
Received Date: 8/20/2016 9:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	8/24/2016 3:09:28 PM	B36734
Toluene	6.4	1.0		µg/L	1	8/24/2016 3:09:28 PM	B36734
Ethylbenzene	170	10		µg/L	10	8/24/2016 3:58:31 PM	B36734
Xylenes, Total	920	20		µg/L	10	8/24/2016 3:58:31 PM	B36734
Surr: 4-Bromofluorobenzene	110	87.9-146		%Rec	10	8/24/2016 3:58:31 PM	B36734

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Chain-of-Custody Record

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

Mailing Address: **P.O. BOX 87**
BLOOMFIELD, NM 87413

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

email or Fax#:

QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other_____
☐ EDD (Type)_____

Turn-Around Time:
☑ Standard ☐ Rush _____

Project Name:
GCU # 169

Project #:

Project Manager:
NELSON VELEZ

Sampler: **NELSON VELEZ** NV

On Ice: ☑ Yes ☐ No

Sample Temperature: 3.8

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

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1608C14
8/18/16	1250	WATER	MW # 6	40 ml VOA - 2	HCl & Cool	-001

Analysis Request

BTEX + ~~MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	Total Dissolved Solids	8260B (VOA)	8270 (Semi-VOA)	Anions / Cations Balance		Grab sample	5 pt. composite sample	Air Bubbles (Y or N)
✓													✓		

Date	Time	Relinquished by:	Received by:	Date	Time
8/19/16	1055			8/19/16	1055
8/19/16	1746			08/20/16	0915

Remarks:

BILL DIRECTLY TO BP:
200 Energy Court, Farmington, NM 87401 Attn.: John Ritchie

VID: VDRINKJWA1

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1608C14**

25-Aug-16

Client: Blagg Engineering
Project: GCU 169

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **B36734**	RunNo: **36734**
Prep Date:	Analysis Date: **8/24/2016**	SeqNo: **1138368** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	20		20.00		98.7	87.9	146			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **B36734**	RunNo: **36734**
Prep Date:	Analysis Date: **8/24/2016**	SeqNo: **1138369** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	98.8	80	120			
Toluene	19	1.0	20.00	0	94.4	80	120			
Ethylbenzene	18	1.0	20.00	0	91.9	80	120			
Xylenes, Total	54	2.0	60.00	0	89.5	80	120			
Surr: 4-Bromofluorobenzene	20		20.00		101	87.9	146			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: **BLAGG** Work Order Number: **1608C14** RcptNo: 1

Received by/date: 8/20/16

Logged By: **Lindsay Mangin** 8/20/2016 9:15:00 AM

Completed By: **Lindsay Mangin** 8/20/2016 11:56:08 AM

Reviewed By: JC 08/23/16

Chain of Custody

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

Log In

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

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

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

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.8	Good	Yes			

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

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

CHAIN-OF-CUSTODY # : N / A

GCU # 169
UNIT I, SEC. 35, T29N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : December 13, 2016
Filename : GCU 169 mw log 2016-12-13.xls

DEVELOPER / SAMPLER : N J V
PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	100.00	-	-	20.00	-	-	-	-	-
2	98.23	-	-	20.00	-	-	-	-	-
3	97.71	-	-	20.00	-	-	-	-	-
4	99.21	-	-	20.00	-	-	-	-	-
5	100.80	-	-	20.00	-	-	-	-	-
6	100.92	92.45	8.47	20.00	0950	7.02	800	12.6	5.00

INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800
DATE & TIME =	12/06/16	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 gal./ft. of water.

Comments or note well diameter if not standard 2 ".

Excellent recovery in MW # 6 . MW # 6 - medium gray with slight apparent hydrocarbon odor detected physically. Purged well using 2 inch submersible electric pump , new / clear vinyl tubing , and with brass adjustable flow valve attachment added near sampling end of tubing . Collected sample from MW # 6 only for BTEX per US EPA Method 8021B .

Top of casing MW # 1 ~ 2.00 ft. , MW # 2 ~ 2.00 ft. , MW # 3 ~ 2.00 ft. , MW # 4 ~ 2.00 ft. , MW # 5 ~ 2.00 ft. , MW # 6 ~ 2.00 ft. above grade .

on-site	**9:00 AM**	temp	**29 F**
off-site	**10:00 AM**	temp	**31 F**
sky cond.		**Cloudy**	
wind speed	**0 - 10**	direct.	**ESE**

Analytical Report
Lab Order **1612888**
Date Reported: **12/27/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU #169
Lab ID: 1612888-001 **Matrix:** AQUEOUS

Client Sample ID: MW #6
Collection Date: 12/13/2016 9:50:00 AM
Received Date: 12/16/2016 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	5.0		µg/L	5	12/22/2016 11:54:00 AM	SLW395
Toluene	ND	5.0		µg/L	5	12/22/2016 11:54:00 AM	SLW395
Ethylbenzene	140	5.0		µg/L	5	12/22/2016 11:54:00 AM	SLW395
Xylenes, Total	580	7.5		µg/L	5	12/22/2016 11:54:00 AM	SLW395
Surr: 1,2-Dichloroethane-d4	92.8	70-130		%Rec	5	12/22/2016 11:54:00 AM	SLW395
Surr: 4-Bromofluorobenzene	98.8	70-130		%Rec	5	12/22/2016 11:54:00 AM	SLW395
Surr: Dibromofluoromethane	92.0	70-130		%Rec	5	12/22/2016 11:54:00 AM	SLW395
Surr: Toluene-d8	101	70-130		%Rec	5	12/22/2016 11:54:00 AM	SLW395

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Chain-of-Custody Record

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

Mailing Address: **P.O. BOX 87**
BLOOMFIELD, NM 87413

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

email or Fax#:

QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name:
GCU # 169

Project #:

Project Manager:
NELSON VELEZ

Sampler: **NELSON VELEZ** NV

On Ice: ☑ Yes ☐ No

Sample Temperature: 3.3

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

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1612888	Analysis Request: BTEX + ~~MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	Total Dissolved Solids	8260B (VOA)	8270 (Semi-VOA)	Anions / Cations Balance		Grab sample	5 pt. composite sample	Air Bubbles (Y or N)
12/13/16	0950	WATER	MW # 6	40 ml VOA - 2	HCl & Cool	-001	✓													✓		

Date:	Time:	Relinquished by:	Received by:	Date	Time
12/15/16	1721			12/15/16	1721
12/15/16	1808			12/16/16	0715

Remarks:

BILL DIRECTLY TO BP:
200 Energy Court, Farmington, NM 87401 Attn.: John Ritchie

VID: VDRINKWJA1

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1612888**

27-Dec-16

Client: Blagg Engineering
Project: GCU #169

Sample ID **100ng LCS**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **SLW39559**	RunNo: **39559**
Prep Date:	Analysis Date: **12/21/2016**	SeqNo: **1239951** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	9.7		10.00		97.1	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	9.5		10.00		94.6	70	130			
Surr: Toluene-d8	9.9		10.00		99.5	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **SLW39559**	RunNo: **39559**
Prep Date:	Analysis Date: **12/21/2016**	SeqNo: **1239952** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	9.8		10.00		98.0	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		100	70	130			
Surr: Dibromofluoromethane	9.6		10.00		95.7	70	130			
Surr: Toluene-d8	10		10.00		100	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **SLW39586**	RunNo: **39586**
Prep Date:	Analysis Date: **12/22/2016**	SeqNo: **1240940** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	95.8	70	130			
Toluene	20	1.0	20.00	0	99.0	70	130			
Surr: 1,2-Dichloroethane-d4	9.5		10.00		95.0	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	9.4		10.00		93.5	70	130			
Surr: Toluene-d8	10		10.00		99.6	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **SLW39586**	RunNo: **39586**
Prep Date:	Analysis Date: **12/22/2016**	SeqNo: **1240943** 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	1.5								
Surr: 1,2-Dichloroethane-d4	9.4		10.00		94.2	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	9.2		10.00		92.5	70	130			
Surr: Toluene-d8	10		10.00		100	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: BLAGG | Work Order Number: 1612888 | RcptNo: 1

Received by/date: LM 12/16/16

Logged By: Andy Jansson 12/16/2016 7:15:00 AM

Completed By: Andy Jansson 12/16/16

Reviewed By: 12/16/16

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

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

Person Notified: _____ Date _____

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

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.3	Good	Yes			

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

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

CHAIN-OF-CUSTODY # : N / A

GCU # 169
UNIT I, SEC. 35, T29N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : February 23, 2017
Filename : GCU 169 mw log 2017-02-23.xls

DEVELOPER / SAMPLER : N J V
PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	100.00	91.44	8.56	20.00	-	-	-	-	-
2	98.23	-	-	20.00	-	-	-	-	-
3	97.71	89.11	8.60	20.00	-	-	-	-	-
4	99.21	90.04	9.17	20.00	-	-	-	-	-
5	100.80	91.18	9.62	20.00	-	-	-	-	-
6	100.92	92.14	8.78	20.00	1505	7.35	800	9.2	5.50

INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800
DATE & TIME =	02/23/17	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 gal./ft. of water.

