Fields, Vanessa, EMNRD

PWC50310639533

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

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 NMOCD NOV 05 2018 DISTRICT III

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



GROUNDWATER CLOSURE REPORT

GCU 169

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Remediation Closure
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Appendix C: Boring Logs
Appendix D: Field Sampling Notes and Laboratory Analytical Data Reports
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, upgradient 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

Prior Well Site (PxA'd)





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)
05/20/42		0.05	0.0	470	4.0	0.007	646
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
		1.00					
VQCC GROUND	DWATER 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

ice in an ice chest, then express delivered to a Pace Laboratories in Lenexa, Kansas with chain-ofcustody 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

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

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

The wells were initially sampled by hand bailing using a new,

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

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

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

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

that additional site investigations are necessary, and closure is recommended.

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

Blagg Engineering, Inc.

temperature) were achieved.

Jeffrey C. Blagg, P.E. President

FIGURE 2 **SWAMP AREA** ADDITIONAL **BLOW PIT EXCAVATION** TH1 SEP. PIT SEPARATOR PIT EXCAVATED MW #3 JANUARY, 1996 GROUNDWATER PIPELINE GROUNDWATER MW #2 FORMER BGT LOCATION GROUNDWATER ♠ MW#6 GROUNDWATER ~100 ft. TO HOME MW #5 **BLOW PIT** EXCAVATED JANUARY, 1996 MW #1 PLUG & **ABANDON MARKER** \oplus MONITOR WELL LOCATIONS ARE ONLY AS ACCURATE AS THE INSTRUMENTS USED IN OBTAINING THE

ALL OTHER STRUCTURES DISPLAYED ON THE SITE MAP ARE SOLELY FOR REFERENCE AND MAY NOT BE TO SCALE.

BP AMERICA PRODUCTION CO.

GCU # 169

FOOTAGE AND BEARING FROM THE WELL HEAD (BRUNTON COMPASS AND LASER RANGE FINDER).

NE/4 SE/4 SEC. 35, T29N, R12W

SAN JUAN COUNTY, NEW MEXICO

B LAGG ENGINEERING,

CONSULTING PETROLEUM / RECLAMATION SERVICES

P.O. BOX 87 BLOOMFIELD, NEW MEXICO 87413

PHONE: (505) 632-1199

I NC. PROJECT: MW SAMPLING

DRAWN BY: NJV

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

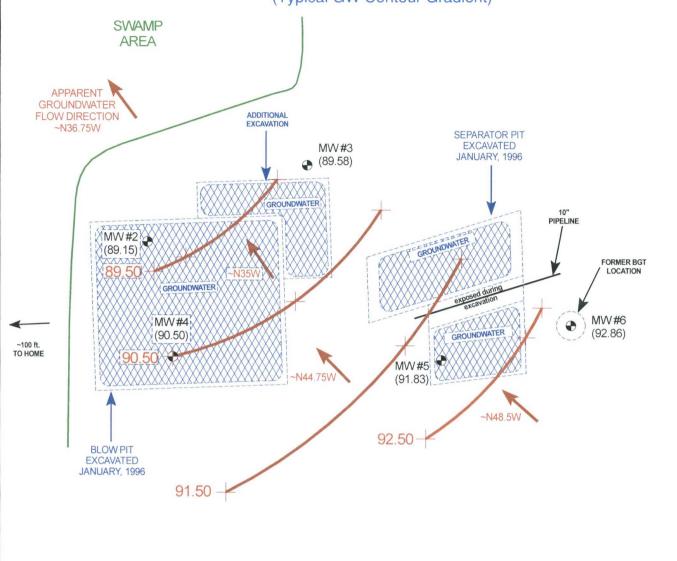
80 FT.

40

FIGURE 3 (1st 1/4, 2013)



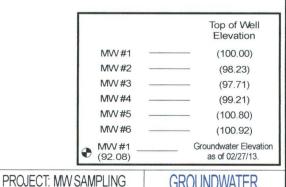
(Typical GW Contour Gradient)





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.

PLUG & ABANDON MARKER ⊕



BP AMERICA PRODUCTION CO.

GCU # 169

NE/4 SE/4 SEC. 35, T29N, R12W

SAN JUAN COUNTY, NEW MEXICO

BLAGG ENGINEERING, INC.

MW#1 (92.08)

CONSULTING PETROLEUM / RECLAMATION SERVICES

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

			treprocessor control selection					BTEX (JS EPA METI	HOD 8021B o	r 8260B
SAMPLE	WELL NAME		WELL	TDS	CONDUCT.	рН	FREE PHASE	BENZENE	TOLUENE	ETHYL	TOTAL
DATE	/ NUMBER	WATER (ft)	DEPTH (ft)	(mg/L)	(umboe)		PRODUCT (ft)	(nnh)	(nnh)	BENZENE (pph)	XYLENE: (ppb)
		(11)	(11)	[(IIIg/L)	(umhos)		1 (11)	(ppb)	(ppb)	(ppb)	(bbp)
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	T	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	1	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

Page 1 of 2

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

UNIT I, SEC. 35, T29N, R12W

DRAWING: GCU 169 MW1-BH-1, SKF

MW # 1

BORE / TEST HOLE REPORT

CLIENT:

LOCATION NAME:

CONTRACTOR: EQUIPMENT USED: BP AMERICA PRODUCTION CO.

GCU# 169

BLAGG ENGINEERING, INC. / KYVEK ENERGY SERVICES, INC.

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

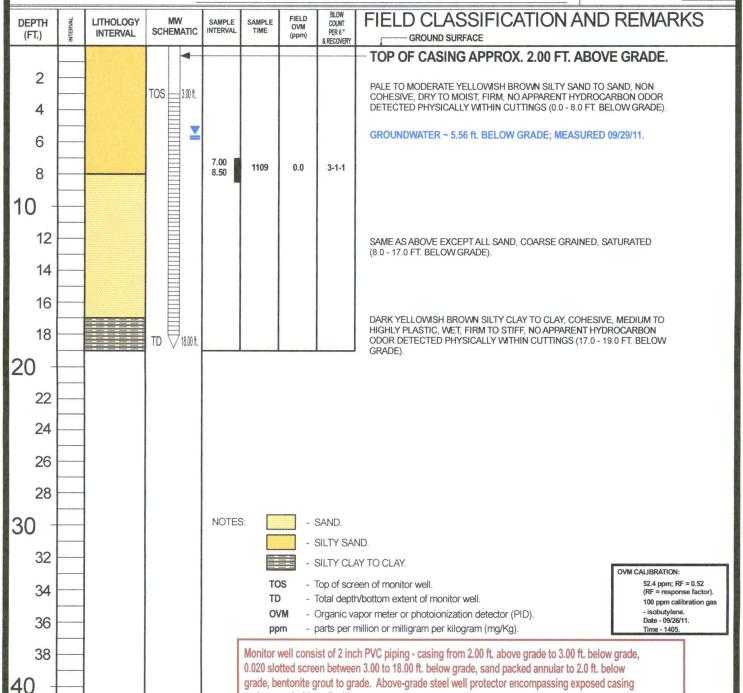
 DATE FINISHED
 09/26/11

 OPERATOR......
 KP

 LOGGED BY......
 NJV

DWN BY: NJV

DATE: 09/27/11



and secured with padlock.

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

MW#2

BORE / TEST HOLE REPORT

CLIENT:

36

38

40

LOCATION NAME: CONTRACTOR:

EQUIPMENT USED: BORING LOCATION: BP AMERICA PRODUCTION CO

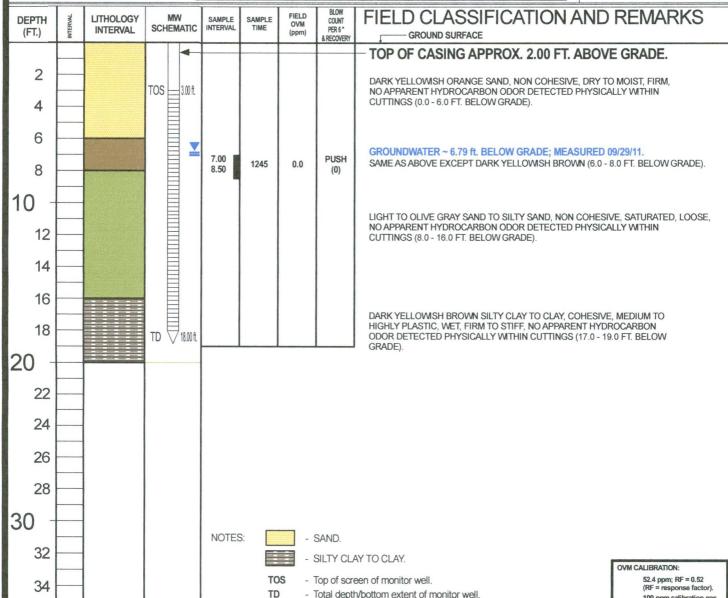
GCU # 169

UNIT I, SEC. 35, T29N, R12W BLAGG ENGINEERING, INC. / KYVEK ENERGY SERVICES, INC.

MOBILE DRILL RIG (CME 75) - HOLLOW STEM AUGER

232 FEET, N30W FROM PLUGGED & ABANDONED MARKER.

BORING #..... BH - 2 MW#..... PAGE #..... 2 DATE STARTED __09/26/11 DATE FINISHED 09/26/11 OPERATOR..... KP LOGGED BY..... NJV



- Total depth/bottom extent of monitor well.

OVM

- Organic vapor meter or photoionization detector (PID).

- parts per million or milligram per kilogram (mg/Kg)

(RF = response factor). 100 ppm calibration ga - 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

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

MW#3

BORE / TEST HOLE REPORT

CLIENT:

40

LOCATION NAME: CONTRACTOR:

EQUIPMENT USED: BORING LOCATION: BP AMERICA PRODUCTION CO

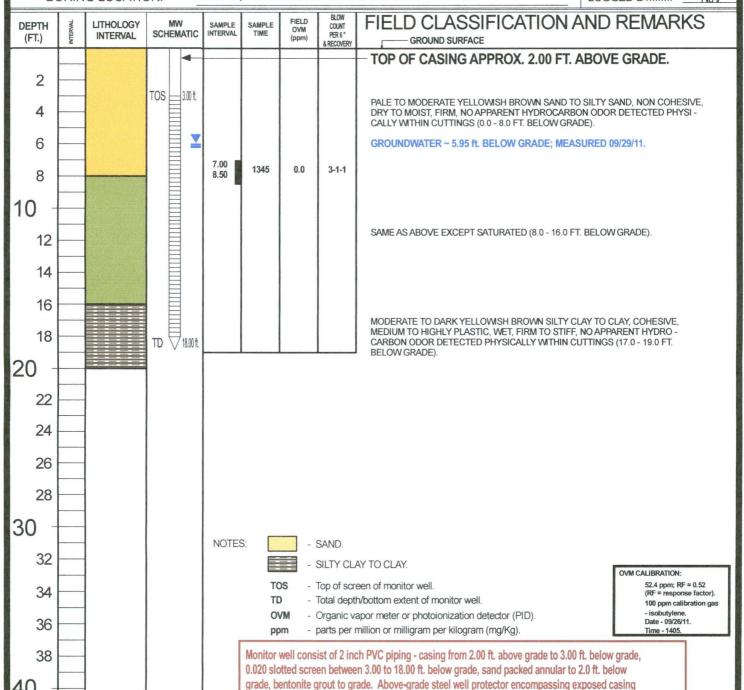
GCU # 169

UNIT I, SEC. 35, T29N, R12W BLAGG ENGINEERING, INC. / KYVEK ENERGY SERVICES, INC.

MOBILE DRILL RIG (CME 75) - HOLLOW STEM AUGER

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.....



DRAWING: GCU 169 MW3-BH-3. SKF

DATE: 09/27/11

DWN BY: NJV

and secured with padlock.

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

MW#4

BORE / TEST HOLE REPORT

CLIENT:

28

32

34

36

38

40

30

LOCATION NAME: CONTRACTOR:

EQUIPMENT USED: BORING LOCATION:

BP AMERICA PRODUCTION CO.

GCU#169

UNIT I, SEC. 35, T29N, R12W

BLAGG ENGINEERING, INC. / KYVEK ENERGY SERVICES, INC.

MOBILE DRILL RIG (CME 75) - HOLLOW STEM AUGER

186 FEET, N34.5W FROM PLUGGED & ABANDONED MARKER.

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 BH - 4

 MW #.....
 4

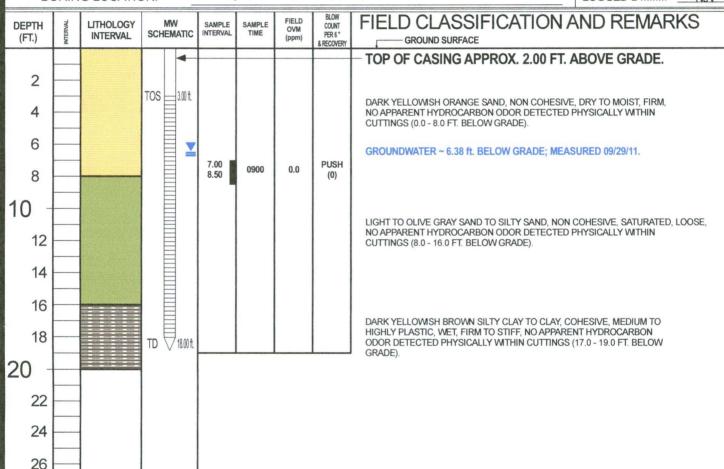
 PAGE #.....
 4

 DATE STARTED
 09/27/11

 DATE FINISHED
 09/27/11

 OPERATOR......
 KP

 LOGGED BY.....
 NJV



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

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

MW # 5

BORE / TEST HOLE REPORT

CLIENT:

40

LOCATION NAME: CONTRACTOR:

EQUIPMENT USED: BORING LOCATION:

BP AMERICA PRODUCTION CO.

GCU # 169

UNIT I, SEC. 35, T29N, R12W

MOBILE DRILL RIG (CME 75) - HOLLOW STEM AUGER

152 FEET, N2.5E FROM PLUGGED & ABANDONED MARKER.

BLAGG ENGINEERING, INC. / KYVEK ENERGY SERVICES, INC.

 BORING #......
 BH - 5

 MW #.....
 5

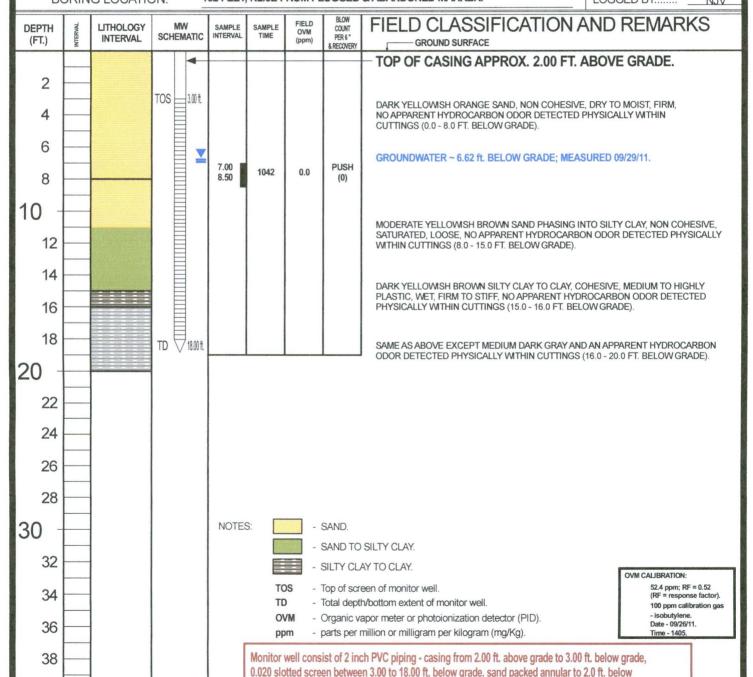
 PAGE #.....
 5

 DATE STARTED
 09/27/11

 DATE FINISHED
 09/27/11

 OPERATOR......
 KP

 LOGGED BY.....
 NJV



grade, bentonite grout to grade. Above-grade steel well protector encompassing exposed casing

DRAWING: GCU 169 MW5-BH-5, SKF

DATE: 09/27/11

DWN BY: NJV

and secured with padlock.