Comments or note well diameter if not standard 2 ".

Excellent recovery in MW # 6 . MW # 6 - medium gray with slight apparent hydrocarbon odor detected physically. Purged well using 2 inch submersible electric pump , new / clear vinyl tubing , and with brass adjustable flow valve attachment added near sampling end of tubing . Collected sample from MW # 6 only for BTEX per US EPA Method 8021B .

Top of casing MW # 1 ~ 2.00 ft. , MW # 2 ~ 2.00 ft. , MW # 3 ~ 2.00 ft. , MW # 4 ~ 2.00 ft. , MW # 5 ~ 2.00 ft. , MW # 6 ~ 2.00 ft. above grade .

on-site	**2:15 PM**	temp	**42 F**
off-site	**3:15 PM**	temp	**42 F**
sky cond.	**Partly cloudy**		
wind speed	**10 - 20**	direct.	**West**

Analytical Report
Lab Order **1702A93**
Date Reported: **3/3/2017**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 169
Lab ID: 1702A93-001 **Matrix:** AQUEOUS

Client Sample ID: MW #6
Collection Date: 2/23/2017 3:05:00 PM
Received Date: 2/24/2017 8:08:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	5.0		µg/L	5	3/1/2017 2:52:59 PM	B41093
Toluene	ND	5.0		µg/L	5	3/1/2017 2:52:59 PM	B41093
Ethylbenzene	73	5.0		µg/L	5	3/1/2017 2:52:59 PM	B41093
Xylenes, Total	210	7.5		µg/L	5	3/1/2017 2:52:59 PM	B41093
Surr: 1,2-Dichloroethane-d4	98.0	70-130		%Rec	5	3/1/2017 2:52:59 PM	B41093
Surr: 4-Bromofluorobenzene	92.4	70-130		%Rec	5	3/1/2017 2:52:59 PM	B41093
Surr: Dibromofluoromethane	91.6	70-130		%Rec	5	3/1/2017 2:52:59 PM	B41093
Surr: Toluene-d8	98.2	70-130		%Rec	5	3/1/2017 2:52:59 PM	B41093

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Chain-of-Custody Record

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

Mailing Address: **P.O. BOX 87**
BLOOMFIELD, NM 87413

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

email or Fax#:

QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name:
GCU # 169

Project #:

Project Manager:
NELSON VELEZ

Sampler: **NELSON VELEZ** NV

On Ice: ☑ Yes ☐ No

Sample Temperature: 1.0

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

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1702A93	BTEX + ~~MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	Total Dissolved Solids	8260B (VOA)	8270 (Semi-VOA)	Anions / Cations Balance		Grab sample	5 pt. composite sample
2/23/17	1505	WATER	MW # 6	40 ml VOA - 2	HCl & Cool	-001	✓													✓	

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Date Time
2/23/17	1611			2/23/17 1611
2/23/17	1841			02/24/17 0808

Remarks:

BILL DIRECTLY TO BP:
200 Energy Court, Farmington, NM 87401 Attn.: John Ritchie

VID: VDRINKWJA1

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1702A93**

03-Mar-17

Client: Blagg Engineering

Project: GCU 169

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **B41093**	RunNo: **41093**
Prep Date:	Analysis Date: **3/1/2017**	SeqNo: **1287202** 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	1.5								
Surr: 1,2-Dichloroethane-d4	11		10.00		112	70	130			
Surr: 4-Bromofluorobenzene	9.1		10.00		91.4	70	130			
Surr: Dibromofluoromethane	11		10.00		108	70	130			
Surr: Toluene-d8	9.9		10.00		99.2	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **B41093**	RunNo: **41093**
Prep Date:	Analysis Date: **3/1/2017**	SeqNo: **1287203** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	101	70	130			
Toluene	20	1.0	20.00	0	98.6	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		102	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		97.4	70	130			
Surr: Dibromofluoromethane	10		10.00		99.8	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: BLAGG | Work Order Number: 1702A93 | RcptNo: 1

Received by/date: AG 02/24/17

Logged By: Ashley Gallegos 2/24/2017 8:08:00 AM AG

Completed By: Ashley Gallegos 2/24/2017 9:03:57 AM AG

Reviewed By: 02/24/17

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

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

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

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

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

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

CHAIN-OF-CUSTODY # : N / A

GCU # 169
UNIT I, SEC. 35, T29N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : May 26, 2017
Filename : GCU 169 mw log 2017-05-26.xls

DEVELOPER / SAMPLER : N J V
PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	100.00	-	-	20.00	-	-	-	-	-
2	98.23	-	-	20.00	-	-	-	-	-
3	97.71	-	-	20.00	-	-	-	-	-
4	99.21	-	-	20.00	-	-	-	-	-
5	100.80	-	-	20.00	-	-	-	-	-
6	100.92	-	9.19	20.00	1245	7.12	1,000	14.2	5.00
					INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800		
					DATE & TIME =	05/26/17	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 gal./ft. of water.

Comments or note well diameter if not standard 2 ".

Excellent recovery in MW # 6 . MW # 6 - medium gray with slight apparent hydrocarbon odor detected physically. Purged well using 2 inch submersible electric pump , new / clear vinyl tubing , and with brass adjustable flow valve attachment added near sampling end of tubing . Collected sample from MW # 6 only for BTEX per US EPA Method 8021B .

Top of casing MW # 1 ~ 2.00 ft. , MW # 2 ~ 2.00 ft. , MW # 3 ~ 2.00 ft. , MW # 4 ~ 2.00 ft. , MW # 5 ~ 2.00 ft. , MW # 6 ~ 2.00 ft. above grade .

on-site	**11:50 AM**	temp	**73 F**
off-site	**12:55 PM**	temp	**75 F**
sky cond.	**Mostly sunny**		
wind speed	**0 - 10**	direct.	**WSW**

Analytical Report
Lab Order **1705F00**
Date Reported: **6/2/2017**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 169
Lab ID: 1705F00-001
Matrix: AQUEOUS
Client Sample ID: MW #6
Collection Date: 5/26/2017 12:45:00 PM
Received Date: 5/31/2017 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	2.5		µg/L	5	6/1/2017 6:49:00 PM	R43196
Toluene	ND	2.5		µg/L	5	6/1/2017 6:49:00 PM	R43196
Ethylbenzene	72	2.5		µg/L	5	6/1/2017 6:49:00 PM	R43196
Xylenes, Total	160	5.0		µg/L	5	6/1/2017 6:49:00 PM	R43196
Surr: 1,2-Dichloroethane-d4	95.7	70-130		%Rec	5	6/1/2017 6:49:00 PM	R43196
Surr: 4-Bromofluorobenzene	106	70-130		%Rec	5	6/1/2017 6:49:00 PM	R43196
Surr: Dibromofluoromethane	99.9	70-130		%Rec	5	6/1/2017 6:49:00 PM	R43196
Surr: Toluene-d8	102	70-130		%Rec	5	6/1/2017 6:49:00 PM	R43196

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Chain-of-Custody Record

Client: BLAGG ENGR. / BP AMERICA

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

Phone #: (505) 632-1199

email or Fax#:

QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name: GCU # 169

Project #:

Project Manager: NELSON VELEZ

Sampler: NELSON VELEZ NV

On Ice: ☑ Yes ☐ No

Sample Temperature: 1.3

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1705F00	BTEX ~~+ MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	Total Dissolved Solids	8260B (VOA)	8270 (Semi-VOA)	Anions / Cations Balance		Grab sample	5 pt. composite sample	Air Bubbles (Y or N)
5/26/17	1245	WATER	MW # 6	40 ml VOA - 2	HCl & Cool	-001	✓													✓		

Date: 5/30/17 Time: 1200 Relinquished by: [signature] Received by: [signature] Date: 05/31/17 Time: 0715

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

Remarks:

BILL DIRECTLY TO BP:
200 Energy Court, Farmington, NM 87401 Attn.: Steve Moskal

VID: VRITCJWFEC WBS ELEMENT: L1-00169-E:GCU169

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1705F00**

02-Jun-17

Client: Blagg Engineering
Project: GCU 169

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **R43196**	RunNo: **43196**
Prep Date:	Analysis Date: **6/1/2017**	SeqNo: **1360075** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	99.0	70	130			
Toluene	20	1.0	20.00	0	99.6	70	130			
Ethylbenzene	20	1.0	20.00	0	101	70	130			
Xylenes, Total	60	1.5	60.00	0	100	70	130			
Surr: 1,2-Dichloroethane-d4	9.6		10.00		96.4	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		105	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	10		10.00		104	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **R43196**	RunNo: **43196**
Prep Date:	Analysis Date: **6/1/2017**	SeqNo: **1360076** 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	1.5								
Surr: 1,2-Dichloroethane-d4	9.8		10.00		98.2	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		106	70	130			
Surr: Dibromofluoromethane	10		10.00		104	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: BLAGG Work Order Number: 1705F00 RcptNo: 1

Received By: Anne Thorne 5/31/2017 7:15:00 AM

Completed By: Richie Eriacho 5/31/2017 9:43:00 AM

Reviewed By: 5/31/17

Chain of Custody

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

Log In

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

Special Handling (if applicable)

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

Person Notified: Date:

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

Regarding:

Client Instructions:

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.3	Good				

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

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

CHAIN-OF-CUSTODY # : N / A

GCU # 169
UNIT I, SEC. 35, T29N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : September 6, 2017
Filename : GCU 169 mw log 2017-09-06.xls

DEVELOPER / SAMPLER : N J V
PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	100.00	91.38	8.62	20.00	-	-	-	-	-
2	98.23	-	-	20.00	-	-	-	-	-
3	97.71	88.88	8.83	20.00	1045	7.08	900	17.0	5.50
4	99.21	90.82	8.39	20.00	-	-	-	-	-
5	100.80	92.16	8.64	20.00	-	-	-	-	-
6	100.92	92.03	8.89	20.00	1145	7.11	800	17.6	5.50

INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800
DATE & TIME =	09/06/17	0630

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 gal./ft. of water.

Comments or note well diameter if not standard 2 ".

Excellent recovery in MW # 6 . MW # 6 - medium gray with slight apparent hydrocarbon odor detected physically. Purged well using 2 inch submersible electric pump , new / clear vinyl tubing , and with brass adjustable flow valve attachment added near sampling end of tubing . Collected sample from MW # 6 only for BTEX per US EPA Method 8021B .

Top of casing MW # 1 ~ 2.00 ft. , MW # 2 ~ 2.00 ft. , MW # 3 ~ 2.00 ft. , MW # 4 ~ 2.00 ft. , MW # 5 ~ 2.00 ft. , MW # 6 ~ 2.00 ft. above grade .

on-site	**9:50 AM**	temp	**73 F**
off-site	**11:50 AM**	temp	**81 F**
sky cond.		**Sunny**	
wind speed	**5 - 10**	direct.	**ENE - ESE**

Analytical Report
Lab Order **1709432**
Date Reported: **9/14/2017**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 169
Lab ID: 1709432-001
Matrix: AQUEOUS
Client Sample ID: MW #3
Collection Date: 9/6/2017 10:45:00 AM
Received Date: 9/8/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	9/13/2017 9:51:33 PM	B45593
Toluene	ND	1.0		µg/L	1	9/13/2017 9:51:33 PM	B45593
Ethylbenzene	ND	1.0		µg/L	1	9/13/2017 9:51:33 PM	B45593
Xylenes, Total	ND	2.0		µg/L	1	9/13/2017 9:51:33 PM	B45593
Surr: 4-Bromofluorobenzene	110	72.5-140		%Rec	1	9/13/2017 9:51:33 PM	B45593

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 169
Lab ID: 1709432-002
Matrix: AQUEOUS
Client Sample ID: MW #6
Collection Date: 9/6/2017 11:45:00 AM
Received Date: 9/8/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	5.0		µg/L	5	9/13/2017 10:15:14 PM	B45593
Toluene	ND	5.0		µg/L	5	9/13/2017 10:15:14 PM	B45593
Ethylbenzene	52	5.0		µg/L	5	9/13/2017 10:15:14 PM	B45593
Xylenes, Total	220	10		µg/L	5	9/13/2017 10:15:14 PM	B45593
Surr: 4-Bromofluorobenzene	119	72.5-140		%Rec	5	9/13/2017 10:15:14 PM	B45593

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Chain-of-Custody Record

Client: BLAGG ENGR. / BP AMERICA

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

Phone #: (505) 632-1199

email or Fax#:

QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name: GCU # 169

Project #:

Project Manager: NELSON VELEZ

Sampler: NELSON VELEZ NV

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.6

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

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1709432	BTEX + ~~MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	Total Dissolved Solids	8260B (VOA)	8270 (Semi-VOA)	Anions / Cations Balance		Grab sample	5 pt. composite sample
Analysis Request																					
9/6/17	1045	WATER	MW # 3	40 ml VOA - 2	HCl & Cool	001	✓													✓	
9/6/17	1145	WATER	MW # 6	40 ml VOA - 2	HCl & Cool	002	✓													✓	

Date	Time	Relinquished by	Received by	Date	Time
9/7/17	1647			9/7/17	1647
9/7/17	1810			09/08/17	0700

Remarks:

BILL DIRECTLY TO BP:
200 Energy Court, Farmington, NM 87401 Attn.: Steve Moskal
VID: VMOS&HQFEC WBS ELEMENT: L1-00169-E:GCU169

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709432**

14-Sep-17

Client: Blagg Engineering
Project: GCU 169

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **B45593**	RunNo: **45593**
Prep Date:	Analysis Date: **9/13/2017**	SeqNo: **1446434** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	21		20.00		103	72.5	140			

Sample ID **100NG BTEX LCSB**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **B45593**	RunNo: **45593**
Prep Date:	Analysis Date: **9/13/2017**	SeqNo: **1446435** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	101	71.7	126			
Toluene	20	1.0	20.00	0	99.6	73.3	119			
Ethylbenzene	20	1.0	20.00	0	102	80	120			
Xylenes, Total	64	2.0	60.00	0	106	80	120			
Surr: 4-Bromofluorobenzene	22		20.00		108	72.5	140			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: BLAGG | Work Order Number: 1709432 | RcptNo: 1

Received By: **Anne Thorne** 9/8/2017 7:00:00 AM Anne Thorne

Completed By: **Anne Thorne** 9/8/2017 2:27:09 PM Anne Thorne

Reviewed By: LS 9/11

Chain of Custody

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

Log In

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

Special Handling (if applicable)

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

Person Notified: ____ Date: ____

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

Regarding: ____

Client Instructions: ____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.6	Good	Yes			

APPENDIX E

1996 Pit Closures
and
2003 BGT Closure Documentation

B0303

District I
P.O. Box 1980, Hobbs, NM
District II
P.O. Drawer DD, Artesia, NM 88211
District III
1000 Rio Brazos Rd, Aztec, NM 87410

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

SUBMIT 1 COPY TO APPROPRIATE DISTRICT OFFICE AND 1 COPY TO SANTA FE OFFICE

PIT REMEDIATION AND CLOSURE REPORT

Operator: Amoco Production Company **Telephone:** (505) 326-9200

Address: 200 Amoco Court, Farmington, New Mexico 87401

Facility Or: Well Name GCU 169

Location: Unit or Qtr/Qtr Sec I Sec 35 T 29N R 12W County SAN JUAN

Pit Type: Separator ___ Dehydrator ___ Other BLOW

Land Type: BLM ___, State ___, Fee ✓, Other UNIT AGMT.

Pit Location: (Attach diagram)
Pit dimensions: length 80', width 70', depth 8'
Reference: wellhead X, other ___
Footage from reference: 200
Direction from reference: 30 Degrees ___ East North X of X West South ___

Depth To Ground Water: (Vertical distance from contaminants to seasonal high water elevation of ground water)	Less than 50 feet (20 points) 50 feet to 99 feet (10 points) Greater than 100 feet (0 Points)	20
Wellhead Protection Area: (Less than 200 feet from a private domestic water source, or; less than 1000 feet from all other water sources)	Yes (20 points) No (0 points)	0
Distance To Surface Water: (Horizontal distance to perennial lakes, ponds, rivers, streams, creeks, irrigation canals and ditches)	Less than 200 feet (20 points) 200 feet to 1000 feet (10 points) Greater than 1000 feet (0 points)	0
	RANKING SCORE (TOTAL POINTS):	20

B0303

Date Remediation Started: _____ **Date Completed:** 2-7-96

Remediation Method: (Check all appropriate sections) Excavation X Approx. cubic yards _____

Landfarmed X Insitu Bioremediation ___

Other _____

Remediation Location: (ie. landfarmed onsite, name and location of offsite facility) Onsite X Offsite _____

General Description Of Remedial Action: _____

Excavation of Soils - Aerate contaminated groundwater - expose to sun.

Ground Water Encountered: No ___ Yes X Depth 6'

Final Pit: Closure Sampling: (if multiple samples, attach sample results and diagram of sample locations and depths)

Sample location see Attached Documents

Sample depth 6' - 6.w. multiple

Sample date 2-7-96 Final Sample time _____

Sample Results

Benzene(ppm) _____

Total BTEX(ppm) _____

Field headspace(ppm) _____

TPH _____

Ground Water Sample: Yes X No ___ (If yes, attach sample results)

I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF

DATE 4-9-96

SIGNATURE B J Shaw PRINTED NAME AND TITLE Buddy D. Shaw Environmental Coordinator

CLIENT: AMOCO

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

LOCATION NO: B0303
C.O.C. NO: ANALYT.