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

MW#6

BORE / TEST HOLE REPORT

CLIENT:

28

32

34

36

38

40

30

LOCATION NAME: CONTRACTOR:

EQUIPMENT USED:

BP AMERICA PRODUCTION CO

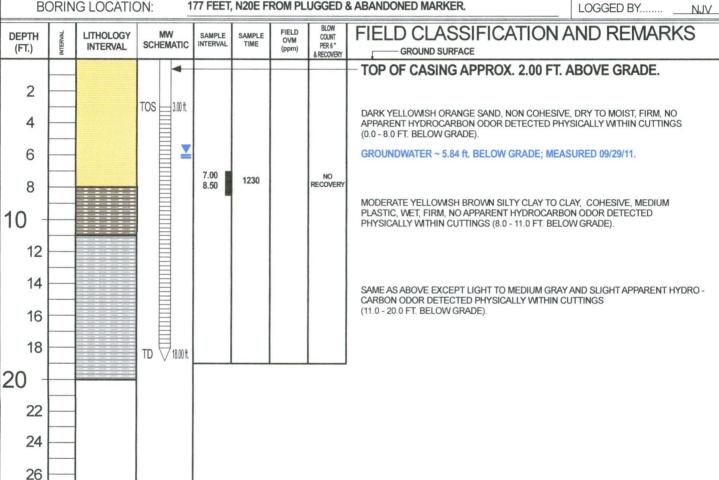
GCU # 169

UNIT I, SEC. 35, T29N. R12W BLAGG ENGINEERING, INC. / KYVEK ENERGY SERVICES, INC.

MOBILE DRILL RIG (CME 75) - HOLLOW STEM AUGER

177 FEET, N20E FROM PLUGGED & ABANDONED MARKER.

BORING # BH - 6 MVV #..... PAGE #..... 6 DATE STARTED 09/27/11 DATE FINISHED 09/27/11 OPERATOR.....



NOTES



- SAND.

- SILTY CLAY TO CLAY. TOS - Top of screen of monitor well.

TD - Total depth/bottom extent of monitor well.

- Organic vapor meter or photoionization detector (PID). - parts per million or milligram per kilogram (mg/Kg).

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 MW6-BH-6, SKF

DATE: 09/27/11

DWN BY: NJV

OVM CALIBRATION:

52.4 ppm; RF = 0.52

Time - 1405

response factor).

100 ppm calibration gas - isobutylene

APPENDIX D

Field Sampling Notes and Laboratory Analytical Data Reports

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT:	BP AMERICA	PROD. CO.	CHAIN-OF-CUSTODY #:	N/A

GCU #169 - BLOW & SEP. PITS LABORATORY (S) USED: PACE ANALYTICAL

UNIT I, SEC. 35, T29N, R12W

Date: October 28, 2011 DEVELOPER/SAMPLER: NJV

Filename: 10-28-11.WK4 PROJECT MANAGER: NJV

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

DATE & TIME = 10/28/2011 0855

2.800

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 \sim 2.00 ft., MW #2 \sim 2.00 ft., MW #3 \sim 2.00 ft., MW #4 \sim 2.00 ft., MW #5 \sim 2.00 ft., MW #6 \sim 2.00 ft. above grade.

(913)599-5665



ANALYTICAL RESULTS

Project: GCU #169
Pace Project No.: 60109248

Sample: MW #1	Lab ID: 6010924800	Collected: 1	0/28/11 09:05	Received: 11/01/11 09:2	0 Matrix: Water	
Parameters	Results Unit	s Report L	imit DF	Prepared Analyz	ed CAS No.	Qual
8260 MSV UST, Water	Analytical Method: EPA	8260				
Benzene	ND ug/L		1.0 1	11/04/11 (3:49 71-43-2	
Ethylbenzene	ND ug/L		1.0 1	11/04/11 (3:49 100-41-4	
Toluene	ND ug/L		1.0 1	11/04/11 (3:49 108-88-3	
Xylene (Total)	ND ug/L		3.0 1	11/04/11 (3:49 1330-20-7	
Dibromofluoromethane (S)	100 %	86	-112 1	11/04/11 (3:49 1868-53-7	
Toluene-d8 (S)	97 %	90	-110 1	11/04/11 (3:49 2037-26-5	
4-Bromofluorobenzene (S)	101 %	87	-113 1	11/04/11 (3:49 460-00-4	
1,2-Dichloroethane-d4 (S)	98 %	82	-119 1	11/04/11 (3:49 17060-07-0	
Preservation pH	1.0		1.0 1	11/04/11 (3:49	



ANALYTICAL RESULTS

Project:

GCU #169

Pace Project No.: 60109248

Sample: MW #2	Lab ID: 601	09248002	Collected:	10/28/1	1 10:10	Received:	11/01/11 09:20	Matrix: Water	
Parameters	Results	Units	Repoi	t Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical Meth	nod: EPA 82	260						
Benzene	ND ug	/L		1.0	1		11/04/11 04:03	3 71-43-2	
Ethylbenzene	ND ug	/L		1.0	1		11/04/11 04:03	3 100-41-4	
Toluene	ND ug	/L		1.0	1		11/04/11 04:03	3 108-88-3	
Xylene (Total)	ND ug	/L		3.0	1		11/04/11 04:03	3 1330-20-7	
Dibromofluoromethane (S)	100 %			86-112	1		11/04/11 04:03	3 1868-53-7	
Toluene-d8 (S)	101 %			90-110	1		11/04/11 04:03	3 2037-26-5	
4-Bromofluorobenzene (S)	103 %			87-113	1		11/04/11 04:03	3 460-00-4	
1,2-Dichloroethane-d4 (S)	98 %			82-119	1		11/04/11 04:03	3 17060-07-0	
Preservation pH	1.0			1.0	1		11/04/11 04:03	3	



ANALYTICAL RESULTS

Project:

GCU #169

Pace Project No.: 60109248

Sample: MW #4	Lab ID: 601092480	004 Collected: 10/	29/11 10:30	Received:	11/01/11 09:20	Matrix: Water	
Parameters	Results Un	nits Report Lim	it DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical Method: EF	PA 8260					
Benzene	ND ug/L		.0 1		11/04/11 04:32	2 71-43-2	
Ethylbenzene	ND ug/L	1	.0 1		11/04/11 04:32	2 100-41-4	
Toluene	ND ug/L	•	.0 1		11/04/11 04:32	2 108-88-3	
Xylene (Total)	ND ug/L	3	.0 1		11/04/11 04:32	2 1330-20-7	
Dibromofluoromethane (S)	100 %	86-1	12 1		11/04/11 04:32	2 1868-53-7	
Toluene-d8 (S)	98 %	90-1	10 1		11/04/11 04:32	2 2037-26-5	
4-Bromofluorobenzene (S)	99 %	87-1	13 1		11/04/11 04:32	2 460-00-4	
1,2-Dichloroethane-d4 (S)	98 %	82-1	19 1		11/04/11 04:32	2 17060-07-0	
Preservation pH	1.0	•	.0 1		11/04/11 04:32	2	



ANALYTICAL RESULTS

Project: GCU #169
Pace Project No.: 60109248

Sample: MW #6	Lab ID: 601092480	006 Collected: 10/29	11 12:30	Received: 1	1/01/11 09:20	Matrix: Water	
Parameters	Results Un	its Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical Method: EF	PA 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	0 100-41-4	
Toluene	16.7 ug/L	1.0	1		11/04/11 05:00	0 108-88-3	
Xylene (Total)	388 ug/L	15.0	5		11/06/11 01:54	4 1330-20-7	
Dibromofluoromethane (S)	99 %	86-112	1		11/04/11 05:00	0 1868-53-7	
Toluene-d8 (S)	102 %	90-110	1		11/04/11 05:00	0 2037-26-5	
4-Bromofluorobenzene (S)	106 %	87-113	1		11/04/11 05:00	0 460-00-4	
1,2-Dichloroethane-d4 (S)	97 %	82-119	1		11/04/11 05:00	0 17060-07-0	
Preservation pH	1.0	1.0	1		11/04/11 05:00	0	



Chain of Custody Record

GCU #169 Project Name: BP BU/AR Region/Enfos Segment: SAN JUAN SOUTH O.C. NMOCD State or Lead Regulatory Agency: 11/7/2011 Requested Due Date (mm/dd/yy):

ge	of	_/	

				-		-		-		-						-	-		-			-	And the last of th	
ab Name	PACE ANALYTICAL						BP/AR Facility No.:				GO	CU #	169				Consu	ltant/C	Contrac	tor: Bl	LAGG ENGR	, INC.		
Address:	9608 LOIRET BLVD.						BP/AR Facility Address:				Un	it I,	Sec. 3	5, T2	9N, R12W		Addre	35:		1	10 N. 4 th ST.			
	LENEXA , KS 66219						Site Lat/Long:				36.	6820	03 / 10	8.063	55					В	LOOMFIELI	, NM 8	7413	
ab PM:	COLLEEN KOPORC						California Global ID No.:										Consu	ltant/C	Contrac	tor Proj	ect No.:			
ele/Fax:	913-599-5665				(00.00000000000000000000000000000000000		Enfos Project No.:			-							Consu	ltant/C	Contrac	tor PM:	JEFF C. BL.	AGG		
P Contac	et: Jeff Peace						Provision or OOC (circle one)							Tele/Fax: 505-632-1199										
ddress:	200 Energy Court						Phase/WBS:										Repor	t Type	& QC	Level:	STANDARI	,		
	Farmington, NM 87401						Sub Phase/Task:		-								E-mai	EDD	To:	-	blagg_njv@	yahoo.c	om	
ele/Fax:	Office: (505) 326-9479 Cell:	(505) 330-	4937	Tona a series	1 m 1 m 1 m 1 m 1 m 1 m 1 m 1 m 1 m 1 m		Cost Element:		7	the Page 1				pulsatedana			Invoid	e to:	Consul	tant or I	BP of Atlantic Richt	ield Co. (c	ircle one)	
ab Bottl	e Order No:				Matri	x			L	P	rese	rvativ	'e		Req	uestec	Ana	lysis	_		I	,	2.11/	
Item No.	Sample Description	Time	Date	Soil/Solid	Water/Liquid	Air	Laboratory No.	No. of Containers	Unpreserved	H ₂ SO ₄	HNO ₃	НСІ	HgCl ₂ Methanol	EPA 8260B (BTEX)							Sample Poi	nt Lat/Lon		nments
1	MW #1	0905	10/28/2011		X			2				X		X			T				2(049	H)		al
2	MW #2	1010	10/28/2011		X			2				X		X			T		\prod		1-1			cor
3	MW #3	1105	10/28/2011		X			2				X		X					\Box				-	603
4	MW #4	1030	10/29/2011		X			2		T		X		X			T				ay			<i>a</i> 4
5	MW #5	1135	10/29/2011		X			2				X		X									(es-
6	MW #6	1230	10/29/2011		X			2				X		X							1		a	4
7									L															
8									L														·	
9									L															
10																					Report BTI	EX cons	tituent	s only
ampler'	s Name: NELSON VELEZ	And control control control control			400.14.001.000		Relinquished By	/Aff	ille	tion				D	ate Tim	ie			Acc	epted B	y / Affiliation		Date	Time
ampler'	s Company: BLAGG ENGR., INC	C.					9Mn 11-84	96	6	- F	2	4	2_	10/31	1/2011 /50	20		1	MA	18	Han	11	/1/11	920
hipmen	t Date: 10/31/2011						73											/	7	6.4			,,,	
hipmen	t Method: FED. EX.										-													
hipmen	t Tracking No: 8664 8408 4230							a mada di				*****												
pecial				worthware events	and the latest designation of the latest des	-	bove and use Pay key	ALC: UNKNOWN	_	-	-	-	-	NV	Work or	rdei	#:	NI	491	459.				
		The same of the same of the same of		_	and the last of th	and the last of th	g@aol.com & blagg_nj	-	-		_	and the last of th	AND DESCRIPTION OF THE PERSON NAMED IN											
	Custody Seals In Place: Y	Yes (No)	Temp I	Blank	Yes	No	Cooler Temp on Rece	ipt:	4	v °I	1/6	2	Tri	p Bla	nk: Yes /No	2	N	AS/N	ISD S	Sampl	e Submitted: Y		The state of the s	
																					RP	COC Rev	5 08/26	/2010



Pace Analytical V 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





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





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



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PROJECT NARRATIVE

Project: GCU #169 Pace Project No.: 60109248

nod: 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.





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

		Blank	Reporting		
Parameter	Units	Result	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

		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% 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	



QUALITY CONTROL DATA

Project:

GCU #169

Pace Project No.:

60109248

QC Batch:

Xylene (Total)

Toluene-d8 (S)

MSV/41413

Analysis Method:

EPA 8260

QC Batch Method: EPA 8260

Analysis Description:

Matrix: Water

8260 MSV UST-WATER

Associated Lab Samples:

METHOD BLANK: 905103

Units

Associated Lab Samples:

1,2-Dichloroethane-d4 (S)

4-Bromofluorobenzene (S) Dibromofluoromethane (S) 60109248006

60109248006

Blank Result	Reporting Limit	Analyzed	Qualifiers
ND	3.0	11/06/11 01:21	
114	82-119	11/06/11 01:21	
110	87-113	11/06/11 01:21	
109	86-112	11/06/11 01:21	
109	90-110	11/06/11 01:21	

LABORATORY CONTROL SAMPLE:

Parameter

905104

ug/L

% %

%

%

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	





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.

Date: 11/08/2011 02:20 PM



(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		



Sample Condition Upon Receipt - ESI Tech Specs

Client Name: BP BLANG	ENE.	Project #:_	60109298
Courier: Fed Ex 10 UPS USPS Client	Commercial □ Pace □	Other 🗆	Optional
Tracking #: 866484084230	Pace Shipping Label Used?	Yes□ NoXÓ	Proj Due Date: [
Custody Seal on Cooler/Box Present: Yes □ No.	,, ,		110/110/110/
Packing Material: Bubble Wrap D Bubble Ba			Other 🗆
Thermometer Used: T-191 / T-194 Ty	ype of Ice: Web Blue N	None Samples re	eceived on ice, cooling process has begun.
Cooler Temperature: 41	(circle one)	Dat	e and initials of person examining
Temperature should be above freezing to 6°C		con	tents: 015 11/1/11 100
Chain of Custody present:	Yes □No □N/A 1.		
Chain of Custody filled out:	Y Yes □No □N/A 2.		
Chain of Custody relinquished:	ØYes □No □N/A 3.		
Sampler name & signature on COC:			
Samples arrived within holding time:	Yes □No □N/A 5.		
Short Hold Time analyses (<72hr):	□Yes ଔNo □N/A 6.		
Rush Turn Around Time requested: (<72w)	□Yes ₽No □N/A 7.	4 day	1 TAT
Sufficient volume:	□Yes ⊀2No □N/A 8.	2 V6/5	each.
Correct containers used:	ŻYes □No □N/A		
-Pace containers used:	□Yes ☑No □N/A 9.		
Containers intact:	∭Xes □No □N/A 10.		
Unpreserved 5035A soils frozen w/in 48hrs?	□Yes □No 🗷N/A 11.		
Filtered volume received for dissolved tests?	□Yes □No ØN/A 12.		
Sample labels match COC:	ZYes □No □N/A		
-Includes date/time/ID/analyses Matrix:	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		ll when pleted	Lot # of added preservative
Trip Blank present:	□Yes ØNo □N/A	pieted	preservative
Pace Trip Blank lot # (if purchased):	15.		
Headspace in VOA vials (>6mm):	□Yes ZNo □N/A		
	16.		
Project sampled in USDA Regulated Area:	□Yes □No ØN/A 17.	List State:	h
Client Notification/ Resolution: Copy C	OC to Client? Y / N	Field Data Regu	ired? Y / N
	ate/Time:	, .o.e Data Nequ	Temp Log: Record start and finish times
Comments/ Resolution:			when unpacking cooler, if >20 min, recheck sample temps.
			Start: 1100 Start:
			End: /110 End:
Project Manager Review: (134)	Date	11/2/11	Temp: Temp:

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).