FIELD REPORT: PIT CLOSURE VERIFICATION

1/2

LOCATION: GCU 169 PIT TYPE: BLOW

QUAD/UNIT: I SEC: 35 TWP: 29N RNG: 12W BM: NM CNTY: SJ ST: NM

QTR/FOOTAGE: NE/SE CONTRACTOR: PAUL

DATE STARTED: 1-25-96
DATE FINISHED: 2-7-96

ENVIRONMENTAL SPECIALIST: RCO

EXCAVATION APPROX. 80 FT. x 70 FT. x 8' FT. DEEP. CUBIC YARDS: 1950

DISPOSAL FACILITY: ON-SITE REMEDIATION METHOD: LANDFARM

LAND USE: AGRICULTURAL LEASE: FEE FORMATION: DAKOTA

FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 200 FEET N30°W FROM WELLHEAD.

DEPTH TO GROUNDWATER: 6' NEAREST WATER SOURCE: >1000' NEAREST SURFACE WATER: >1000'

NMOCD RANKING SCORE: 20 NMOCD TPH CLOSURE STD: 100 PPM

SOIL AND EXCAVATION DESCRIPTION: PIT DISPOSITION: ABANDONED

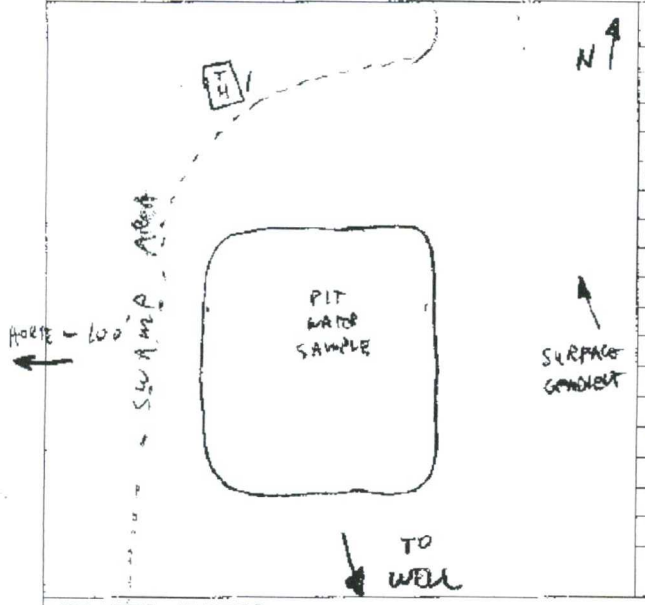
COLLECTED WATER SAMPLES FROM PIT + TEST HOLE.

FIELD 418.1 CALCULATIONS

SAMPLE I.D.	LAB No:	WEIGHT (g)	mL. FREON	DILUTION	READING	CALC. ppm

SCALE
0 20 40FT

PIT PERIMETER



OVM RESULTS

SAMPLE ID	FIELD HEADSPACE PID (ppm)
1	
2	
3	
4	
5	
LAB	SAMPLES
PIT WATER	BTEX
TH1	BTEX

PIT PROFILE

TRAVEL NOTES: CALLOUT: 1-25-96 ONSITE: 1-25-96 1300

FORM REVISED 7/95

CLIENT: AMOCO

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

LOCATION NO: B0303
C.O.C. NO: _____

FIELD REPORT: CLOSURE VERIFICATION

PAGE No: 2 of 2

LOCATION: NAME: GCU WELL #: 169 PIT: BLOW
QUAD/UNIT: I SEC: 35 TWP: 29N RNG: 12W PM: NM CNTY: SJ ST: NM
QTR/FOOTAGE: _____ CONTRACTOR: P. VELASQUEZ

DATE STARTED: _____
DATE FINISHED: 2-7-96
ENVIRONMENTAL SPECIALIST: NV

EXCAVATION APPROX 70 FT. x 80 FT. x 9' FT. DEEP. CUBIC YARDAGE: 1950
DISPOSAL FACILITY: ON-SITE REMEDIATION METHOD: _____
LAND USE: RANGE LEASE: _____ FORMATION: DK

FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY _____ FT. _____ FROM WELLHEAD.
DEPTH TO GROUNDWATER: <50' NEAREST WATER SOURCE: >1000' NEAREST SURFACE WATER: >1000'
NMOCD RANKING SCORE: 20 NMOCD TPH CLOSURE STD: 100 PPM

CHECK ONE:
✓ PIT ABANDONED
___ STEEL TANK INSTALLED

SOIL AND EXCAVATION DESCRIPTION:

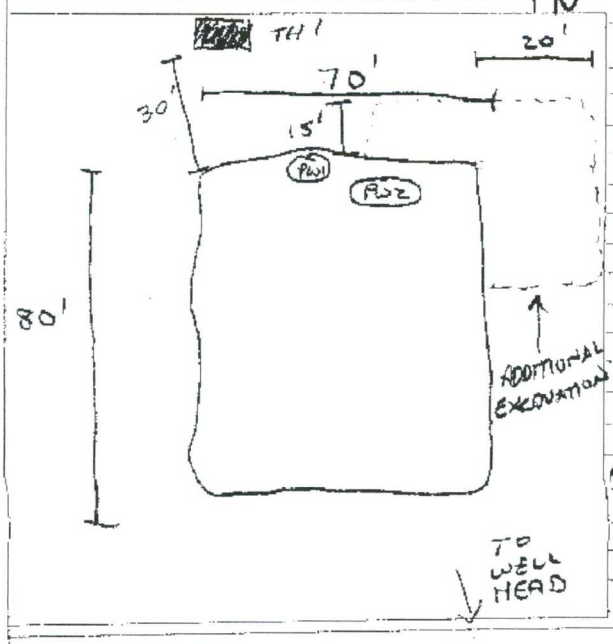
COND - 2,100mS 2-7

SCALE
0 FT

FIELD 418.1 CALCULATIONS

TIME	SAMPLE I.D.	LAB No:	WEIGHT (g)	mL. FREON	DILUTION	READING	CALC. ppm

PIT PERIMETER



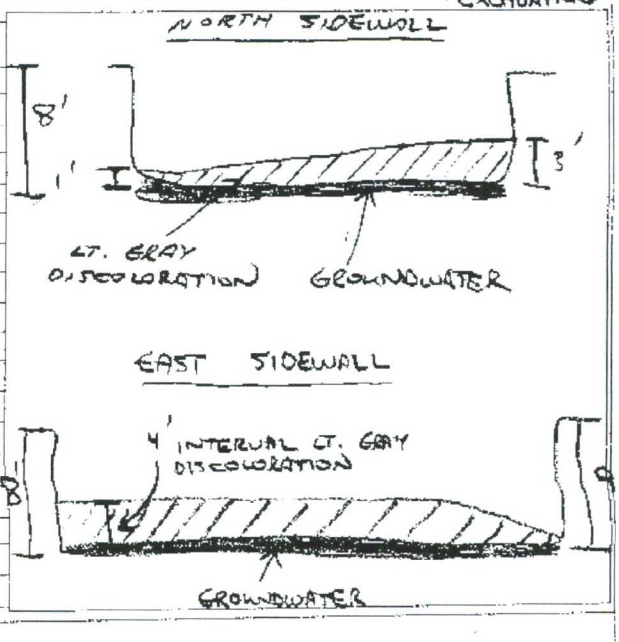
OVM RESULTS

SAMPLE ID	FIELD HEADSPACE PID (ppm)
1	
2	
3	
4	
5	

LAB SAMPLES

SAMPLE ID	ANALYSIS	TIME
PW 2 REG (8')	BTEX	0840
	ANION/CATION	

PIT PROFILE (PRIOR TO ADDITIONAL EXCAVATION)



TRAVEL NOTES: CALLOUT: _____ ONSITE: _____

ANALYTICA
ENVIRONMENTAL LABORATORY

PURGEABLE AROMATICS

Blagg Environmental, Inc.

Project ID:	Amoco/GCU 169	Report Date:	01/29/96
Sample ID:	Pit Water	Date Sampled:	01/25/96
Lab ID:	2522	Date Received:	01/25/96
Sample Matrix:	Water	Date Analyzed:	01/26/96
Preservative:	Cool, $HgCl_2$		
Condition:	Intact		

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	ND	5.00
Toluene	29.8	5.00
Ethylbenzene	110	5.00
m,p-Xylenes	1,190	200
o-Xylene	84.0	5.00
Total BTEX	**1,410**	

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Trifluorotoluene	106	88 - 110%

Reference: Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209, Oct. 1984.

Comments:

Tamica Cannon
Analyst

Review

ANALYTICA
ENVIRONMENTAL LABORATORY

PURGEABLE AROMATICS

Blagg Engineering, Inc.

Project ID:	GCU 169 Blow Pit	Report Date:	02/09/96
Sample ID:	PW 2 @ GW (8')	Date Sampled:	02/07/96
Lab ID:	2598	Date Received:	02/07/96
Sample Matrix:	Water	Date Analyzed:	02/07/96
Preservative:	Cool, $HgCl_2$		
Condition:	Intact		

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	1.20	0.20
Toluene	1.34	0.20
Ethylbenzene	1.82	0.20
m,p-Xylenes	37.8	0.40
o-Xylene	4.18	0.20
Total BTEX	**46.3**	

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Trifluorotoluene	103	88 - 110%

Reference: Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209, Oct. 1984.

Comments:

Analyst

Review

ANALYTICA
ENVIRONMENTAL LABORATORY

General Water Quality
Blagg Engineering, Inc.

Project ID:	GCU 169 Blow Pit	Date Reported:	02/09/96
Sample ID:	PW2 @ GW (8')	Date Sampled:	02/07/96
Laboratory ID:	2598	Time Sampled:	8:40
Sample Matrix:	Water	Date Received:	02/07/96

Parameter		Analytical Result	Units
General	Lab pH	7.5	s.u.
	Lab Conductivity @ 25° C	2,660	µmhos/cm
	Total Dissolved Solids @ 180°C	2,100	mg/L
	Total Dissolved Solids (Calc)	2,100	mg/L
Anions	Total Alkalinity as $CaCO_3$	453	mg/L
	Bicarbonate Alkalinity as $CaCO_3$	453	mg/L
	Carbonate Alkalinity as $CaCO_3$	NA	mg/L
	Hydroxide Alkalinity as $CaCO_3$	NA	mg/L
	Chloride	80.0	mg/L
	Sulfate	1,080	mg/L
	Nitrate + Nitrite - N	NA	
	Nitrate - N	NA	
	Nitrite - N	NA	
Cations	Total Hardness as $CaCO_3$	1,000	mg/L
	Calcium	376	mg/L
	Magnesium	14.7	mg/L
	Potassium	< 5.0	mg/L
	Sodium	270	mg/L

Data Validation			Acceptance Level
	Cation/Anion Difference	3.04	+/- 5 %
	TDS (180):TDS (calculated)	1.0	1.0 - 1.2

Reference U.S.E.P.A. 600/4-79-020, Methods for Chemical Analysis of Water and Wastes, 1983.
Standard Methods For The Examination Of Water And Wastewater, 18th ed., 1992.

Review

ANALYTICA
ENVIRONMENTAL LABORATORY

PURGEABLE AROMATICS

Blagg Environmental, Inc.

Project ID:	Amoco/GCU 169	Report Date:	01/29/96
Sample ID:	TH - 1	Date Sampled:	01/25/96
Lab ID:	2523	Date Received:	01/25/96
Sample Matrix:	Water	Date Analyzed:	01/25/96
Preservative:	Cool, $HgCl_2$		
Condition:	Cool		

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	ND	0.50
Toluene	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	1.00
o-Xylene	ND	0.50
Total BTEX	**ND**	

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Trifluorotoluene	98	88 - 110%

Reference: Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209, Oct. 1984.

Comments:

Analyst

Review

ANALYTICA
ENVIRONMENTAL LABORATORY
807 S. CARLTON • FARMINGTON, NM 87401 • (505) 326-2395

CHAIN OF CUSTODY

Page _____ of _____

PROJECT MANAGER:
Analytica Lab I.D.:

Company: BLAGG
Address:

Phone: 632-1199
Fax: 632-3903

Bill To: SAME
Company:
Address:

Sample ID	Date	Time	Matrix	Lab ID	Petroleum Hydrocarbons (418.1)	Gasoline / Diesel (mod. 8015)	Gasoline (GRO)	Aromatic HCs BTEX/MTBE (602 / 8020)	Chlorinated Hydrocarbons (8010)	SDWA Volatiles (502.1 / 503.1)	Chlorinated Pesticides / PCBs (608 / 8080)	Herbicides (615 / 8150)	Volatiles GC/MS (624 / 8240 / 8260)	Base / Neutral / Acid GC/MS (625 / 8270)	Polynuclear Aromatic Hydrocarbons (8100)	TCLP Extraction	Other (specify):	Cation / Anion	Specific Cations (specify):	Specific Anions (specify):	BOD / Fecal / Total Coliform	Solids: TDS / TSS / SS	Nutrients: NH4+ / NO2- / NO3- / TKN	Oil and Grease	Other (specify):	Priority Pollutants	RCRA Metals (Total)	RCRA Metals TCLP (1311)	Other (specify):	COMMENTS
PIT WATER	1-25-96	1345	WATER					✓																					BLOW PIT, PRESERV $HgCl_2$
TH # 1	1-25-96	1400	WATER					✓																					" " , $HgCl_2$

Project Information	Sample Receipt
Proj. #: 80303	No. Containers:
Proj. Name: Gas 169	Custody Seals: Y / N / NA
P. O. No:	Received Intact:
Shipped Via:	Received Cold:

Required Turnaround Time (Prior Authorization Required for Rush)

Sampled By:	Relinquished By:	Relinquished By:
Signature: Robert Ortiz / Nelson Velez Date: 1-25-96	Signature: Nelson Velez Date: 1-25-96	Signature: Date:
Company: BEI Time: -	Company: BEI Time: 1445	Company: Time:
Received By:	**Received By:**	**Received By:**
Signature: Date:	Signature: Date:	Signature: Date: 1/25
Company: Time:	Company: Time:	Company: Analytica Time: 3:50

Please Fill Out Thoroughly.

Shaded areas for lab use only.

White/Yellow: Analytica
Pink: Client

ANALYTICA
ENVIRONMENTAL LABORATORY
807 S. CARLTON • FARMINGTON, NM 87401 • (505) 326-2395

CHAIN OF CUSTODY

Page 1 of 1

PROJECT MANAGER:
Analytica Lab I.D.:

Company: BLAGG
Address:

Phone:
Fax:

Bill To: SAME AS ABOVE
Company:
Address:

Sample ID	Date	Time	Matrix	Lab ID	Petroleum Hydrocarbons (418.1)	Gasoline / Diesel (mod. 8015)	Gasoline (GRO)	Aromatic HCs (BTEX/MTBE (602 / 8020))	Chlorinated Hydrocarbons (8010)	SDWA Volatiles (502.1 / 503.1)	Chlorinated Pesticides / PCBs (608 / 8080)	Herbicides (615 / 8150)	Volatiles GC/MS (624 / 8240 / 8260)	Base / Neutral / Acid GC/MS (625 / 8270)	Polynuclear Aromatic Hydrocarbons (8100)	TCLP Extraction	Other (specify):	Cation / Anion	Specific Cations (specify):	Specific Anions (specify):	BOD / Fecal / Total Coliform	Solids: TDS / TSS / SS	Nutrients: NH4+ / NO2- / NO3- / TKN	Oil and Grease	Other (specify):	Priority Pollutants	RCRA Metals (Total)	RCRA Metals TCLP (1311)	Other (specify):	COMMENTS
AW2CGW(8')	2/7/96	0840	WATER					✓										✓												BLOW PIT

BTEX SAMPLE PRESERV. - $HgCl_2$ & COOL

ANION/CATION SAMPLE PRESERV. COOL

Project Information	Sample Receipt
Proj. #: GCU 169 -	No. Containers:
Proj. Name: BLOW PIT	Custody Seals: Y / N / NA
P. O. No:	Received Intact:
Shipped Via:	Received Cold:

Required Turnaround Time (Prior Authorization Required for Rush)

Sampled By:	Relinquished By:	Relinquished By:
Signature: Nelson Velez Date: 2/7/96	Signature: Nelson Velez Date: 2/7/96	Signature: Date:
Company: BLAGG Time: 0840	Company: BLAGG Time: 1130	Company: Time:
Received By:	**Received By:**	**Received By:**
Signature: Date:	Signature: Date:	Signature: Date: 2/7/96
Company: Time:	Company: Time:	Company: ANALYTICAL Time: 11:30

Please Fill Out Thoroughly.

Shaded areas for lab use only.