F-KS-C-004-Rev.0, 02February2011

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT:	BP AME	ERICA P	ROD. CO	<u>).</u>	CI	HAIN-OF-CI	JSTODY#:	N	/ A
GCU # 16	9 - BLOW	& SEP. PIT	s	_	LAB	ORATORY	(S) USED:	HALL ENVI	RONMENTAL
UNIT I, SI	EC. 35, T29	9N, R12W							
Date:	February	17, 2012			DEV	/ELOPER /	SAMPLER:	N	JV
Filename :	02-17-12.V	VK4			F	PROJECT N	MANAGER :	N	JV
WELL	WELL	WATER	DEPTH TO	TOTAL	SAMPLING	рН	CONDUCT	TEMP.	VOLUME
#	ELEV.	ELEV.	WATER	DEPTH	TIME		(umhos)	(celcius)	PURGED
	(ft)	(ft)	(ft)	(ft)					(gal.)
1	100.00	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
			INSTRUME	NT CALIBI	RATIONS =	4.01/7.00/10.00	2,800		
				DATE	& TIME =	02/16/2012	1000		
NOTES:			ed from well t. h = 1 ft.)				X 7.48 gal./f	ft3) X 3 (well	bores).
	Ideally a m	ninimum of	three (3) we	ellbore volu	mes:	2.00 " well	diameter =	0.49 gal. / f	t. of water.
Comments	or note we	Il diameter	if not standa	ard 2".					
Excellent re	ecovery in M	/W #3 & #	6. MW #3 -	brown tin	t in appeara	nce, MW #	6 - dark gra	ay with sligh	nt
apparent hy	ydrocarbon	odor detecte	ed physically). Used s	ubsersible p	ump and vi	nyl clear tul	bing in both	MW's
for purging	and sampli	ing . Collec	ted samples	from MW	#3 & #6 for	BTEX per	US EPA Met	thod 80210B	
	-								
						- to the second			

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

Lab Order 1202760

Date Reported: 2/29/2012

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Project: GCU #169

Lab ID:

1202760-001

Client Sample ID: MW #3

Collection Date: 2/17/2012 10:45:00 AM

Matrix: AQUEOUS Received Date: 2/22/2012 9:54:00 AM

Analyses	Result	RL Qu	al 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

RPD outside accepted recovery limits

Spike Recovery outside accepted recovery limits

В Analyte detected in the associated Method Blank

Holding times for preparation or analysis exceeded H

ND Not Detected at the Reporting Limit

Reporting Detection Limit

Lab Order 1202760

Date Reported: 2/29/2012

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

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

Matrix: AQUEOUS

- */X Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- RPD outside accepted recovery limits
- Spike Recovery outside accepted recovery limits
- В 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

CI	nain-c	of-Cus	stody Record	Turn-Around T	ime:			1	1 1	ŀ	HΑ	LL	E	NV	TE	30	N	F	NT	ΓAL	
Client:	BLAG	G ENGR.	/ BP AMERICA	✓ Standard	Rush _		_ '													OR	
				Project Name:										viro							_
Mailing Ad	ddress:	P.O. BO	X 87	1	GCU # 16	9		40	01 F					ouqu					9		
	***************************************		FIELD, NM 87413	Project #:					el. 50					Fax .							
Phone #:		(505) 63		1					1. 50		75 5	No. of Lot	NAME OF TAXABLE	ysis	and the last		No. of Lot				12
email or F	ax#:	(555) 55		Project Manag	er:									20103	25						
QA/QC Pad Standa	_		Level 4 (Full Validation)		NELSON VI	ELEZ	F (8021B)	+ TPH (Gas only)	Diesel)					PO4, SO4)	.B's						
Accreditat		To a second		Sampler:	NELSON VI	ELEZ	8	Gas	Gas/					02,	2 PC						
□ NELAP		□ Other			Yes	□ No) Hd	15B (418.1)	4.1)	Î		3, N	808/						1
□ EDD (T	ype)			Sample Tempe	erature: 🤄 💍			+ 1	1 80	d 41	d 50	or PA	als	I, NC	des		VOA	(0.0)			2
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX +- MATE	BTEX + MTBE	TPH Method 8015B (Gas/Diesel)	TPH (Method	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO3, NO2,	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride (300.0)			Aim DLhlan
2/17/12	1045	WATER	MW #3	40 ml VOA - 2	HCl & Cool	-	٧														
2/17/12	1140	WATER	MW #6	40 ml VOA - 2	HCl & Cool	-2	٧														
×																				T	
			Marijani kun kili kun - nga																		
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	American and American Control of the						\top	1												\top	_
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Date:	Time:	Relinquish	ed by:	Received by:	1	Date Time	Re	mar	(S:		L				L						
2/21/12	0853	9/1	Un of	Mar. t. 1	hoto	2/21/12 085	53 B	ILL D	IREC	TLY T	O BF	o;									
Date:	Time:	Relinquishe	ed by:	Received by:		Date Time	Jeff Peace, 200 Energy Court, Farmington, NM 87401														
121/12	1429	Thru	stul Dales	MAR	2/00/1	9 951	flv	Vork	Orde	r: _!	N152	2010)7	Pa	ykey	/: Z	PEA	CJDE	NV		

Hall Environmental Analysis Laboratory, Inc.

WO#: **1202760**

29-Feb-12

Client: Blagg Engineering

Project: GCU #169

Sample ID 5ML-RB	SampT	уре: МЕ	BLK	TestCode: EPA Method 8021B: Volatiles						
Client ID: PBW	Batch ID: R1140			R	RunNo: 1	140				
Prep Date:	Analysis D	ate: 2/	24/2012	S	SeqNo: 3	2619	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	Sampl	ype: LC	S	Tes	Code: El	PA Method	8021B: Volati	les		
Client ID: LCSW	Batch	ID: R1	140	R	RunNo: 1	140				
Prep Date:	Analysis D	ate: 2/	24/2012	S	SeqNo: 3	2623	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	SampT	ype: ME	BLK	Test	Code: El	PA Method	8021B: Volati	les		
Client ID: PBW	Batch	ID: R1	157	R	unNo: 1	157				
Prep Date:	Analysis D	ate: 2/	27/2012	S	eqNo: 3	3082	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 LC	S Samp	Type: LC	S	Test	tCode: El	PA Method	8021B: Volat	iles		
Client ID: LCSW	Bato	h ID: R1	157	R	RunNo: 1	157				
Prep Date:	Analysis I	Date: 2/	27/2012	S	SeqNo: 3	3089	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Xylenes, Total	62	2.0	60.00	0	103	80	120			
Surr: 4-Bromofluorobenzene	23		20.00		114	76.5	115			

Qualifiers:

*/X Value exceeds Maximum Contaminant Level.

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

RL Reporting Detection Limit

Page 3 of 3



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87105

Sample Log-In Check List

TEL: 505-345-3975 FAX: 505-345-4107

Website: www.hallenvironmental.com BLAGG Work Order Number: 1202760 Client Name: Received by/date: Logged By: Michelle Garcia 2/22/2012 9:54:00 AM Completed By: 2/22/2012 3:58:56 PM Michelle Garcia Reviewed By: Chain of Custody 1. Were seals intact? No Not Present ✓ No Not Present 2. Is Chain of Custody complete? Yes 3. How was the sample delivered? Courier Log In 4. Coolers are present? (see 19. for cooler specific information) NA NA Was an attempt made to cool the samples? Were all samples received at a temperature of >0° C to 6.0°C NA 7. Sample(s) in proper container(s)? No Sufficient sample volume for indicated test(s)? Are samples (except VOA and ONG) properly preserved? No 10. Was preservative added to bottles? No NA Yes No VOA Vials V 11. VOA vials have zero headspace? No Yes 12. Were any sample containers received broken? Yes No # of preserved 13 Does paperwork match bottle labels? No Yes bottles checked (Note discrepancies on chain of custody) for pH: (<2 or >12 unless noted) 14. Are matrices correctly identified on Chain of Custody? Adjusted? 15. Is it clear what analyses were requested? 16 Were all holding times able to be met? (If no, notify customer for authorization.) Checked by: Special Handling (if applicable)

opecial flatialing (if ap	Direable)					
17. Was client notified of all	discrepancies with this order?		Yes	No		NA 🗸
Person Notified:	THE STATE OF THE S	Date	an relative to see all the density to delect	diskli izbilikish i sadipunturun sitasit etri	europen europen	
By Whom:	AND DESCRIPTION OF THE OWNERS OF THE PROPERTY	Via:	eMail	Phone	Fax	In Person
Regarding:	y Heldeldeld All Meldeldeldeldelde var klemme mende utter met utter utter utter utter utter utter utter utter utter gede ged	name in the four hat the theat of	lour 4-04-a responses es reconsecuent	de ande emplese lagres de lance esclano (el la	Charles State Market State Sta	kkulle (j.g. Chris Tauly, haried, g. Gaek, nghalang nilo y, nghyghe flig alda y mar.
Client Instructions:	THE CONTRACT OF THE PARTY AND ADDRESS OF THE PARTY OF THE	in let fat funds-color combustific and	日本・大・大・大・大・大・大・大・大・大・大・大・大・大・大・大・大・大・大・大	SPSCFEWINFECKBELLAS SCIOLEMAL	STREET,	نىغ ئەيغ ئىرىكىۋۇلەرنىغانىڭ ئى يەسىنى قادىكىمە چەھىدەد ئىمغىيە خاھاتىدىد

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									/ A		
GCU # 169	BLOW 8	& SEP. PIT	S		LAB	ORATORY	(S) USED:	HALL ENVI	RONMENTAL		
UNIT I, SI	EC. 35, T29	N, R12W									
Date:	June 29,	2012			DEV	/ELOPER /	SAMPLER:	N	JV		
Filename :	06-29-12.V	VK4			F	PROJECT N	MANAGER:	N	JV		
WELL	WELL	WATER	DEPTH TO	TOTAL	SAMPLING	рН	CONDUCT	TEMP.	VOLUME		
#	ELEV.	ELEV.	WATER	DEPTH	TIME		(umhos)	(celcius)	PURGED		
	(ft)			(gal.)							
1	100.00	-	-	-							
2	98.23	-	-	-							
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		
			INSTRUME	ENT CALIBR	RATIONS =	4.01/7.00/10.00	2,800				
				DATE	& TIME =	06/23/1912	0645				
NOTES:			ed from well t. h = 1 ft.)				X 7.48 gal./f	t3) X 3 (well	bores).		
	Ideally a m	ninimum of	three (3) we	ellbore volu	mes:	2.00 " well	diameter =	0.49 gal. / f	t. of water.		
Comments	or note we	II diameter	if not standa	ard 2".							
Excellent re	covery in N	/IW #3 & #	6. MW #3 -	brown tin	t in appeara	nce, MW #	6 - dark gra	y with sligh	nt		
apparent hy	drocarbon	odor detecte	ed physically). Used s	ubsersible p	ump and vi	nyl clear tub	oing in both	MW's		
for purging	for purging and sampling. Collected samples from MW #3 & #6 for BTEX per US EPA Method 80210B.										
							~~~				
					***************************************						

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

### Lab Order 1207172

Date Reported: 7/16/2012

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

1207172-001

Client Sample ID: MW # 3

**Project:** GCU # 169

Lab ID:

Collection Date: 6/29/2012 8:45:00 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 7/6/2012 5:06:56 PM 1.0 µg/L 1 Toluene ND 7/6/2012 5:06:56 PM 1.0 µg/L 1 Ethylbenzene ND 1.0 1 7/6/2012 5:06:56 PM µg/L 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 %REC 95.3 70-130 1 7/6/2012 5:06:56 PM

Matrix: AQUEOUS

- */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
- U Samples with CalcVal < MDL

### Lab Order 1207172

Date Reported: 7/16/2012

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering Client Sample ID: MW # 6

 Project:
 GCU # 169
 Collection Date: 6/29/2012 9:35:00 AM

 Lab ID:
 1207172-002
 Matrix: AQUEOUS
 Received Date: 7/6/2012 9:45:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SH	HORT 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.
- 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
- U Samples with CalcVal < MDL

Page 2 of 3

C	naın-d	ot-Cus	tody Record	Turn-Around	ıme:		1.				44		F	NV	/TE	20	N	E	N.	ТΔ	
Client:	BLAG	G ENGR.	/ BP AMERICA	Standard	Rush													RA			
				Project Name:		Section 1				•							.com		•		• •
Mailing A	ddress:	P.O. BO	X 87		GCU # 16	9		49	∩1 <b>⊢</b>	lawl								 3710:	q		
			FIELD, NM 87413	Project #:			1				45-3			-			-410		_		
Phone #:		(505) 63		1							15 5	TO THE	Anal	1010		14/11	The same				
email or F	ax#:	(/		Project Manag	ger:									4)							
QA/QC Par	-		Level 4 (Full Validation)		NELSON VI	ELEZ	4B's-(8021B)	only)	(Gas/Diesel)					PO4, SO4)	PCB's						a)
Accreditat	ion:			Sampler:	NELSON VI	ELEZ	8	(Gas	(Gas					102,	82 P						mp
□ NELAF	)	□ Other		On Ice:	Yes	□ No		TPH	15B	18.1	)4.1)	(H)		J3, N	/ 80		7				e sa
□ EDD (1	Гуре)	T		Sample Temp	eràture:	10		+	d 80	od 4	od 5(	or P/	tals	N.	ides	7	-00/	0.00		e e	osit
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX WH	BTEX + MTBE	TPH Method 8015B	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO3, NO2,	8081 Pesticides / 8082	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	HCI & Cool	-601	٧						_		- 50	-	~	J		٧	
6/29/12	0935	WATER	MW # 6	40 ml VOA - 2	HCI & Cool	007	٧													٧	
`																					
		e 80	4																		
Date: 7/5/12	Time: 1430	Relinquishe	ed by:	Received by:	1/00/2	Date Time 7/5/12 /430		nark LL DI		LY T	ОВР	):			•						
Date:	Time:	Relinquishe	ed by:	Received by:	100	Date Time	Je						ourt, mail		_	on, N	8 Mi	7401	ģ		
15/12	If necess	any/samples s	Matte Walls of the componental may be	subcontracted to other	State of laboratories	01/06/12094	5						- I WIII		J.,						

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1207172

16-Jul-12

Client:

Blagg Engineering

Project:

GCU # 169

Sample ID 5ml-rb	SampT	ype: ME	BLK	Tes	tCode: E	PA Method	8260: Volatile	es Short L	ist	
Client ID: PBW	Batch	ID: R3	963	F	RunNo: 3	3963				
Prep Date:	Analysis D	ate: 7/	6/2012	S	SeqNo: 1	13355	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	SampT	ype: LC	s	Tes	tCode: E	PA Method	8260: Volatile	es Short L	ist	
Client ID: LCSW	Batch	ID: R3	963	F	RunNo: 3	3963				
Prep Date:	Analysis D	ate: 7/	6/2012	S	SeqNo: 1	13356	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	SampT	ype: ME	BLK	Tes	tCode: E	PA Method	8260: Volatile	es Short L	ist	
Client ID: PBW	Batch	ID: R3	944	F	RunNo: 3	3944				
Prep Date:	Analysis D	ate: 7/	10/2012	S	SeqNo: 1	14321	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			
Curi. Tolucilo do										
Sample ID 100ng Ics	SampT	ype: LC	S	Tes	tCode: E	PA Method	8260: Volatile	es Short L	ist	
		ype: LC			tCode: E RunNo: 3		8260: Volatile	es Short L	ist	
Sample ID 100ng lcs		ID: R3	944	F		3944	8260: Volatile Units: %REG		ist	
Sample ID 100ng Ics Client ID: LCSW Prep Date: Analyte	Batch Analysis D Result	ID: R3	944 10/2012 SPK value	F	RunNo: 3	14322 LowLimit			.ist RPDLimit	Qual
Sample ID 100ng Ics Client ID: LCSW Prep Date:	Batch Analysis D	ID: <b>R3</b> ate: <b>7</b> /	944 10/2012	F	RunNo: 3 SeqNo: 1	3944 14322	Units: %REG	С		Qual
Sample ID 100ng Ics Client ID: LCSW Prep Date: Analyte	Batch Analysis D Result	ID: <b>R3</b> ate: <b>7</b> /	944 10/2012 SPK value	F	RunNo: 3 SeqNo: 1 %REC	14322 LowLimit	Units: %RE0	С		Qual
Sample ID 100ng Ics Client ID: LCSW Prep Date: Analyte Surr: 1,2-Dichloroethane-d4	Batch Analysis D Result 9.3	ID: <b>R3</b> ate: <b>7</b> /	944 10/2012 SPK value 10.00	F	RunNo: 3 SeqNo: 1 %REC 93.4	8944 14322 LowLimit 70	Units: %REG HighLimit	С		Qual

### 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

Page 3 of 3



LIGHT ENVIRONMENTAL ARIALYSIS LABORATOR) 4901 Hawkins NE Albuquerque, NM 87105

TEL: 505-345-3975 FAX: 505-345-410;

# Sample Log-In Check List

Website: www.hallenvironmental.com

Client Name: BLAGG	11	Work Order Number: 1	1207172	
Received by/date:	7 07/06/12			
Logged By: Lindsay Mang	in 7/6/2012 9:45:00 AM	Jan	ly Hargeo	
Completed By: Lindsay Mang	in 7/6/2012 10:34:57 AN	1	ly Hlypo	,
Reviewed By:	07/00/12			
Chain of Custody				
1. Were seals intact?	~	Yes No	Not Present	
2. Is Chain of Custody complete	e?	Yes 🗹 No 🗌	Not Present	
3. How was the sample delivered	ed?	Courier		
Log In				
4. Coolers are present? (see 19	). for cooler specific information)	Yes 🗹 No 🗌	NA 🗌	
E Was an attempt made to see	al the complex?	Yes ✔ No	NA 🗌	
<ol><li>Was an attempt made to coo</li></ol>	it the samples?	res 🖭 140 🗆	NA L	
6. Were all samples received at	t a temperature of >0° C to 6.0°C	Yes 🗸 No 🗌	NA 🗌	
7. Sample(s) in proper containe		Yes ✔ No ☐		
8. Sufficient sample volume for		Yes V No		
Are samples (except VOA and		Yes ✓ No □	NA 🗔	
10. Was preservative added to b	ottles?	Yes 🗌 No 🗸	NA 🗔	
11. VOA vials have zero headspa	ace?	Yes 🗹 No 🗌	No VOA Vials	
12. Were any sample containers	received broken?	Yes No 🗸		
13. Does paperwork match bottle	e labels?	Yes 🗸 No 🗌	# of preserved bottles checked	
(Note discrepancies on chain	of custody)		for pH:	
<ol><li>14. Are matrices correctly identified</li></ol>		Yes V No	the same to the same to	unless noted)
15. Is it clear what analyses were		Yes V No	Adjusted?	
<ol><li>Were all holding times able to (If no, notify customer for aut</li></ol>		Yes 🗹 No 🗌	Charked by:	
Special Handling (if applic			Checked by:	
17. Was client notified of all disc		Yes No 🗸	NA 🗆	
Person Notified:	Date:			
By Whom:	Via:	eMail Phone	Fax In Person	
Regarding:		The Committee of the State of the Committee of the Commit	ad (1999) address (14) 11 - 2 advancements ( or \$ 4144 Gazale (16) or 11 - 12 advancements (	
Client Instructions:	Annual of the Control		account from the common of the control of the contr	
18. Additional remarks:				
40 Cooler Information				
19. Cooler Information  COOLER NO	TEMP OC CONDITION	Son lum	v+ 11	
1	1.0° GOOD	y SEAL INTA	A moule	
	1.0 GOOD	YES	A orlaliz	
Page 1 of 1			<i>f</i>	

### BLAGG ENGINEERING, INC.

#### MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT: BP AMERICA PROD. CO. CHAIN-OF-CUSTODY #:

GCU #169 - BLOW & SEP. PITS LABORATORY (S) USED: HALL ENVIRONMENTAL

UNIT I, SEC. 35, T29N, R12W

DEVELOPER / SAMPLER: NJV Date: September 14, 2012

Filename: 09-14-12.WK4 NJV PROJECT MANAGER:

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

2,800 09/12/12 1050 DATE & TIME =

4.01/7.00/10.00

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.

Lab Order 1209727

Date Reported: 9/21/2012

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Project:

Lab ID:

GCU #169

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 Qu	al 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

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

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
  - R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits Page 1 of 4

Lab Order 1209727

Date Reported: 9/21/2012

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Project:

Lab ID:

GCU #169

1209727-002

Client Sample ID: MW #6

Collection Date: 9/14/2012 12:30:00 PM

Matrix: AQUEOUS Received Date: 9/18/2012 10:00:00 AM

Analyses	Result	RL Qu	al 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

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

- В Analyte detected in the associated Method Blank
- Η Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits
- Spike Recovery outside accepted recovery limits 2 of 4

C	hain-c	of-Cus	stody Record	Turn-Around T	ime:			,	. 1	L	1 A		F	NV	/T C	20	N	E	NΤ	ΓΔΙ		
Client:	BLAG	G ENGR.	/ BP AMERICA	Standard     Standard	Rush														AT(			
				Project Name:	And				26			w.ha							•			
Mailing A	ddress:	P.O. BO	X 87		GCU # 16	9		49	01 H									3710	9			
			FIELD, NM 87413	Project #:					1. 50					-ax								
Phone #:		(505) 63		1								Water Street	160	ysis	THE STATE	7 Mil.						
email or F	ax#:			Project Manag	er;			1500						504)								
QA/QC Pa	_		Level 4 (Full Validation)		NELSON VE	ELEZ	(8021B)	+ TPH (Gas only)	/Diesel)					PO4, SC	PCB's						e	
Accreditat	ion:			Sampler:	NELSON VI	ELEZ MY	100	(Gas	(Gas					NO2,	82 P						sample	
□ NELAF	·	□ Other		On Ice:	Yes	□ No	1	TPH	15B	418.1)	04.1)	(H)		J3, N	/ 8082		2					:
□ EDD (	(ype)			Sample Tempe	rature: IN	T .	1	3E +	08 p	od 4	)d 5(	or P/	tals	J, N	ides	7	10/-	0.00		e e	osit	;
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1209727	BTEX +-NIT	BTEX + MTBE	TPH Method 8015B (Gas/Diesel)	TPH (Method	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO3,	8081 Pesticides	8260B (VOA)	8270 (Semi-VOA)	Chloride (300.0)		Grab sample	5 pt. composite	
9/14/12	1145	WATER	MW # 3	40 ml VOA - 2	HCl & Cool	-001	٧													٧		_
																						-
9/14/12	1230	WATER	MW # 6	40 ml VOA - 2	HCl & Cool	-002	٧													٧		_
																						_
																						_
			·																			_
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																						_
																				1		_
Date: 7/17/17	Time: 082.5	Relinquish	Mm J.	Received by:	1 \	Date Time 0/17/12 825		nark LL DI		LY T	O BF	):			<b></b>	L						-
Date:	Time:	Relinquishe		Received by:	hala	Date / Time	}	ff Pea							_	on, N	MM 8	7401				
1/17/12	1740	1 (m	ist Walter	March	EXAL	39/18/12 1000		-														_

## 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

Qual

Analyte Surr: BFB Result 19 SPK value SPK Ref Val %REC 20.00

SPK value SPK Ref Val %REC

LowLimit 93.2 69.8 HighLimit

**RPDLimit** 

Sample ID 2.5UG GRO LCS

SampType: LCS

Batch ID: R5614

TestCode: EPA Method 8015B: Gasoline Range

%RPD

%RPD

Client ID: LCSW

RunNo: 5614

Prep Date:

Analysis Date: 9/18/2012

SeqNo: 160861

Units: %REC

Analyte

Result

20.00

HighLimit

**RPDLimit** Qual

Surr: BFB

21

104

69.8

LowLimit

Qualifiers:

Value exceeds Maximum Contaminant Level.

Value above quantitation range

Sample pH greater than 2

Analyte detected below quantitation limits

Analyte detected in the associated Method Blank

RPD outside accepted recovery limits

Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit Page 3 of 4

# Hall Environmental Analysis Laboratory, Inc.

WO#: **1209727** 

21-Sep-12

Client:

Blagg Engineering

**Project:** 

GCU #169

Sample ID 5ML RB	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID: PBW	Batch	1D: <b>R5</b>	614	F	RunNo: 5	614				
Prep Date:	Analysis D	ate: 9/	18/2012	5	SeqNo: 1	60875	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 LC	S SampT	ype: LC	S	Tes	tCode: EI	PA Method	8021B: Volat	iles		

Sample ID 100NG BTEX LCS	S SampT	ype: LC	S	Test	tCode: El	PA Method	8021B: Volat	iles		
Client ID: LCSW	Batch	n ID: R5	614	R	RunNo: 5	614				
Prep Date:	Analysis D	ate: 9/	18/2012	S	SeqNo: 1	60876	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	<b>RPDLimit</b>	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			

- * 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 4901 Hawkins NE Albuquerque, NM 87105

TEL: 505-345-3975 FAX: 505-345-4107

# Sample Log-In Check List

Website: www.hallenvironmental.com

Clie	Client Name: BLAGG Work Order Number: 1209727  Received by/date: LM U9/18/12											
Rec	eived by/date	: C1/2	11 09	118/12								
Logg	ged By:	Anne Thorr	ne	9/18/2012 10:00:00	AM			an	u A.	and the same of th		
Com	npleted By:	Anne Thorr	ne	9/18/2012				an	A.			
Rev	iewed By:	0 09	18/17									
Cha	in of Cust	tody /	1									
1.	Were seals i	ntact?			Yes		No		N	ot Present 🗸		
2.	Is Chain of C	Custody comp	olete?		Yes	~	No		N	ot Present		
3.	How was the	sample deliv	vered?		Cour	ier						
Log	<u>In</u>											
4.	Coolers are	present? (see	e 19. for cooler sp	pecific information)	Yes	<b>✓</b>	No			NA 🗆		
5.	Was an atte	mpt made to	cool the samples	?	Yes	<b>V</b>	No			NA 🗔		
6.	Were all san	nples received	d at a temperatu	re of >0° C to 6.0°C	Yes	<b>v</b>	No			NA 🗆		
7.	Sample(s) in	proper conta	ainer(s)?		Yes	<b>V</b>	No					
8.	Sufficient sa	mple volume	for indicated test	t(s)?	Yes	<b>V</b>	No					
9.	Are samples	(except VOA	and ONG) prop	erly preserved?	Yes	<b>V</b>	No					
10.	Was preserv	ative added t	o bottles?		Yes		No	<b>V</b>		NA 🗌		
11.	VOA vials ha	ave zero head	Ispace?		Yes	V	No		No '	VOA Vials		
12.	Were any sa	imple contain	ers received brok	ken?	Yes		No	<b>V</b>				
13.		vork match bo pancies on ch	ottle labels? nain of custody)		Yes	<b>V</b>	No			# of preserved bottles checked for pH:		
14.	Are matrices	correctly ide	ntified on Chain	of Custody?	Yes	<b>V</b>	No			(<2 or >12 unless noted)		
15.	Is it clear wh	at analyses w	vere requested?		Yes	<b>V</b>	No			Adjusted?		
16.		ding times abl	le to be met? authorization.)		Yes	<b>V</b>	No			Checked by:		
Spe	cial Handi	ling (if app	licable)									
			iscrepancies with	n this order?	Yes		No [			NA 🗹		
	By Who			Date Via:	☐ eMa	il	Pho	one	F	Fax  In Person		
18.	Additional re	marks: - O	ola Sample	pH@ 70, -0024	Sample	pHO	2 6	5.5	N	39/19/12		
19.	Cooler Infor	1	Condition S Good Ye	Seal Intact   Seal No	Seal Da	te	S	Signe	ed By	<u>/</u>		

# BLAGG ENGINEERING, INC.

### MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT: BP AMERICA PROD. CO. CHAIN-OF-CUSTODY #: N/A GCU # 169 LABORATORY (S) USED: HALL ENVIRONMENTAL UNIT I, SEC. 35, T29N, R12W DEVELOPER / SAMPLER : February 27, 2013 Date: GCU 169 mw log 02-27-13.xls PROJECT MANAGER: NJV Filename: WELL WELL WATER DEPTH TO SAMPLING рН CONDUCT TEMP. **VOLUME** TOTAL **PURGED** # ELEV. ELEV. WATER **DEPTH** TIME (umhos) (celcius) (ft) (ft) (ft) (ft) (gal.) 100.00 92.08 7.92 20.00 2 98.23 89.15 9.08 20.00 97.71 89.58 8.13 20.00 3 4 99.21 90.50 8.71 20.00 5 100.80 91.83 8.97 20.00 6 100.92 92.86 7.15 1,100 9.3 6.00 8.06 20.00 1025 INSTRUMENT CALIBRATIONS = 2.800 4.01/7.00/10.00 02/24/13 DATE & TIME = 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  $\sim$  2.00 ft., MW #2  $\sim$  2.00 ft., MW #3  $\sim$  2.00 ft., MW #4  $\sim$  2.00 ft., MW #5  $\sim$  2.00 ft.,

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

MW #6 ~ 2.00 ft. above grade

### Lab Order 1303137

Date Reported: 3/7/2013

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: MW #6

Project: GCU #169

Collection Date: 2/27/2013 10:25:00 AM

**Lab ID:** 1303137-001

Matrix: AQUEOUS

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

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
<b>EPA METHOD 8021B: VOLATILES</b>					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

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

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits 1 of 2

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1303137

07-Mar-13

Client:

Blagg Engineering

Project:

GCU #169

Sample ID: 5ML RB	RB SampType: MBLK TestCode: EPA Metho							les		
Client ID: PBW	Batch	n ID: R8	983	F	RunNo: 8	983				
Prep Date:	Analysis D	s Date: 3/5/2013 SeqNo: 256581 Units:			Units: µg/L					
Analyte	Result PQL SPK value SPK Ref Val %REC LowLimit Hig			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	SampT	ype: LC	S	Tes	PA Method	8021B: Volat	iles			
Client ID: LCSW	Batch	ID: R8	983	F	RunNo: 8	983				
Prep Date:	Analysis D	Analysis Date: 3/5/2013 SeqNo: 256582 Us				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	E. 115 E. 15		0	0 107		120			
Xylenes, Total	66	66 2.0 60.00			0 109 80					
Surr: 4-Bromofluorobenzene	21	21 20.00			104	69.7	152			

- * 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 4901 Hawkins NE Albuquerque, NM 87105 TEL: 505-345-3975 FAX: 505-345-4107

# Sample Log-In Check List

Website: www.hallenvironmental.com BLAGG Client Name: Work Order Number: 1303137 AG- 03/05/13 Received by/date: anne Am 3/5/2013 9:55:00 AM Logged By: **Anne Thorne** Completed By: 3/5/2013 an Am Anne Thorne Reviewed By: Chain of Custody Yes No Not Present 1. Were seals intact? Yes V No Not Present 2. Is Chain of Custody complete? 3. How was the sample delivered? Courier Log In Yes V No NA 🗌 4. Coolers are present? (see 19. for cooler specific information) Yes V No 5. Was an attempt made to cool the samples? Yes V No Were all samples received at a temperature of >0° C to 6.0°C Yes V No 7 Sample(s) in proper container(s)? Yes V No 8 Sufficient sample volume for indicated test(s)? 9. Are samples (except VOA and ONG) properly preserved? Yes V No NA 🗌 10. Was preservative added to bottles? Yes No V Yes ✓ No ☐ No VOA Vials ☐ 11. VOA vials have zero headspace? Yes No V 12. Were any sample containers received broken? # of preserved Yes V No 13 Does paperwork match bottle labels? bottles checked (Note discrepancies on chain of custody) for pH: ✓ No (<2 or >12 unless noted) 14 Are matrices correctly identified on Chain of Custody? Adjusted? ✓ No 15. Is it clear what analyses were requested? Yes V No 16. Were all holding times able to be met? (If no, notify customer for authorization.) Checked by: Special Handling (if applicable) Yes No NA 🗸 17. Was client notified of all discrepancies with this order? Person Notified: Date By Whom: Via: eMail Phone Fax Regarding: Client Instructions: 18 Additional remarks: 19. Cooler Information Cooler No Temp °C Condition Seal Intact | Seal No Seal Date Signed By 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 LABORATORY (S) USED: HALL ENVIRONMENTAL

Date : May 29, 2013 DEVELOPER / SAMPLER : N J V

Filename : GCU 169 mw log 05-29-13.xls PROJECT MANAGER : N J V

WELL	WELL	WATER	DEPTH TO	TOTAL	SAMPLING	рН	CONDUCT	TEMP.	VOLUME
#	ELEV.	ELEV.	WATER	DEPTH	TIME		(umhos)	(celcius)	PURGED
	(ft)	(ft)	(ft)	(ft)					(gal.)
			-						
1	100.00	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 =				2,800		
			DATE & TIM	F -		05/28/13	0600		

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".