White/Yellow: Analytica
Pink: Client

CLIENT: AMOCO

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

LOCATION NO: 80303
C.O.C. NO: ANALYTICA

FIELD REPORT: CLOSURE VERIFICATION

PAGE No: 1 of 1

LOCATION: NAME: GCU WELL #: 169 PIT: SEP
QUAD/UNIT: I SEC: 35 TWP: 29N RNG: 12W PM: NM CNTY: SJ ST: NM
QTR/FOOTAGE: NE/4 SE/4 CONTRACTOR: P. VELASQUEZ

DATE STARTED: 1-31-96
DATE FINISHED:
ENVIRONMENTAL SPECIALIST: NV

EXCAVATION APPROX. 67 FT. x 35 FT. x 9 FT. DEEP. CUBIC YARDAGE: 1350
DISPOSAL FACILITY: ON-SITE REMEDIATION METHOD: LANDFARMED
LAND USE: RANGE/AGRICUL. LEASE: FEE FORMATION: OK

FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 150 FT. N3E FROM WELLHEAD.
DEPTH TO GROUNDWATER: < 50' NEAREST WATER SOURCE: > 1000' NEAREST SURFACE WATER: < 1000'
NMOCD RANKING SCORE: 30 NMOCD TPH CLOSURE STD: 100 PPM

CHECK ONE:
✓ PIT ABANDONED
___ STEEL TANK INSTALLED

SOIL AND EXCAVATION DESCRIPTION:

NO HC ODOR DETECTED OR SHEEN OBSERVED IN WATER SAMPLES COLLECTED. GROUNDWATER IN EXCAVATED AREA PUMPED PRIOR TO SAMPLING. SIDEWALLS IN ORIGINAL PIT AREA BY SEPARATOR UNIT SHOWS INTERVALS OF 4' OF LT. TO DK. GRAY DISCOLORATION. EXCAVATION LIMITED DUE TO SURROUNDING SURFACE EQUIPMENT & NEARBY BURIED 10" PIPELINE.

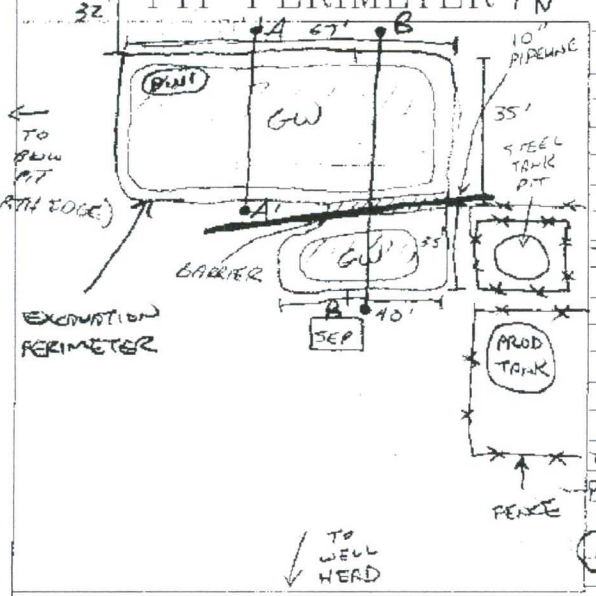
1-31 e-mo. TH1: 4' 2000 mS
2-7 PW1 – 2200 mS

FIELD 418.1 CALCULATIONS

TIME	SAMPLE I.D.	LAB No:	WEIGHT (g)	mL. FREON	DILUTION	READING	CALC. ppm

SCALE
0 FT

PIT PERIMETER



OVM RESULTS

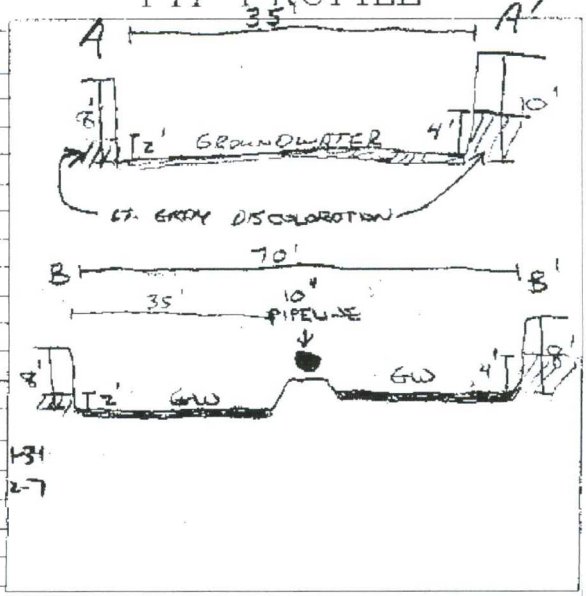
SAMPLE ID	FIELD HEADSPACE PID (ppm)
1	
2	
3	
4	
5	
TH1@7'	20.9

LAB SAMPLES

SAMPLE ID	ANALYSIS	TIME
TH1@GW(8')	BTEX	1050
PW1@GW(8')	BTEX	0820
	Analyzed	
BOTH BTEX PASSED		

1-31
2-7

PIT PROFILE



TRAVEL NOTES: CALLOUT: 1-31-96 morn. ONSITE: 1-31-96 morn. / 2-7-96 morn.

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8020
AROMATIC VOLATILE ORGANICS

Client:	Blagg / Amoco	Project #:	04034
Sample ID:	PW 1 @ GW (8')	Date Reported:	02-07-96
Chain of Custody:	4695	Date Sampled:	02-07-96
Laboratory Number:	9987	Date Received:	02-07-96
Sample Matrix:	Water	Date Analyzed:	02-07-96
Preservative:	HgCl2 & Cool	Analysis Requested:	BTEX
Condition:	Cool & Intact		

Parameter	Concentration (ug/L)	Dilution Factor	Det. Limit (ug/L)
Benzene	**ND**	**1**	**0.3**
Toluene	**24.7**	**1**	**0.4**
Ethylbenzene	**2.8**	**1**	**0.3**
p,m-Xylene	**110**	**1**	**0.5**
o-Xylene	**22.9**	**1**	**0.3**
Total BTEX	**160**		

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	**101 %**
	Bromofluorobenzene	**100 %**

References: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8020, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1994.

Comments: **GCU 169 Separator Pit.**

Analyst

Review

5796 U.S. Highway 64-3014 • Farmington, NM 87401 • Tel 505 • 632 • 0615 • Fax 505 • 632 • 1865

ANALYTICA
ENVIRONMENTAL LABORATORY

PURGEABLE AROMATICS

Blagg Engineering, Inc.

Project ID:	GCU 169 Separator Pit	Report Date:	02/08/96
Sample ID:	TH 1 @ GW (8')	Date Sampled:	01/31/96
Lab ID:	2557	Date Received:	02/01/96
Sample Matrix:	Water	Date Analyzed:	02/07/96
Preservative:	Cool, HgCl2		
Condition:	Intact		

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	ND	0.20
Toluene	8.94	0.20
Ethylbenzene	1.13	0.20
m,p-Xylenes	11.9	0.40
o-Xylene	1.20	0.20
Total BTEX	**23.2**	

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Trifluorotoluene	96	88 - 110%

Reference: Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209, Oct. 1984.

Comments:

Analyst

Review

ANALYTICA
ENVIRONMENTAL LABORATORY

General Water Quality
Blagg Engineering, Inc.

Project ID:	GCU 169/Separator Pit	Date Reported:	02/08/96
Sample ID:	PW1 at GW (8')	Date Sampled:	02/07/96
Laboratory ID:	2597	Time Sampled:	8:20
Sample Matrix:	Water	Date Received:	02/07/96

Parameter		Analytical Result	Units
General	Lab pH	7.4	s.u.
	Lab Conductivity @ 25° C	3,100	µmhos/cm
	Total Dissolved Solids @ 180°C	2,550	mg/L
	Total Dissolved Solids (Calc)	2,540	mg/L
Anions	Total Alkalinity as $CaCO_3$	453	mg/L
	Bicarbonate Alkalinity as $CaCO_3$	453	mg/L
	Carbonate Alkalinity as $CaCO_3$	NA	mg/L
	Hydroxide Alkalinity as $CaCO_3$	NA	mg/L
	Chloride	102	mg/L
	Sulfate	1,370	mg/L
	Nitrate + Nitrite - N	NA	
	Nitrate - N	NA	
	Nitrite - N	NA	
Cations	Total Hardness as $CaCO_3$	919	mg/L
	Calcium	324	mg/L
	Magnesium	27.0	mg/L
	Potassium	5.0	mg/L
	Sodium	440	mg/L

Data Validation			Acceptance Level
	Cation/Anion Difference	3.53	+/- 5 %
	TDS (180):TDS (calculated)	1.0	1.0 - 1.2

Reference U.S.E.P.A. 600/4-79-020, Methods for Chemical Analysis of Water and Wastes, 1983.
Standard Methods For The Examination Of Water And Wastewater, 18th ed., 1992.