UNIT I, SEC. 35, T29N, R12W

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  $\sim$  2.00 ft., MW #2  $\sim$  2.00 ft., MW #3  $\sim$  2.00 ft., MW #4  $\sim$  2.00 ft., MW #5  $\sim$  2.00 ft., MW #6  $\sim$  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

### Lab Order 1305B97

Date Reported: 6/10/2013

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: MW #1

Project: GCU #169 Collection Date: 5/29/2013 8:15:00 AM

Lab ID: 1305B97-001 Matrix: AQUEOUS

Received Date: 5/31/2013 10:15:00 AM

Analyses	Result	Result RL Qual Units			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 DISSOLV	ED 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.

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- RSD is greater than RSDlimit
- RPD outside accepted recovery limits

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

  - Not Detected at the Reporting Limit Page 1 of 10 Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

### Lab Order 1305B97

Date Reported: 6/10/2013

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering Client Sample ID: MW #2

 Project:
 GCU #169
 Collection Date: 5/29/2013 9:15:00 AM

 Lab ID:
 1305B97-002
 Matrix: AQUEOUS
 Received Date: 5/31/2013 10:15:00 AM

Analyses	Result	RL Qu	al 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 I	METALS				Analyst	: JLF
Iron	0.042	0.020	mg/L	1	6/4/2013 2:52:01 PM	R11088
SM2540C MOD: TOTAL DISSOLVE	D 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.

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit Page 2 of
- P Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

### Lab Order 1305B97

Date Reported: 6/10/2013

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: MW #3

Project: GCU #169

Collection Date: 5/29/2013 10:10:00 AM

**Lab ID:** 1305B97-003

Matrix: AQUEOUS 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	Р	μg/L	2	5/31/2013 8:38:12 PM	R11006		
Toluene	ND	2.0	Р	μg/L	2	5/31/2013 8:38:12 PM	R11006		
Ethylbenzene	ND	2.0	Р	μg/L	2	5/31/2013 8:38:12 PM	R11006		
Xylenes, Total	ND	4.0	Р	μg/L	2	5/31/2013 8:38:12 PM	R11006		
Surr: 4-Bromofluorobenzene	91.3	69.4-129	Р	%REC	2	5/31/2013 8:38:12 PM	R11006		
<b>EPA METHOD 300.0: ANIONS</b>						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 MET	TALS					Analyst	JLF		
Iron	ND	0.020		mg/L	1	6/4/2013 3:05:05 PM	R11088		
SM2540C MOD: TOTAL DISSOLVED S	OLIDS					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.

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit Page 3
- P Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

### Lab Order 1305B97

Date Reported: 6/10/2013

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: MW #4

Project: GCU #169

Collection Date: 5/29/2013 11:10:00 AM

**Lab ID:** 1305B97-004

Matrix: AQUEOUS

Received Date: 5/31/2013 10:15:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: JRR
Fluoride	0.35	0.10	mg/L	1	5/31/2013 10:35:43 PM	1 R11029
Chloride	9.7	0.50	mg/L	1	5/31/2013 10:35:43 PM	1 R11029
Sulfate	160	10	mg/L	20	5/31/2013 10:48:08 PM	1 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 M	ETALS				Analys	t: <b>JLF</b>
Iron	ND	0.020	mg/L	1	6/4/2013 3:10:20 PM	R11088
SM2540C MOD: TOTAL DISSOLVED	SOLIDS				Analys	t: 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.

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit Page 4 of 10
- P Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

### Lab Order 1305B97

Date Reported: 6/10/2013

### 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

1305B97-005 Lab ID:

Matrix: AQUEOUS

Received Date: 5/31/2013 10:15:00 AM

Analyses	Result	ult RL Qual Units			Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: JRR
Fluoride	0.40	0.10	mg/L	1	5/31/2013 11:00:33 PM	1 R11029
Chloride	14	0.50	mg/L	1	5/31/2013 11:00:33 PM	1 R11029
Sulfate	140	10	mg/L	20	5/31/2013 11:12:58 PM	1 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				Analys	t: JLF
Iron	1.2	0.10	* mg/L	5	6/4/2013 3:19:10 PM	R11088
SM2540C MOD: TOTAL DISSOLVI	ED SOLIDS				Analys	t: <b>KS</b>
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.

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- RPD outside accepted recovery limits

- Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- Not Detected at the Reporting Limit Page 5 of 10 Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

# Analytical Report Lab Order 1305B97

# Date Reported: 6/10/2013

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering Client Sample ID: MW #6

 Project:
 GCU #169
 Collection Date: 5/29/2013 1:15:00 PM

 Lab ID:
 1305B97-006
 Matrix: AQUEOUS
 Received Date: 5/31/2013 10:15:00 AM

Analyses	Result	RL Q	ual 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
<b>EPA METHOD 300.0: ANIONS</b>					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 ME	TALS				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.

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit Page 6 of 10
- P Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

C	Chain-of-Custody Record				Time:						ΔL			NV	/TI	3 C	N	MF	ENT	ΓΔ		
Client:	BLAG	G ENGR.	/ BP AMERICA	Standard	Rush			52		-									AT			,
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Mailing A	ddress:	P.O. BO	X 87	-	GCU # 16	9		49	01 F	ławk			- Alk						19			
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email or F	ax#:			Project Manag	jer:	*****								- <del>-</del>						T		
QA/QC Pad			Level 4 (Full Validation)		NELSON VE	ELEZ	(8021B)	TPH (Gas only)	(MRO)			S)		<b>6</b> 4,504)			91/	_			d3	
Accreditat				Sampler:	NELSON VE	ELEZ 97V	-1	Gas	DRO/	1	1)	SIM	nv	F	ids	red	Ł				sample	
□ NELAF	)	□ Other		On Ice:	1≸ Yes	□ No	Ŧ	PH (	-	418.1)	504.1)	8270SIMS)		(F,CI,NO3,NO2,	l Sol	filte	1				e sa	:
□ EDD (1	ype)			Sample Tempe	erature: 1. C		#	+	(GRC	po	pol		stals	2	lve	ns (	≢			e e	osit	2
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO. 1305897	BTEX ←₩Ŧ	BTEX + MTBE	TPH 8015B (GRO	TPH (Method	EDB (Method	PAH (8310 or	RCRA 8 Metals	Anions (F,	Total Dissolved Solids	Iron, Ferrous (filtered)	Nitrate N /			Grab sample	5 pt. composite	
5/29/13	0815	WATER	MW # 1	500 ml - 1	Cool	-001								٧	٧					٧		
5/29/13	0815	WATER	MW # 1	250 ml - 1	HNO ₃ & Cool	-001										٧				٧		
5/29/13	0815	WATER	MW # 1	250 ml - 1	H ₂ SO ₄	-001											٧			٧		
5/29/13	0915	WATER	MW # 2	500 ml - 1	Cool	-002								٧	٧					٧		
5/29/13	0915	WATER	MW # 2	250 ml - 1	HNO ₃ & Cool	-002										٧				٧		
5/29/13	0915	WATER	MW # 2	250 ml - 1	H ₂ SO ₄	-002											٧			٧		
5/29/13	1010	WATER	MW # 3	40 ml VOA - 2	HCI & Cool	-003	٧													٧		
5/29/13	1010	WATER	MW # 3	500 mi - 1	Cool	-003								٧	٧					٧		
5/29/13	1010	WATER	MW # 3	250 ml - 1	HNO ₃ & Cool	- 003										٧				٧		
5/29/13	1010	WATER	MW # 3	250 ml - 1	H₂SO ₄	-003											٧			٧		
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C	Chain-of-Custody Record			- Turn-Around Time.			HALL ENVIRON ENTAL														
Client:	BLAG	G ENGR.	/ BP AMERICA	Standard     Standard	Rush													RA			
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		BLOOM	FIELD, NM 87413	Project #:				Te	1. 50	)5-34	45-3	975	F	ax	505	-345	-410	7			
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QA/QC Pa	•		Level 4 (Full Validation)		NELSON VE	LEZ	(8021B)	only)	MRO)			(S)		PO2,504)						l e	
Accreditat	tion:			Sampler:	NELSON VE	LEZ	1	(Gas	DRO/	1)	1)	SIN		<b>Q</b>	Solids	red	Ł			sample	
□ NELAF	)	□ Other		On Ice:	☐ Yes	☑ No	#	ТРН	-	418.1)	504.1)	8270SIMS)		(F,Cl,NO3,NO2,		filte	ife I				A11
□ EDD (1	Гуре)			Sample Temperature:			4	+	(GRO				tals	2,	lvec	ns (	¥		9	osit	1
Date	Time	Matrix	Sample Request ID	Container Preservative HEAL No. Type and # Type 1305 1397				BTEX + MTBE	TPH 8015B	TPH (Method	EDB (Method	PAH (8310 or	RCRA 8 Metals	Anions (F,C	Total Dissolved	Iron, Ferrous (filtered)	Nitrate N /		Grab sample	5 pt. composite	A:. DL.L.
5/29/13	1110	WATER	MW # 4	500 ml - 1 Cool — 004										٧	٧				٧		
5/29/13	1110	WATER	MW # 4	250 ml - 1	HNO ₃ & Cool	-004										٧			V		
5/29/13	1110	WATER	MW # 4	250 ml - 1	H ₂ SO ₄	-004		- 2									٧		V		
5/29/13	1210	WATER	MW # 5	500 ml - 1	Cool	-005								٧	٧				٧		
5/29/13	1210	WATER	MW # 5	250 ml - 1	HNO ₃ & Cool	-005										٧			٧		
5/29/13	1210	WATER	MW # 5	250 ml - 1	H₂SO ₄	-005											٧		٧		
5/29/13	1315	WATER	MW # 6	40 ml VOA - 2	HCI & Cool	-0de	٧												٧		L
5/29/13	1315	WATER	MW # 6	500 ml - 1	Cool	$-\infty \omega$								٧	٧				٧		
5/29/13	1315	WATER	MW # 6	250 ml - 1	HNO ₃ & Cool	-006										٧			٧		L
5/29/13	1315	WATER	MW # 6	250 ml - 1	H ₂ SO ₄	-000											٧		٧		L
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### 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

Analysis Date: 6/4/2013

SeqNo: 313880

Units: mg/L

**RPDLimit** 

Qual

Analyte Iron

ND

0.020

SPK value SPK Ref Val %REC LowLimit

HighLimit

%RPD

Prep Date:

Sample ID LCS

SampType: LCS

RunNo: 11088

Client ID: LCSW

Analysis Date: 6/4/2013

Batch ID: R11088

SeqNo: 313881

Units: mg/L

HighLimit

Qual

Analyte

Prep Date:

Result PQL

SPK value SPK Ref Val %REC LowLimit 0.5000

0

115

Iron

0.020

106

TestCode: EPA Method 200.7: Dissolved Metals

%RPD

**RPDLimit** 

0.53

Qualifiers:

Value exceeds Maximum Contaminant Level.

E Value above quantitation range

Analyte detected below quantitation limits

O RSD is greater than RSDlimit

RPD outside accepted recovery limits

В Analyte detected in the associated Method Blank

Н 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. Reporting Detection Limit

Page 7 of 10

### 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 Batch ID: R11029 Client ID: **PBW** RunNo: 11029 Prep Date: Analysis Date: 5/31/2013 SeqNo: 311788 Units: mg/L Analyte **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Fluoride ND 0.10 Chloride ND 0.50 Sulfate ND 0.50 ND 0.20 Nitrate+Nitrite as N

Sample ID LCS	TestCode: EPA Method 300.0: Anions									
Client ID: LCSW	Batch	ID: <b>R1</b>	1029	F	RunNo: 1	1029				
Prep Date:	Analysis D	ate: 5/	31/2013	5	SeqNo: 3	11789	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

Page 8 of 10

# Hall Environmental Analysis Laboratory, Inc.

WO#: 1

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			F	RunNo: 11006					
Prep Date:	Analysis Date: 5/31/2013			S	SeqNo: 3	11533	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	SampTy	pe: LC	S	Tes						
Client ID: LCSW	Batch	ID: <b>R1</b>	1006	RunNo: 11006						
Prep Date:	Analysis Da	te: <b>5/</b>	31/2013	S	SeqNo: 3	11534				
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 1305B22-001AM	S Samp	Type: MS	6	Tes	TestCode: EPA Method 8021B: Volatiles						
Client ID: BatchQC	Batc	h ID: <b>R1</b>	1006	RunNo: 11006							
Prep Date:	Analysis [	Date: 5/	31/2013	5	SeqNo: 3	11540	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 1305B22-001AMS	SD SampT	ype: MS	D	TestCode: EPA Method 8021B: Volatiles						
Client ID: BatchQC	Batch ID: R11006			RunNo: 11006						
Prep Date:	Analysis D	ate: 5/3	31/2013	S	SeqNo: 3	11541	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	<b>RPDLimit</b>	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.

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

Page 9 of 10

### Hall Environmental Analysis Laboratory, Inc.

WO#: 1305B97

10-Jun-13

Client:

Blagg Engineering

**Project:** 

Prep Date:

GCU #169

Sample ID MB-7747

SampType: MBLK

TestCode: SM2540C MOD: Total Dissolved Solids

Client ID: PBW

Batch ID: 7747

RunNo: 11104

Analysis Date: 6/5/2013

PQL

SeqNo: 314064

Units: mg/L

6/4/2013 Analyte

6/4/2013

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

Analysis Date: 6/5/2013

SeqNo: 314065

102

Units: mg/L

Analyte

Result 1020 PQL SPK value SPK Ref Val

%REC

LowLimit

HighLimit

120

**RPDLimit** 

Qual

Total Dissolved Solids

Sample ID 1305B81-002BMS

SampType: MS

20.0

TestCode: SM2540C MOD: Total Dissolved Solids

%RPD

%RPD

Client ID: Prep Date:

Prep Date:

**BatchQC** 6/4/2013

Batch ID: 7747 Analysis Date: 6/5/2013 RunNo: 11104

SeqNo: 314073

80

80

Units: mg/L

Analyte Total Dissolved Solids Result

1230

Result

PQL SPK value

1000

1000

SPK Ref Val %REC 212.0 101

0

LowLimit HighLimit **RPDLimit** 

Qual

Sample ID 1305B81-002BMSD

SampType: MSD

20.0

TestCode: SM2540C MOD: Total Dissolved Solids

120

Client ID: **BatchQC** Prep Date:

6/4/2013

Batch ID: 7747

RunNo: 11104 SeaNo: 314074

Units: mg/L

HighLimit

Qual

Analyte

Analysis Date: 6/5/2013 PQL

SPK value SPK Ref Val

212.0

103

LowLimit 80

**RPDLimit** 

Total Dissolved Solids

1240 20.0 1000

%REC

120

1.38

%RPD

5

Qualifiers:

R

Value exceeds Maximum Contaminant Level

Value above quantitation range

Analyte detected below quantitation limits

RPD outside accepted recovery limits

0 RSD is greater than RSDlimit Analyte detected in the associated Method Blank

ND Not Detected at the Reporting Limit

P Sample pH greater than 2 for VOA and TOC only.

Reporting Detection Limit

H Holding times for preparation or analysis exceeded

Page 10 of 10



#### Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque. NM 87105

TEL: 505-345-3975 FAX: 505-345-4107

# Sample Log-In Check List

Website: www.hallenvironmental.com

Client Name: BLAGG	Work Order Number:	1305E	897		RcptNo:	1
Received by/date: AG	05/31/13					
Logged By: Michelle Garcia	l / 5/31/2013 10:15:00 AN	1		Michelle Gar	un	
Completed By: Michelle Garcia	5/31/2013 11:25:11 AN	4		Michell Gan Michell Gan	ua)	
Reviewed By: AT 05/3///3						
Chain of Custody						
1. Custody seals intact on sample bottles?		Yes		No	Not Present ✓	
2. Is Chain of Custody complete?		Yes	<b>v</b>	No	Not Present	
3. How was the sample delivered?		Cour	ier			
Log In						
Was an attempt made to cool the samples	?	Yes	· 🗸	No	NA ·	
5. Were all samples received at a temperatur	e of >0° C to 6.0°C	Yes	<b>v</b>	No 1 a	NA	
6. Sample(s) in proper container(s)?		Yes	~	No		
7. Sufficient sample volume for indicated test	(s)?	Yes	<b>~</b>	No		
8. Are samples (except VOA and ONG) prope	erly preserved?	Yes	<b>*</b>	No		
9. Was preservative added to bottles?		Yes		No 🗸	NA	
10.VOA vials have zero headspace?		Yes	<b>~</b>	No	No VOA Vials	
11. Were any sample containers received brok	en?	Yes		No 🗸		
					# of preserved bottles checked	10
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)		Yes	<b>V</b>	No	for pH:	>12 unless noted)
13. Are matrices correctly identified on Chain of	of Custody?	Yes	~	No	Adjusted	# 40
14, Is it clear what analyses were requested?	, , , , , , , , , , , , , , , , , , , ,	Yes		No		49
15. Were all holding times able to be met? (If no, notify customer for authorization.)		Yes	<b>~</b>	No	Checked by:	
Special Handling (if applicable)						,
16. Was client notified of all discrepancies with	this order?	Yes	, E	No	NA 🗸	
Person Notified:	Date:			Addition to the second of the		
By Whom:	Via:	eMa	ail :	Phone Fax	In Person	
Regarding:				AND THE PROPERTY OF STREET AND ADDRESS OF THE PARTY OF TH	200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 / 200 /	
Client Instructions:			and the streets of	TO A MAN TO THE ST. ST. ST. ST. ST. ST. AND ST. AND ST. ST. ST. ST. ST. AND ST. ST. ST. ST. ST. ST. ST. ST. ST.	And the second of the second o	
17. Additional remarks:						
18. Cooler Information						
Cooler No Temp °C Condition S		Seal D	ate	Signed By		

#### MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CHAIN-OF-CUSTODY #:

GCU # 169 HALL ENVIRONMENTAL LABORATORY (S) USED: UNIT I, SEC. 35, T29N, R12W DEVELOPER / SAMPLER : Date: August 24, 2013 GCU 169 mw log 08-24-13.xls PROJECT MANAGER: NJV Filename: CONDUCT WELL WELL WATER DEPTH TO TEMP. **VOLUME** TOTAL SAMPLING pН **PURGED** # ELEV. ELEV. WATER **DEPTH** TIME (umhos) (celcius) (ft) (ft) (ft) (ft) (gal.) 92.57 7.43 100.00 20.00 98.23 89.56 20.00 2 8.67 97.71 89.99 7.72 20.00 0855 7.51 1,000 16.9 6.00 3 99.21 90.94 8.27 20.00 4 -_ _ 5 92.40 100.80 8.40 20.00 6 100.92 93.38 7.54 20.00 0940 7.68 800 19.5 6.00 INSTRUMENT CALIBRATIONS = 2.800 4.01/7.00/10.00 08/20/13 DATE & TIME = 0600 Volume of water purged from well prior to sampling; V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores). NOTES: (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.

N/A

Comments or note well diameter if not standard 2".

CLIENT: BP AMERICA PROD. CO.

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

#### Lab Order 1308C28 Date Reported: 9/4/2013

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering Client Sample ID: MW # 3

**Project:** GCU # 169 Collection Date: 8/24/2013 8:55:00 AM 1308C28-001 Received Date: 8/28/2013 10:00:00 AM Lab ID: Matrix: AQUEOUS

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SH	ORT LIST				Analys	: 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.
- Value above quantitation range E
- Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- RPD outside accepted recovery limits
- Spike Recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- Not Detected at the Reporting Limit
  Page 1 of 3
  Sample pH greater than 2 for VOA and TOC only. P
- RL Reporting Detection Limit

#### Lab Order 1308C28

Date Reported: 9/4/2013

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering Client Sample ID: MW # 6

Project: GCU # 169 Collection Date: 8/24/2013 9:40:00 AM Lab ID: 1308C28-002 Matrix: AQUEOUS 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 9/3/2013 1:54:04 PM ND R13042 Benzene 5.0 µg/L 5 Toluene 17 5.0 µg/L 5 9/3/2013 1:54:04 PM R13042 Ethylbenzene 230 5.0 5 9/3/2013 1:54:04 PM R13042 µg/L Xylenes, Total 1100 10 5 9/3/2013 1:54:04 PM R13042 µg/L Surr: 1,2-Dichloroethane-d4 87.5 70-130 %REC 5 9/3/2013 1:54:04 PM R13042 9/3/2013 1:54:04 PM Surr: 4-Bromofluorobenzene 85.7 70-130 %REC 5 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 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:

- 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
- Spike Recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit ND
  - Sample pH greater than 2 for VOA and TOC only P
- RL Reporting Detection Limit

C	hain-	of-Cus	stody Record	Lurn-Around Hme:				1	1 1	1	Δŀ		F	N	/TE	<b>5</b> 0	NI	ME	ΝT	ΓΔΙ	í
Client:	BLAG	G ENGR.	/ BP AMERICA	✓ Standard	Rush														ATO		
				Project Name:					******		ww	w.ha	allen	viro	nme	ntal	.com	1			
Mailing Ad	ddress:	P.O. BO	X 87	1	GCU # 16	9		49	01 H	ławk	ins	NE -	- Alk	ouqu	uerq	ue, l	MV 8	3710	Э		
		BLOOM	FIELD, NM 87413	Project #:				Te	el. 50	)5-34	<b>4</b> 5-3	975		Fax	505	-345	-410	7			
Phone #:		(505) 63	32-1199									ļ	Anal	ysis	Red	ques	st				
email or F	ax#:			Project Manag	jer:									-				1)	$\Box$	T	T
QA/QC Pad	-		Level 4 (Full Validation)		NELSON VE	LEZ	(8021B)	only)	(MRO)			15)		PO4,SO,	PCB's			ter - 300.1)			e
Accreditat	ion:			Sampler:	NELSON VE	LEZ GNV	8	(Gas	RO/	1)	1	SIN		02,1	8082			/ water			dw
□ NELAP		□ Other		On Ice:	∧ Yes	☐ No	10	PH	0/D	118.	504.	8270SIMS)		J3,N	s/8		(A)	0.00			e sa
□ EDD (T	ype)			Sample Temperature: 1.15					GRC	po 7	po	o	tals	), NC	cide	(A	i-V0	1-30		e	osit
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX - MATE	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310	RCRA 8 Metals	Anions (F,Cl,NO ₃ ,NO ₂ ,PO ₄ ,SO ₄ )	8081 Pesticides	8260B (VOA)	8270 (Semi-VOA)	Chloride (soil - 300.0 /		Grab sample	5 pt. composite sample
8/24/13	0855	WATER	MW # 3	40 ml VOA - 2	HCl & Cool	-101	٧													V	T
																				T	1
8/24/13	0940	WATER	MW # 6	40 ml VOA - 2	HCl & Cool	-007	٧												$\top$	٧	$\top$
																			T		
																				$\top$	1
																					$\perp$
Date: 3/27/13	Time:	Relinquish	ed by:	Received by:	1200	Date Time 8 27 / 13 1945		nark LL D		rly T	ОВР	):									
Date:	Time:	Relinquishe	ed by:	Received by:		Date Time (5/25) 13 (660)	1			200 f se O					mingt n BP.	on, I	8 MIV	7401	100		< .
11.7		samples s	ubmitted to Hall Environmental may be s	ubcontracted to other	accredited laboratorie	s. This serves as notice of	this p	ossibi	ity. A	ny sub	-contra	acted	data v	vill be	clearly	y notal	ted on	the an	alytical	report	. ^

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1308C28

04-Sep-13

Client: Blagg Engineering

**Project:** GCU # 169

Sample ID 5ml rb	SampT	ype: ME	BLK	Test	tCode: El	PA Method	8260: Volatile	s Short L	.ist	
Client ID: PBW	Batch	ID: <b>R1</b>	3042	R	RunNo: 1	3042				
Prep Date:	Analysis D	ate: 9/	3/2013	S	SeqNo: 3	72381	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 Ics	SampT	ype: LC	S	Tes	tCode: El	PA Method	8260: Volatile	s Short L	ist	
Client ID: LCSW	Batch	ID: <b>R1</b>	3042	F	RunNo: 1	3042				
Prep Date:	Analysis D	ate: 9/	3/2013	S	SeqNo: 3	72382	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

Page 3 of 3



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

RcptNo: 1 **BLAGG** Work Order Number: 1308C28 Client Name: Received by/date: Logged By: Lindsay\Mangin 8/28/2013 10:00:00 AM Lindsay Mangin 8/28/2013 10:45:57 AM Completed By: 08/28/13 Reviewed By: Chain of Custody Not Present ✓ 1 Custody seals intact on sample bottles? Yes Not Present No 2. Is Chain of Custody complete? Yes V 3 How was the sample delivered? Courier Log In NA No 4. Was an attempt made to cool the samples? 5. Were all samples received at a temperature of >0° C to 6.0°C No NA : No Sample(s) in proper container(s)? Yes No 7. Sufficient sample volume for indicated test(s)? 8. Are samples (except VOA and ONG) properly preserved? No NA 9. Was preservative added to bottles? No N Yes No VOA Vials 10. VOA vials have zero headspace? Yes 🗸 No 11. Were any sample containers received broken? No Yes # of preserved bottles checked for pH: 12. Does paperwork match bottle labels? No Yes V (<2 or >12 unless noted) (Note discrepancies on chain of custody) Adjusted? 13. Are matrices correctly identified on Chain of Custody? No No 14. Is it clear what analyses were requested? Yes Checked by: 15. Were all holding times able to be met? No (If no, notify customer for authorization.) Special Handling (if applicable) 16. Was client notified of all discrepancies with this order? Yes NA V No Person Notified: Date: By Whom: Via: Phone Fax In Person Regarding: Client Instructions: 17. Additional remarks: 18. Cooler Information Cooler No Temp °C Condition Seal Intact Seal No 1.0 Good

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

CLIENT :	BP AME	RICA PR	OD. CO.		CHAIN-OF-C	SUSTODY#:		N	/ A
WELL   WELL   WATER   DEPTH TO   TOTAL   SAMPLING   PH   CONDUCT   TEMP.   VOLUME   ELEV.   ELEV.   WATER   DEPTH   TIME   TIME   (umhos)   (celcius)   PURGED   (gal.)									
Date : Filename :			-13.xls		1			-	
	ELEV.	ELEV.	WATER	DEPTH		рН			PURGED
					-	-	-	-	-
4	99.21	90.81	8.40	20.00			-		
NOTES:	(i.e. 2" MW	r = (1/12) ft	DATE & TIME ed from well . h = 1 ft.)	prior to sa (i.e. 4" MW	ampling; V = r = (2/12) ft.	12/09/13 pi X r2 X h . h = 1 ft.)	0600 X 7.48 gal./ft		
	or note wel	I diameter i	if not standa	rd 2".					or mator.
Purged well	using 2 inch	submersible	electric pump	, new / clea	ar vinyl tubing	, and with b	orass adjustab	ole flow	
		Tour ouripini,	9 0110 01 10011		ou dample no	111 10100 111 0	only for BTE	· poi	
			W #2 ~ 2.00	ft. , MW #	3 ~ 2.00 ft.,	MW #4 ~	2.00 ft., MW	#5 ~ 2.00	ft. ,
MW #6 ~ 2	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

#### Lab Order 1312585

Date Reported: 12/18/2013

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: MW #6

GCU #169 Project:

Collection Date: 12/11/2013 10:10:00 AM

Lab ID: 1312585-001 Matrix: AQUEOUS

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.
- E Value above quantitation range
- Analyte detected below quantitation limits
- RSD is greater than RSDlimit
- RPD outside accepted recovery limits
- Spike Recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- Page 1 of 2 P Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

	Iaiii-	JI-Gus	stouy Necoru	_						1	AF	LL	E	NV	/IF	20	N	E	N.	AL
Client:	BLAG	G ENGR.	/ BP AMERICA	✓ Standard	Rush					_										RY
				Project Name:						_							.com			
Mailing Ad	ddress:	P.O. BO	X 87	1	GCU # 16	9		10	M1 L	اعددا								, 3 <b>710</b> 9	1	
			FIELD, NM 87413	Project #:			1				45-3						-410			
				-				1	21. 50	J3-3	40-0	THE TOTAL	-		Rec	I A POINT	75.53			
Phone #: email or F	244.	(505) 63	52-1199	Project Manag	ler.							E.	Tilai	ysis	1100	ues				
QA/QC Par				Troject Manag				_	2					04)	S,S			-300.1)		
☑ Standa	-		Level 4 (Full Validation)		NELSON V	ELEZ	(8021B)	only)	MRO)			S)		04,5	PCB's			er - 3		
Accreditat				Sampler:	NELSON VI	ELEZ GLV		(Gas	DRO /	=	1	SIM		0 ₂ ,P	8082			300.0 / water		nple
□ NELAP		□ Other		On Ice:	∕☐Yes	□ No ×	1	TPH (	-	18.	04.	270		3,N	_		(A)	0.0		s sar
□ EDD (1	ype)			Sample Temp	erature: [ ]	0	11	+	GRO	od 4	od 5	or 8	tals	N,	ide	(A	-40			osite
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1312585	BTEX MTB	BTEX + MTBE	TPH 8015B (GRO	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	8260B (VOA)	8270 (Semi-VOA)	Chloride (soil -	1	5 pt. composite sample
12/11/13	1010	WATER	MW #3K 6	40 ml VOA - 2	HCl & Cool	-001	V													/
			A/Z/K/D															$\neg$		+
			7,1,1						_									$\dashv$	+	+
***************************************								-										-	+	+
							-	-									-	$\dashv$	+	+
							-	-	-							-		$\dashv$	+	-
							-	-	-							-		+	+	+
		-						_	-					_				-	+	
		-					_	_									$\vdash$	$\dashv$	_	$\perp$
																		_	$\bot$	$\perp$
							_												_	
Date:	Time:	Relinquishe	ed by:	Received by:		Date Time	1	nark												
2/12/13	1453	71-	My Vf	Moustin	Walter	12/12/13 1433	1				O BF									
Date:	Time:	Relinquishe	ed by:	Received by:		Date Time									_	on, N	1M 8	7401		
7/2/13	1747	1/ Jui	ste Waller		17	2/13/12 1040					rder									
•	If necessa	ary samples s	ubmitted to Hall Environmental may be s	subcontracted to other	accredited laboratorie	es. This serves as notice of	f this p	ossibi	lity. A	ny sub	-contr	acted	data v	vill be	clearly	notate	ed on t	he ana	ytical re	port.