Review

ANALYTICA
ENVIRONMENTAL LABORATORY
807 S. CARLTON • FARMINGTON, NM 87401 • (505) 326-2395

CHAIN OF CUSTODY

PROJECT MANAGER:
Analytica Lab I.D.:

Company: BLAGG
Address:

Phone:
Fax:

Bill To: SAME AS ABOVE
Company:
Address:

Sample ID	Date	Time	Matrix	Lab ID	Petroleum Hydrocarbons (418.1)	Gasoline / Diesel (mod. 8015)	Gasoline (GRO)	Aromatic HCs BTEX/MTBE (602 / 8020)	Chlorinated Hydrocarbons (8010)	SDWA Volatiles (502.1 / 503.1)	Chlorinated Pesticides / PCBs (608 / 8080)	Herbicides (615 / 8150)	Volatiles GC/MS (624 / 8240 / 8260)	Base / Neutral / Acid GC/MS (625 / 8270)	Polynuclear Aromatic Hydrocarbons (8100)	TCLP Extraction	Other (specify):	Cation / Anion	Specific Cations (specify):	Specific Anions (specify):	BOD / Fecal / Total Coliform	Solids: TDS / TSS / SS	Nutrients: NH4+ / NO2- / NO3- / TKN	Oil and Grease	Other (specify):	Priority Pollutants	RCRA Metals (Total)	RCRA Metals TCLP (1311)	Other (specify):	COMMENTS
~~PW1EGW(6)~~	2/7/96	0820	WATER															✓												SEP. PIT
PW1EGW(8)																														

Project Information	Sample Receipt
Proj. #: GCU 169 -	No. Containers:
Proj. Name: SEP. PIT	Custody Seals: Y / N / NA
P. O. No:	Received Intact:
Shipped Via:	Received Cold:

Required Turnaround Time (Prior Authorization Required for Rush)

Sampled By:	Relinquished By:	Relinquished By:
Signature / Date: Nelson Velez 2/7/96	Signature / Date: Nelson Velez 2/7/96	Signature / Date:
Company / Time: BLAGG 0820	Company / Time: BLAGG 1130	Company / Time:
Received By:	**Received By:**	**Received By:**
Signature / Date:	Signature / Date:	Signature / Date: 2/7/96
Company / Time:	Company / Time:	Company / Time: Analytica 1430

Please Fill Out Thoroughly.

Shaded areas for lab use only.

White/Yellow: Analytica
Pink: Client

ANALYTICA
ENVIRONMENTAL LABORATORY
807 S. CARLTON • FARMINGTON, NM 87401 • (505) 326-2395

CHAIN OF CUSTODY

PROJECT MANAGER:
Analytica Lab I.D.:

Company: BLAGG
Address:

Phone:
Fax:

Bill To: SAME AS ABOVE
Company:
Address:

Sample ID	Date	Time	Matrix	Lab ID	Petroleum Hydrocarbons (418.1)	Gasoline / Diesel (mod. 8015)	Gasoline (GRO)	Aromatic HCs (BTEX/MTBE (602 / 8020)	Chlorinated Hydrocarbons (8010)	SDWA Volatiles (502.1 / 503.1)	Chlorinated Pesticides / PCBs (608 / 8080)	Herbicides (615 / 8150)	Volatiles GC/MS (624 / 8240 / 8260)	Base / Neutral / Acid GC/MS (625 / 8270)	Polynuclear Aromatic Hydrocarbons (8100)	TCLP Extraction	Other (specify):	Cation / Anion	Specific Cations (specify):	Specific Anions (specify):	BOD / Fecal / Total Coliform	Solids: TDS / TSS / SS	Nutrients: NH4+ / NO2– / NO3– / TKN	Oil and Grease	Other (specify):	Priority Pollutants	RCRA Metals (Total)	RCRA Metals TCLP (1311)	Other (specify):	COMMENTS
TH1 EGW(6')	1-31-96	10:50	WATER					✓																						SEPARATOR PIT

PRESERVED - $HgCl_2$ & COOL

Project Information	Sample Receipt
Proj. #: 80303	No. Containers: 2
Proj. Name: ECU 169	Custody Seals: Y / N / NA
P. O. No:	Received Intact:
Shipped Via:	Received Cold:

Required Turnaround Time (Prior Authorization Required for Rush)

Sampled By:	Relinquished By:	Relinquished By:
Signature / Date: Nelson Velez 1-31-96	Signature / Date: Nelson Velez 2-1-96	Signature / Date:
Company: BLAGG	Company: BLAGG Time: 0900	Company: Time:
Received By:	**Received By:**	**Received By:**
Signature / Date:	Signature / Date:	Signature / Date:
Company: Time:	Company: Time:	Company: Analytica Time: 9:00

Please Fill Out Thoroughly.

Shaded areas for lab use only.

White/Yellow: Analytica
Pink: Client

4695

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location	ANALYSIS/PARAMETERS
BLAGG / AMOCO	GCU 169 SEP. PIT	
Sampler: (Signature) Nelson Velez	Chain of Custody Tape No.	

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	BTEX (8020)						Remarks
PW1 @ GW (8')	2-7-96	0820	9987	WATER	2	✓						PRESERV. - $HgCl_2$ & COOL

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Nelson Velez	2/7/96	1108	Glenn L. Ojeman	2/7/96	1108
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

ENVIROTECH INC.
5796 U.S. Highway 64-3014
Farmington, New Mexico 87401
(505) 632-0615

VHL

R0323

District I
P.O. Box 1980, Hobbs, NM
District II
1000 Rio Brazos Rd., Aztec, NM

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
P.O. BOX 2088
SANTA FE, NEW MEXICO 87504-2088

SUBMIT 1 COPY TO APPROPRIATE DISTRICT OFFICE AND 1 COPY TO SANTA FE OFFICE

PIT REMEDIATION AND CLOSURE REPORT

Operator: BP AMERICA PRODUCTION CO. Telephone: (505) 326-9200

Address: 200 ENERGY COURT, FARMINGTON, NM 87401

Facility or Well Name: GCU #169

Location: Unit or Qtr/Qtr Sec I Sec 35 T 29N R 12W County San Juan

Pit Type: Separator ✓ Dehydrator ___ Other ___

Land Type: BLM KAG X, State ___, Fee ✓, Other ___

Pit Location: (Attach diagram)

Pit dimensions: length NA, width NA, depth NA

Reference: wellhead X, other ___

Footage from reference: 177'

Direction from reference: 20 Degrees ___ East ✓ North ___ of ___ West ___ South

Depth To Groundwater: (Vertical distance from contaminants to seasonal high water elevation of groundwater)	Less than 50 feet	(20 points)	20 KAG
	50 feet to 99 feet	(10 points)	0
	Greater than 100 feet	(0 points)	
Wellhead Protection Area: (Less than 200 feet from a private domestic water source, or; less than 1000 feet from all other water sources)	Yes	(20 points)	
	No	(0 points)	0
Distance To Surface Water: (Horizontal distance to perennial lakes, ponds, rivers, streams, creeks, irrigation canals and ditches)	Less than 100 feet	(20 points)	10 KAG
	100 feet to 1000 feet	(10 points)	0
	Greater than 1000 feet	(0 points)	
	RANKING SCORE (TOTAL POINTS):		30 KAG 20

revised: 09/11/02

bel1202.wpd

B0303

Sep II

Date Remediation Started: _____ Date Completed: 2-13-03

Remediation Method: (Check all appropriate sections) Excavation X Approx. cubic yards NA

Landfarmed ____ Insitu Bioremediation _____

Other ~~CLOSE AS IS.~~ NV

Remediation Location: (i.e. landfarmed onsite, name and location of offsite facility) Onsite X Offsite _____

NV

General Description of Remedial Action: Excavation. Test hole advanced. ~~No remediation necessary.~~ Groundwater impact. MW REQUIRED FOLLOWING BP's GROUNDWATER MANAGEMENT PLAN. STEEL TANK REPLACED W/ DOUBLE WALL STEEL TANK.

Groundwater Encountered: No ~~X~~ NV Yes X Depth 9'

Final Pit Closure Sampling: (if multiple samples, attach sample results and diagram of sample locations and depths)

Sample location see Attached Documents

Sample depth 7.5'-8' – (Test hole bottom) WATER SAMPLE @ 9'

Sample date SOIL → 2/10 & 2/11 ← WATER Sample time 1550 (SOIL) / 0845 (WATER)

Sample Results

Soil:	Benzene	(ppm)	____	Water: Benzene	(ppb)	4.8
	Total BTEX	(ppm)	____	Toluene	(ppb)	150
	Field Headspace	(ppm)	380	Ethylbenzene	(ppb)	310
	TPH	(ppm)	—	Total Xylenes	(ppb)	2,920

Groundwater Sample: Yes X No ~~X~~ NV (If yes, attach sample results)

I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF

DATE 2-13-03 PRINTED NAME Jeffrey C. Blagg

SIGNATURE Jeffrey C Blagg AND TITLE President P.E. # 11607

revised: 03/27/02 bell202.wpd

BLAGG ENGINEERING, INC . - (BEI)

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

March 6, 2003

Mr. Roger Anderson
Chief of Environmental Bureau
State of New Mexico Oil Conservation Division **(NMOCD)**
2040 So. Pacheco
Santa Fe, New Mexico 87505

RE: Groundwater Impact
BP America Production Company (BP): GCU 169 Well site - Separator Pit (II)
Legal Description: Unit I, Sec. 35, T29N, R12W, San Juan County, New Mexico

Dear Mr. Anderson:

Initial groundwater sample analytical results at the above referenced well site during pit closure activity indicated contamination to be above the State of New Mexico Water Quality Control Commission's regulatory standards for total Xylenes. Sampling of the Separator pit (II) was conducted February 11, 2003. Depth to water was estimated at nine (9) feet below grade. Listed below is the summary analytical results for Benzene, Toluene, Ethylbenzene, and total Xylenes (BTEX) from the groundwater sample collected within the pit:

Parameter	Separator Pit (II) (parts per billion)
Benzene	4.8
Toluene	150
Ethylbenzene	310
Total Xylenes	2,920

Telecommunication notification was submitted to Mr. William Olson's voice recorder on March 6, 2003 at approximately 9:45 am. BP will implement its Groundwater Management Plan to address the findings related to this situation.