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1312585

18-Dec-13

Client:

Blagg Engineering

Project:

GCU #169

		-								
Sample ID 5ML RB	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID: PBW	Batch	1D: <b>R1</b>	5572	F	RunNo: 1	5572				
Prep Date:	Analysis D	ate: 12	2/17/2013	5	SeqNo: 4	48255	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	SampT	ype: LC	S	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID: I CSW	Ratch	ID: <b>D</b> 1	5572		PunNo: 1	5572				

Sample ID 100NG BTEX LC	Samp	SampType: LCS TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSW	Batc	h ID: <b>R1</b>	5572	F	RunNo: 1	5572				
Prep Date:	Analysis [	Date: 12	2/17/2013	5	SeqNo: 4	48256	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

Page 2 of 2

# HALL ENV D NTAL 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

BLAGG Work Order Number: 1312585 RcptNo: 1 Client Name: Received by/date Logged By: Ashley Gallegos 12/13/2013 10:40:00 AM Completed By: Ashley Gallegos 12/13/2013 11:15:26 AM Reviewed By: Chain of Custody No ._ Not Present ✔ 1 Custody seals intact on sample bottles? No Yes 🗸 Not Present 2. Is Chain of Custody complete? 3 How was the sample delivered? Courier Log In No NA 4. Was an attempt made to cool the samples? Yes V No 5. Were all samples received at a temperature of >0° C to 6.0°C NA Yes V No 6. Sample(s) in proper container(s)? Yes V No 7. Sufficient sample volume for indicated test(s)? No 8. Are samples (except VOA and ONG) properly preserved? Yes NA 9. Was preservative added to bottles? Yes No V No VOA Vials 10.VOA vials have zero headspace? Yes V No Yes No 11. Were any sample containers received broken? # of preserved bottles checked No for pH: Yes 🗸 12. Does paperwork match bottle labels? (<2 or >12 unless noted) (Note discrepancies on chain of custody) Adjusted? No 13. Are matrices correctly identified on Chain of Custody? No 14 Is it clear what analyses were requested? Checked by: 15. Were all holding times able to be met? Yes V No 🗌 (If no, notify customer for authorization.) Special Handling (if applicable) A-12/6/63 16. Was client notified of all discrepancies with this order? Person Notified Date: By Whom: Via: XPhone Fax Regarding: Client Instructions: Sample ID IS MW #6 /A 12/16/19 17. Additional remarks: 18. Cooler Information Cooler No Temp °C Condition Seal Intact Seal No Seal Date

#### MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT: BP AMERICA PROD. CO. CHAIN-OF-CUSTODY #: N/A GCU #169 LABORATORY (S) USED: HALL ENVIRONMENTAL UNIT I, SEC. 35, T29N, R12W DEVELOPER / SAMPLER : Date: February 26, 2014 NJV GCU 169 mw log 02-26-14.xls PROJECT MANAGER: Filename: CONDUCT WELL WELL WATER DEPTH TO TOTAL SAMPLING рН TEMP. **VOLUME DEPTH** (celcius) **PURGED** # ELEV. ELEV. WATER TIME (umhos) (ft) (ft) (ft) (ft) (gal.) 100.00 92.06 7.94 20.00 2 98.23 89.20 9.03 20.00 97.71 89.63 8.08 20.00 3 -4 99.21 90.50 8.71 20.00 -_ 5 91.84 8.96 20.00 100.80 6 100.92 92.95 6.90 900 11.3 7.97 20.00 1315 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  $\sim$  2.00 ft., MW #2  $\sim$  2.00 ft., MW #3  $\sim$  2.00 ft., MW #4  $\sim$  2.00 ft., MW #5  $\sim$  2.00 ft.,

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

MW #6 ~ 2.00 ft. above grade

#### Lab Order 1402B44

Client Sample ID: MW # 6

Date Reported: 3/5/2014

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

**Project:** GCU #169 **Collection Date:** 2/26/2014 1:15:00 PM

**Lab ID:** 1402B44-001 **Matrix:** AQUEOUS **Received Date:** 2/28/2014 10:00:00 AM

Analyses	Result	RL Qu	al 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.
- 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
- Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 1 of 3

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

CI	hain-d	of-Cus	stody Record	HALL ENVIRON ENTAL							L										
Client:	BLAG	G ENGR.	/ BP AMERICA	✓ Standard	Rush _			Sand,											T		
				Project Name:							ww	w.ha	allen	viro	nme	ntal	.com	1			
Mailing Ad	ddress:	P.O. BO	X 87	1	GCU # 16	9		49	01 H	lawk	kins l	NE -	- Alk	ouqu	ıerqı	ıe, N	IM 8	7109	)		
		BLOOM	FIELD, NM 87413	Project #:				Te	1. 50	)5-34	45-3	975		Fax	505	345	-410	7			
Phone #:		(505) 63	2-1199	1								ļ	Anal	ysis	Red	lues	t				
email or F	ax#:			Project Manag	er:									4)				1)			
QA/QC Pad	-		Level 4 (Full Validation)		NELSON VI	LEZ	**************************************	(yluo	/ MRO)			15)		PO4,50	2 PCB's			ter - 300.1)			le
Accreditat	ion:			Sampler:	<b>NELSON VI</b>	ELEZ nv	8	(Gas	RO,	.1)	.1)	8270SIMS)		102,	8082			/ water			du
□ NELAP		□ Other		On Ice:	Y Yes	⊠ No 👫 💮	1	TPH	0/1	418	504	827	S	0,50	-		(AC	- 300.0 /		-	te so
□ EDD (T	ype)	,		Sample Tempe	erature;	(.()	1	3E +	(GR(	pou	pou	ō	etal	S,	cide	(A)	i-V	il-3		e	osit
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO. 1	BTEX - MIB	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310	RCRA 8 Metals	Anions (F,Cl,NO ₃ ,NO ₂ ,PO ₄ ,SO ₄ )	8081 Pesticides	8260B (VOA)	8270 (Semi-VOA)	Chloride (soil		Grab sample	5 pt. composite sample
2/26/14	1315	WATER	MW # 6	40 ml VOA - 2	HCl & Cool	-001	٧													٧	
			j.																T	T	
					, , , , , , , , , , , , , , , , , , , ,													$\neg$	1	$\top$	T
			entre de la companya															$\neg$	$\top$	十	十
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																			+	$\dashv$	+
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													-	-					$\dashv$	$\dashv$	+
-1														-	-			-	-	+	+
							-			-									+	+	+
Date: /	Time:	Relinquish	ed hv.	Received by:		Date Time	Pon	nark													
27/14	leoo	The	lan Vf	Shirtu	Uceter	2/27/14 1400	ВІ	LL DI	RECT	ILY T											1
Date:	Time:	Relinquishe	ed by:	Received by:	7	Date   Time   14	1			200 E se O						on, N	8 MI	7401			
121/14	If necess:	ny samples s	uhmitted to Hall Environmental may be	ubcortracted to other	accredited laborators	This engues as notice of	thin n	oooihil		av oub	contr	aatad	dota	عط الق	alcarl	notat	od on	the and	haical	roport	

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1402B44

05-Mar-14

Client: Blagg Engineering

**Project:** GCU #169

Sample ID 5ML RB	SampT	ype: ME	BLK	Test	Code: EF	PA Method	8021B: Volat	les		
Client ID: PBW	Batch	ID: <b>R1</b>	7037	R	tunNo: 1	7037				
Prep Date:	Analysis D	ate: 2/	28/2014	S	eqNo: 49	90141	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 100	ING BTEX LCS	SampT	ype: LC	S	Test	tCode: El	PA Method	8021B: Volat	iles		
Client ID: LC	sw	Batch	ID: <b>R1</b>	7037	R	RunNo: 1	7037				
Prep Date:		Analysis D	ate: 2/	28/2014	S	SeqNo: 4	90142	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	<b>RPDLimit</b>	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-Bromofluo	orobenzene	23		20.00		114	85	136			

Sample ID SML RB	Sampi	ype: ME	BLK	Tes	tCode: El	A Method	8021B: Volat	iles		
Client ID: PBW	Batch	ID: <b>R1</b>	7069	R	RunNo: 1	7069				
Prep Date:	Analysis D	ate: 3/	3/2014	S	SeqNo: 4	90953	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	<b>RPDLimit</b>	Qual
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	21		20.00		104	85	136			

Sample ID 100NG BTEX LC	SampT	ype: LC	S	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID: LCSW	Batch	h ID: <b>R1</b>	7069	F	RunNo: 1	7069				
Prep Date:	Analysis D	Date: 3/	3/2014	S	SeqNo: 4	90954	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	<b>RPDLimit</b>	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 14	402B46-001AMS	Samply	/pe: MS	6	Tes	Code: El	PA Method	8021B: Volat	iles		
Client ID: B	atchQC	Batch	ID: R1	7069	R	lunNo: 1	7069				
Prep Date:		Analysis Da	ate: 3/	3/2014	S	eqNo: 4	90966	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	<b>RPDLimit</b>	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-Bromofl	uorobenzene	44		40.00		111	85	136			

#### **Qualifiers:**

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

Page 2 of 3

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1402B44

05-Mar-14

Client:

Blagg Engineering

**Project:** 

GCU #169

oumpio 15 1402540 00

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

SegNo: 490967 Uni

Units: µg/L

Prep Date.	Allalysis D	ale. 3/	3/2014	3	sequo. 4	90967	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

Page 3 of 3



Hall Enviro

ntal Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87105

TEL: 505-345-3975 FAX: 505-345-4107

Website: www.hallenvironmental.com

# Sample Log-In Check List

Client Name: BLAGG	Work Order Numbe	er: 1402B44		RcptNo:	1
Received by/date:	5 02/28/14				
Logged By: Lindsay N	Mangin 2/28/2014 10:00:00 /	AM	Jumby Hongs		
Completed By: Lindsay N	Mangin 2/28/2014 2:14:00 Pl	M	James Harry		
Reviewed By:	02/28/20	14/			
Chain of Custody	, ,				
1. Custody seals intact on s	sample bottles?	Yes	No 🗌	Not Present 🗸	
2. Is Chain of Custody com	plete?	Yes 🗸	No 🗌	Not Present	
3. How was the sample del	ivered?	Courier			
Log In					
4. Was an attempt made to	o cool the samples?	Yes 🗸	No 🗌	NA 🗆	
5. Were all samples receive	ed at a temperature of >0° C to 6.0°C	Yes 🗸	No 🗌	NA 🗌	
6. Sample(s) in proper con	tainer(s)?	Yes 🗸	No 🗌		
7. Sufficient sample volume	e for indicated test(s)?	Yes 🗸	No 🗌		
8. Are samples (except VO	A and ONG) properly preserved?	Yes 🗸	No 🗌		
9. Was preservative added	to bottles?	Yes	No 🗸	NA 🗆	
10.VOA vials have zero hea	dspace?	Yes 🗸	No 🗌	No VOA Vials	
11. Were any sample contain	iners received broken?	Yes	No 🗸	# of preserved	
				bottles checked	
12.Does paperwork match to (Note discrepancies on contract of the contract		Yes 🗸	No 🗀	for pH: (<2 or	>12 unless noted)
	entified on Chain of Custody?	Yes 🗸	No 🗌	Adjusted?	
14. Is it clear what analyses		Yes 🗸	No 🗌		
15. Were all holding times at (If no, notify customer fo		Yes 🗸	No 🗆	Checked by:	
(ii no, notily customer to	authorization.)				
Special Handling (if ap	pplicable)				
	discrepancies with this order?	Yes	No 🗸	NA □	
Person Notified:	Date:				
By Whom:	Via:	eMail F	Phone  Fax	☐ In Person	
Regarding:	en charge and former was supported and account of the con-	Same States Same Annih Andrew	Contrades and Manager and State (1987) and 1987 and 1987.		
Client Instructions:	en and a mile on the same of a party page of the college		and the second s	etwarendas internegali d	
17. Additional remarks:			1		
18. Cooler Information					
Cooler No Temp %		Seal Date	Signed By		
1  1.0	Good Yes				

#### MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT: BP AMERICA PROD. CO. CHAIN-OF-CUSTODY#: N/A

GCU # 169

LABORATORY (S) USED: HALL ENVIRONMENTAL

Date: May 27, 2014 DEVELOPER / SAMPLER: N J V

Filename: GCU 169 mw log 05-27-14.xls PROJECT MANAGER: N J V

WELL	WELL	WATER	DEPTH TO	TOTAL	SAMPLING	ъЦ	CONDUCT	TEMP.	VOLUME
7						рН			
#	ELEV.	ELEV.	WATER	DEPTH	TIME		(umhos)	(celcius)	PURGED
	(ft)	(ft)	(ft)	(ft)					(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	CALIBRATIO	ONS =	4.01/7.00/10.00	2,800		

INSTRUMENT CALIBRATIONS = 4.01/7.00/10.00

DATE & TIME = 05/27/14

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

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

0530

Comments or note well diameter if not standard 2".

UNIT I, SEC. 35, T29N, R12W

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  $\sim$  2.00 ft., MW #2  $\sim$  2.00 ft., MW #3  $\sim$  2.00 ft., MW #4  $\sim$  2.00 ft., MW #5  $\sim$  2.00 ft., MW #6  $\sim$  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

Lab Order:

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

1405D12

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Lab ID:

**Project:** GCU # 169

1405D12-001 Collection Date: 5/27/2014 10:50:00 AM

Client Sample ID: MW # 6 Matrix: AQUEOUS

Cheff Sample ID: MW # 0				Matrix:	A	(OEOOS		
Analyses	Result	RL Q	ual Un	its	DF	Date Analyzed	Bat	tch ID
EPA METHOD 8021B: VOLATILES						Anal	yst:	NSB
Benzene	ND	5.0	μg	/L	5	6/3/2014 2:52:11 AN	Λ	R18994
Toluene	8.7	5.0	μg	/L	5	6/3/2014 2:52:11 AN	Λ	R18994
Ethylbenzene	240	5.0	μg	/L	5	6/3/2014 2:52:11 AN	Λ	R18994
Xylenes, Total	1100	10	μg	/L	5	6/3/2014 2:52:11 AN	Λ	R18994
Surr: 4-Bromofluorobenzene	158	82.9-139	S %F	REC	5	6/3/2014 2:52:11 AN	Λ	R18994

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

Page 1 of 2

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

				1			1	1 1	-1	-	AF	LL	E	N	/IF	SO	N	E	NT	FA	L
Client:	B AG	G ENGR.	/ BP AMERICA	✓ Standard	Rush		-											RA			
				Project Name:					older .								.com				
Mailing A	ddress:	P.O. BO	X 87	-	GCU # 16	9		400	11 LI									' 37109	3		
			FIELD, NM 87413	Project #:			1				45-3						-410		,		
D/ //		(505) 63		,				re	1. 50	13-34	45-3		96 7 100		Red			7			
Phone #: email or F	av#•	(505) 63	52-1199	Project Manag	IOr.				i di				Allal	ysis	Ked	lues	, L				
				Trioject Manag	JC1.									040	-S			-300.1)			
QA/QC Pad  Standa	_		Level 4 (Full Validation)		NELSON VI	ELEZ	(8021B)	(Kluc	MRO)			S		04,5	PCB's			er - 3(			
Accreditat			, 2000. (( a) validation,	Sampler:	NELSON VI	ELEZ 97V	88	Gas (	_	(1	-	8270SIMS)		0 ₂ ,P	8082			wate			nple
□ NELAF		□ Other		THE PARTY OF THE P	X Yes	□ No	1	PH (	0	18.	04.	270		3,8	-		(A)	0.0 /			Sar
□ EDD (1	Гуре)				erature: 2.1	THE RESIDENCE OF THE PROPERTY	1	+ 1	GRO	pd 4	od 5	5	tals	J,N	ide	7	9	1 - 30		9	Site
D - 1 -	T:	N. M. m. d. min .	Camala Danuari ID	Container	Preservative		A A	+ MTBE + TPH (Gas only)	)15B (	Meth	Meth	(8310	8 Metals	s (F,C	Pestic	3 (۷0)	(Semi	de (soi		samp	dwo
Date	Time	Matrix	Sample Request ID	Type and #	Туре	HEAL NO. 1405012	BTEX 4	BTEX +	TPH 8015B (GRO / DRO	TPH (Method 418.1)	EDB (Method 504.1)	PAH (	RCRA	Anions (F,CI,NO ₃ ,NO ₂ ,PO ₄ ,SO ₄ )	8081 Pesticides	8260B (VOA)	8270 (Semi-VOA)	Chloride (soil - 300.0 / water		Grab sample	5 pt. composite sample
5/27/14	1050	WATER	MW # 6	40 ml VOA - 2	HCl & Cool	-601	٧	_							-		5.5	Ŭ	-	٧	
																			$\top$		$\top$
																			$\top$	1	$\top$
							-		-										+	_	$\dashv$
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								Ш											$\perp$		
Date:	Time:	Relinquishe	ed by:	Received by:		Date Time	1	narks													
29/14 Date:	1444 Time:	Relinquishe	ed by:	Received by:	ulvall	Date Time	1	<b>LL DII</b> ff Pea					ourt.	Farn	ningt	on, I	8 MN	7401			
1.1.1	(7,17	1	1	100	C	-6.1.1 1111=		nd Pu													
29/14	If necessar	ry, şamples s	ubmitted to Hall Environmental may be s	ubcontracted to other	accredited laboratorie	s. This serves as notice of				ny sub						notat	ed on	the ans	ahdical	Irenor	