If you have any questions concerning this information, please do not hesitate to contact us at (505) 632-1199. Thank you for your cooperation.

Respectfully submitted,
Blagg Engineering, Inc.

Nelson Velez
Staff Geologist

cc: Denny Foust, Environmental Geologist, NMOCD, Aztec, NM
Brittany Benko, Environmental Coordinator, BP America Production Company, Farmington, NM

NV/nv

GCU169-2.LTR

VNL 3004507610

CLIENT: BP

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

LOCATION NO: B0303
COCR NO: 12154

F ELD REPORT: PIT CLOSURE VERIFICATION

PAGE No: 1 of 1

LOCATION: NAME: GCU WELL #: 169 TYPE: SEP. II
QUAD/UNIT: I SEC: 35 TWP: 29N RNG: 12W PM: NM CNTY: SJ ST: NM
QTR/FOOTAGE: 2360'S/1115'E NE/SE CONTRACTOR: L&L (RONALD)

DATE STARTED: 2/10/03
DATE FINISHED:
ENVIRONMENTAL SPECIALIST: NV

EXCAVATION APPROX. NA FT. x NA FT. x NA FT. DEEP. CUBIC YARDAGE: NA
DISPOSAL FACILITY: ON-SITE REMEDIATION METHOD: BP'S GMP
LAND USE: RANGE / AGRICULTURAL LEASE: FEE FORMATION: DK

FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 177 FT. N20E FROM WELLHEAD.
DEPTH TO GROUNDWATER: <50' NEAREST WATER SOURCE: >1000' NEAREST SURFACE WATER: <1000'
NMOCD RANKING SCORE: 30 NMOCD TPH CLOSURE STD: 100 PPM

OVM CALIB. READ. = 50.8 ppm
OVM CALIB. GAS = 100 ppm RF = 0.52
TIME: 2:25 am/pm DATE: 2/10/03

SOIL AND EXCAVATION DESCRIPTION:

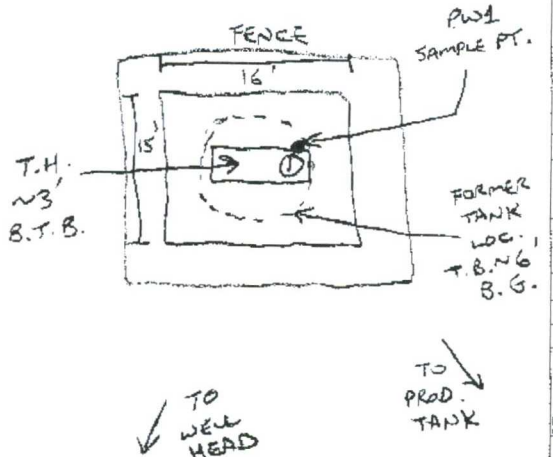
SOIL TYPE: (SAND) / SILTY SAND / SILT / SILTY CLAY / CLAY / GRAVEL / OTHER
SOIL COLOR: DK. YELL. ORANGE / LT. GRAY / BLACK
COHESION (ALL OTHERS): (NON COHESIVE) SLIGHTLY COHESIVE / COHESIVE / HIGHLY COHESIVE
CONSISTENCY (NON COHESIVE SOILS): LOOSE / (FIRM) DENSE / VERY DENSE
PLASTICITY (CLAYS): NON PLASTIC / SLIGHTLY PLASTIC / COHESIVE / MEDIUM PLASTIC / HIGHLY PLASTIC
~~DENSITY (COHESIVE CLAYS & SILTS)~~: SOFT / FIRM / STIFF / VERY STIFF / HARD
MOISTURE: DRY / SLIGHTLY MOIST (MOIST) / WET / (SATURATED) SUPER SATURATED
DISCOLORATION/STAINING OBSERVED: (YES) / NO EXPLANATION - BLACK - 2"-4" ABOVE LT. GRAY / LT. GRAY W/IN GW
HC ODOR DETECTED: (YES) NO EXPLANATION - TEST HOLE & OVM SAMPLE
SAMPLE TYPE: (GRAB) / COMPOSITE - # OF PTS. —
ADDITIONAL COMMENTS: CREW REPLACING STEEL TANK WITH DOUBLE WALL STEEL TANK.
GROUNDWATER IMPACT — MW REQUIRED.

FIELD 418.1 CALCULATIONS

SCALE 0 FT

SAMP. TIME	SAMP. ID	LAB NO.	WEIGHT (g)	mL FREON	DILUTION	READING	CALC. (ppm)

PIT PERIMETER



P.D. = PIT DEPRESSION; B.G. = BELOW GRADE; B = BELOW
T.H. = TEST HOLE; ~ = APPROX.; T.B. = TANK BOTTOM

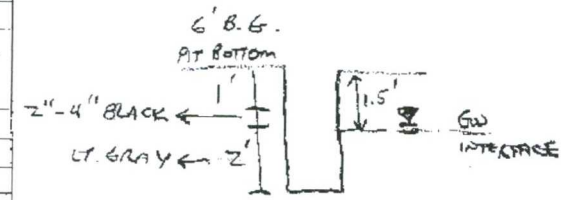
OVM READING

SAMPLE ID	FIELD HEADSPACE (ppm)	TIME
1 @ 7.5-8'	380	1550
2 @		
3 @		
4 @		
5 @		

LAB SAMPLES

SAMPLE ID	ANALYSIS	TIME
PW1 (GW)	BTEX (8021B)	0845 2/11/03
XYLENES - FAILED		

TEST HOLE ~~PIT~~ PROFILE



TRAVEL NOTES: CALLOUT: 2/10/03 - AFTER. ONSITE: 2/10/03 - AFTER. 2/11/03 - MORN.

bei1005C.skf

612 E. Murray Drive
Farmington, NM 87401

Off: (505) 327-1072

iiná bá

P.O. Box 2606
Farmington, NM 87499

Fax: (505) 327-1496

Date: *18-Feb-03*

CLIENT:	Blagg Engineering	**Client Sample Info:**	BP - GCU #169 Separator Pit II
Work Order:	0302007	**Client Sample ID:**	PW1 @ GW (9ft)
Project:	BP - GCU #169 Separator Pit (II)	**Collection Date:**	2/11/2003 8:45:00 AM
Lab ID:	0302007-001A	**Matrix:**	AQUEOUS

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		**SW8021B**				Analyst: **JEM**
Benzene	4.8	0.5		µg/L	1	2/13/2003
Ethylbenzene	310	10		µg/L	20	2/13/2003
m,p-Xylene	2500	20		µg/L	20	2/13/2003
o-Xylene	420	10		µg/L	20	2/13/2003
Toluene	150	0.5		µg/L	1	2/13/2003

Qualifiers:

ND - Not Detected at the Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted precision limits

E - Value above Upper Quantitation Limit - UQL

?3154

CHAIN OF CUSTODY RECORD

ON SITE TECHNOLOGIES, LTD.

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

Date: 2/11/03

Page: 1 of 1

Purchase Order No.:	Project No.		
SEND INVOICE TO	Name JEFF BLAGG		
	Company BLAGG ENGINEERING, INC.	Dept.	
	Address		
	City, State, Zip		
REPORT RESULTS TO	Name NELSON VELEZ	Title	
	Company SAME		
	Mailing Address		
	City, State, Zip		
	Telephone No. 632-1199	Telefax No. 632-~~1199~~ 3903	

PROJECT LOCATION: [illegible] #169 [illegible]

SAMPLER'S SIGNATURE: Nelson Velez

ANALYSIS REQUESTED

SAMPLE IDENTIFICATION	SAMPLE DATE	TIME	MATRIX	PRES.	Number of Containers	BTEX (8021B)									LAB ID
MW 2 @ [illegible] (9')	2/11/03	0845	WATER	[illegible]	2	✓									[illegible]

Relinquished by: Nelson Velez	Date/Time 2/11/03 0940	Received by: [illegible]	Date/Time 2/11/03 0[illegible]
Relinquished by:	Date/Time	Received by:	Date/Time
Relinquished by:	Date/Time	Received by:	Date/Time
Method of Shipment:		Rush ☐ 24-48 Hours ☐ 10 Working Days ☐ By Date	

Authorized by: ______________________ Date __________
(Client Signature Must Accompany Request)

Special Instructions / Remarks:

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

To Re-order Call 325-9600 or Fax 325-9764 alphagraphics FORM # C1