## 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 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 LC	S SampT	ype: LC	S	Tes	tCode: El	PA Method	8021B: Volati	iles		
Client ID: LCSW	Batch	h ID: <b>R1</b>	8994	F	RunNo: 1	8994				
Prep Date:	Analysis D	Date: 6/	2/2014	S	SeqNo: 5	48808	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.
- 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

Page 2 of 2

#### VIRONMENTAL ANALYSIS LABORATORY

4901 Hawkins NE Albuquerque, NM 87109

TEL: 505-345-3975 FAX: 505-345-4107

# Sample Log-In Check List

Website: www.hallenvironmental.com

Client Name: BLAGG	Work Order Numb	per: 1405D12		RcptNo:	1
Received by/date:	05/30/14				
Logged By: Michelle G	arcia 5/30/2014 11:12:00	AM	Michell Gar	un	
Completed By: Michelle G	arcia 5/30/2014 3:04:56 F	PM	Microse Gar	un	
Reviewed By:	- ostadis		•		
Chain of Custody					
1. Custody seals intact on sa	ample bottles?	Yes	No 🗌	Not Present	
2. Is Chain of Custody comp	lete?	Yes 🗸	No 🗌	Not Present	
3. How was the sample deliv	ered?	Courier			
Log In					
4. Was an attempt made to	cool the samples?	Yes 🗹	No 🗆	NA 🗌	
5. Were all samples received	d at a temperature of >0° C to 6.0°C	Yes 🗹	No 🗌	NA 🗆	
6. Sample(s) in proper conta	niner(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 t	o bottles?	Yes	No 🗹	NA 🗆	
10.VOA vials have zero head	space?	Yes 🗸	No 🗆	No VOA Vials	
11. Were any sample contain	ers received broken?	Yes	No 🗸	# of preserved	
12 Days	We lebeled	· .	No 🗆	bottles checked for pH:	
12. Does paperwork match be (Note discrepancies on ch		Yes 🗸	No 🗔		r >12 unless noted)
13. Are matrices correctly idea		Yes 🗹	No 🗆	Adjusted?	
14. Is it clear what analyses w	ere requested?	Yes 🗸	No 🗆		
<ol><li>Were all holding times ab (If no, notify customer for</li></ol>		Yes 🗸	No 🗌	Checked by:	/
	,				
Special Handling (if app	olicable)				
16. Was client notified of all d	iscrepancies with this order?	Yes	No 🗌	NA 🗸	_
Person Notified:	Date		A STATE OF THE STA		
By Whom:	Via:	eMail F	Phone Fax	In Person	
Regarding:					
Client Instructions:					
17. Additional remarks:					
18. Cooler Information					
Cooler No Temp °C		Seal Date	Signed By		
1 2.1	Good Yes				

#### MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT: BP AMERICA PROD. CO. CHAIN-OF-CUSTODY #: N/A GCU # 169 LABORATORY (S) USED: HALL ENVIRONMENTAL UNIT I, SEC. 35, T29N, R12W DEVELOPER / SAMPLER : Date: August 25, 2014 PROJECT MANAGER: NJV GCU 169 mw log 08-25-14.xls Filename: WELL WELL WATER **DEPTH TO** SAMPLING рН CONDUCT TEMP. **VOLUME** TOTAL **PURGED** # ELEV. ELEV. WATER DEPTH TIME (umhos) (celcius) (ft) (ft) (ft) (ft) (gal.) 92.39 100.00 7.61 20.00 2 98.23 88.43 9.80 20.00 97.71 89.80 7.91 20.00 3 --90.80 4 99.21 8.41 20.00 5 92.16 8.64 100.80 20.00 6 100.92 93.06 7.86 20.00 1000 7.45 800 19.4 6.00 INSTRUMENT CALIBRATIONS = 2,800 4.01/7.00/10.00 08/25/14 0600 DATE & TIME = Volume of water purged from well prior to sampling: V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores). NOTES: (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  $\sim$  2.00 ft., MW #2  $\sim$  2.00 ft., MW #3  $\sim$  2.00 ft., MW #4  $\sim$  2.00 ft., MW #5  $\sim$  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 sunr	ny
wind speed	0 -10	direct.	E ESE

#### Lab Order **1408D05**

Date Reported: 8/28/2014

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering Client Sample ID: MW # 6

**Project:** GCU # 169 **Collection Date:** 8/25/2014 10:00:00 AM

	D				-		
Analyses	Result	RL (	Qual Ur	nits	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst	NSB
Benzene	ND	5.0	μ	g/L	5	8/26/2014 11:34:24 PM	R20809
Toluene	12	5.0	μ	g/L	5	8/26/2014 11:34:24 PM	R20809
Ethylbenzene	190	5.0	μ	g/L	5	8/26/2014 11:34:24 PM	R20809
Xylenes, Total	980	10	μ	g/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

Page 1 of 2

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



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109

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

# Sample Log-In Check List

RcptNo: 1 Client Name: **BLAGG** Work Order Number: 1408D05 Received by/date: Logged By: Lindsay Mangin 8/26/2014 8:38:13 AM Completed By: Lindsay Mangin 08/26/14 Reviewed By: Chain of Custody Not Present ✔ 1. Custody seals intact on sample bottles? No Yes No Not Present 2. Is Chain of Custody complete? Yes V 3 How was the sample delivered? Courier Log In NA 4. Was an attempt made to cool the samples? No Yes 5. Were all samples received at a temperature of >0° C to 6.0°C NA No 6. Sample(s) in proper container(s)? No No 7. Sufficient sample volume for indicated test(s)? 8. Are samples (except VOA and ONG) properly preserved? No NA 9. Was preservative added to bottles? No No VOA Vials 10. VOA vials have zero headspace? Yes No 11. Were any sample containers received broken? No V Yes # of preserved bottles checked for pH: No 12. Does paperwork match bottle labels? Yes (<2 or >12 unless noted) (Note discrepancies on chain of custody) Adjusted? 13. Are matrices correctly identified on Chain of Custody? No 14 Is it clear what analyses were requested? No Checked by: 15. Were all holding times able to be met? No (If no, notify customer for authorization.) Special Handling (if applicable) 16. Was client notified of all discrepancies with this order? No NA V 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 Good Yes

#### MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT: BP AMERICA PROD. CO. CHAIN-OF-CUSTODY #: N/A

GCU # 169 LABORATORY (S) USED: HALL ENVIRONMENTAL

Date: November 25, 2014 DEVELOPER / SAMPLER : NJV

GCU 169 mw log 11-25-14.xls NJV Filename: PROJECT MANAGER:

WELL	WELL	WATER	DEPTH TO	TOTAL	SAMPLING	рН	CONDUCT	TEMP.	VOLUME
#	ELEV.	ELEV.	WATER	DEPTH	TIME	P	(umhos)	(celcius)	PURGED
	(ft)	(ft)	(ft)	(ft)					(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
			INSTRU	JMENT CALI	BRATIONS =	4.01/7.00/10.00	2,800		***************************************
					1				

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".

UNIT I, SEC. 35, T29N, R12W

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 suni	ny
wind speed	15 - 20	direct.	WNW

#### Lab Order **1411B02**

Date Reported: 12/2/2014

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering Client Sample ID: MW #6

 Project:
 GCU #169
 Collection Date: 11/25/2014 3:00:00 PM

 Lab ID:
 1411B02-001
 Matrix: AQUEOUS
 Received Date: 11/26/2014 7:00:00 AM

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

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

#### **Oualifiers:**

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

Page 1 of 2

- $P \hspace{0.5cm} \hbox{Sample pH greater than 2}.$
- RL Reporting Detection Limit

C	hain-c	of-Cus	stody Record	Turn-Around	ime:			)	100	1	AL		F	M	/TE	20		ME	NT	8.1	
Client:	BLAG	G ENGR.	/ BP AMERICA		Rush _														то		*
				Project Name:							ww	w ha	allen	viro	nme	ntal	.com	1			
Mailing Ad	ddress:	P.O. BO	X 87		GCU # 16	9		49	01 H									7109			
		BLOOM	FIELD, NM 87413	Project #:				Te	el. 50	)5-3	45-3	975	1	Fax	505-	345	-410	7			
Phone #:		(505) 63	2-1199									,	nal	ysis	Rec	jues	t				
email or F	ax#:			Project Manag	jer:									-				=			T
QA/QC Pad			Level 4 (Full Validation)		NELSON VE	ELEZ	(80218)	+ TPH (Gas only)	/ MRO)			(5)		05'700	PCB's			er - 300.1)		ę.	
Accreditat	ion:	THE RESERVE THE PROPERTY OF THE PERSONS ASSESSMENT OF THE PERSONS ASSE		Sampler:	NELSON VE	ELEZ nv	8(8)	(Gas	DRO /	1)	1)	8270SIMS)		102,1	8082			/ water		sample	
□ NELAP		☐ Other		On Ice:	C) Yes	□ No	1	PH	-	418.1)	504	3270		03,7	-		(A)	300.0		e sa	1
□ EDD (T	ype)			Sample Tempe	erature:	13	1	+	GRC	po	po		tals	Ž,	cide	A)	i-VC		0	osit	1 5
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX MATE	BTEX + MTBE	TPH 8015B (GRO	TPH (Method	EDB (Method 504.1)	PAH (8310 or	RCRA 8 Metals	Anions (F,Cl,NO ₃ ,NO ₂ ,PO ₄ ,SO ₄ )	8081 Pesticides	8260B (VOA)	8270 (Semi-VOA)	Chloride (soil	Grab sample	5 pt. composite	A I - Fa . Liberton
11/25/14	1500	WATER	MW # 6	40 ml VOA - 2	HCI & Cool	-001	٧												V	-	T
																				T	T
																				1	+
				-														$\Box$	+	+	$\dagger$
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							-	-	_			-			-			+	+	+	+
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1/25/14	1532	70	lu Vf	Anutu	Wall-	175 N 1537				TLY T											
Date:	Time.	Reimquishe	ed by.	Received by:	N	Date Time										on, f	8 MI	7401			
125/14	1815	1/ m	estrelibration		111	26/12/0700	Fi	nd P	urcha	ase O	)rder	in e	mail	fron	1 BP.						
	If necessa	ary samples a	ubmitted to Hall Environmental may be s	subcontracted to other	àccre laboratorie	s. This serves as notice of	f this p	ossibi	lity. A	ny sub	-contr	acted	V	will be	dearly	notat	ed on	the ana	lytical re	DOT.	

## Hall Environmental Analysis Laboratory, Inc.

WO#:

167

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 ND 1.0 Benzene Toluene ND 1.0 Ethylbenzene ND 1.0 Xylenes, Total ND 2.0 Surr: 4-Bromofluorobenzene 19 20.00 95.6 66.6

Sample ID 100NG BTEX LC	SampT	SampType: LCS TestCode: EPA Method 8021B: Volatiles									
Client ID: LCSW	Batch	ID: <b>R2</b>	2836	F	RunNo: 2	2836					
Prep Date:	Analysis D	ate: 11	/26/2014	S	SeqNo: 6	73945					
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
- Analyte detected below quantitation limits
- 0 RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- Reporting Detection Limit

Page 2 of 2

# HALL ENVIRONME FAL ANALYSIS LABORATORY

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

Website: www.hallenvironmental.com

# Sample Log-In Check List

Client Name: BLAGG Work Order Number: 1411B02 RcptNo: 1 Received by/date Logged By: Ashley Gallegos 11/26/2014 7:00:00 AM Ashley Gallegos 11/26/2014 10:11:17 AM Completed By: 11/26/14 Reviewed By: Chain of Custody Not Present 🗹 No 1. Custody seals intact on sample bottles? No 🗌 Not Present Yes 🗸 2. Is Chain of Custody complete? 3 How was the sample delivered? Courier Log In NA [ 4. Was an attempt made to cool the samples? NA 🗌 5. Were all samples received at a temperature of >0° C to 6.0°C No L 6. Sample(s) in proper container(s)? Yes V No 7. Sufficient sample volume for indicated test(s)? 8. Are samples (except VOA and ONG) properly preserved? NA 🗌 No 9. Was preservative added to bottles? Yes No No VOA Vials Yes 10. VOA vials have zero headspace? No V 11. Were any sample containers received broken? # of preserved bottles checked for pH: No 12. Does paperwork match bottle labels? Yes (<2 or >12 unless noted) (Note discrepancies on chain of custody) Adjusted? 13. Are matrices correctly identified on Chain of Custody? No No 14. Is it clear what analyses were requested? Checked by: No 15. Were all holding times able to be met? Yes (If no, notify customer for authorization.) Special Handling (if applicable) Yes 🗌 No 🗍 NA V 16. Was client notified of all discrepancies with this order? 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 1.3 Good

#### 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

DEVELOPER / SAMPLER :

NJV

Filename: GCU 169 mw log 03-10-15.xls

PROJECT MANAGER:

NJV

WELL	WELL	WATER	DEPTH TO	TOTAL	SAMPLING	рН	CONDUCT	TEMP.	VOLUME
#	ELEV.	ELEV.	WATER	DEPTH	TIME		(umhos)	(celcius)	PURGED
	(ft)	(ft)	(ft)	(ft)				198	(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
			INISTRI	IMENT CALL	BRATIONS -	4.01/7.00/10.00	2 800		

INSTRUMENT CALIBRATIONS = | 4.01/7.00/10.00 DATE & TIME =

03/10/15

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  $\sim$  2.00 ft., MW #2  $\sim$  2.00 ft., MW #3  $\sim$  2.00 ft., MW #4  $\sim$  2.00 ft., MW #5  $\sim$  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

Client Sample ID: MW #6

Project: GCU

GCU #169

Collection Date: 3/10/2015 9:05:00 AM

Lab ID: 1503483-001

Matrix: AQUEOUS

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

Page 1 of 2

- P Sample pH Not In Range
- RL Reporting Detection Limit

C	hain-d	of-Cus	stody Record	Turn-Around	Time:						44		E	M	/TE	20	MI	MEI	uT/	A.I	
Client:	BLAG	G ENGR.	/ BP AMERICA	✓ Standard	Rush													RA			1
				Project Name:			L				ww	w.ha	aller	viro	nme	ental	.con	n			
Mailing A	ddress:	P.O. BO	X 87		GCU # 16	9		49	01 H	lawl								37109			
		BLOOM	FIELD, NM 87413	Project #:			Tel. 505-345-3975 Fax 505-345-4107														
Phone #:		(505) 63	32-1199						J is			-	Anal	ysis	Red	ques	st				
email or Fax#:		Project Manager:				S 7											T	T			
QA/QC Pad			Level 4 (Full Validation)		NELSON VI	ELEZ	(8021B)	+ TPH (Gas only)	MRO)			S)		04,50							
Accreditation:		Sampler: NELSON VELEZ			1	Gas	-		1	SIM		02,5	ids	(pa.	z			sample	-		
□ NELAP □ Other			On Ice: ☑ Yes ☐ No				) Hd.	O/	118.	504.1)	8270SIMS)		3,8	Sol	Ite				Sar	1	
□ EDD (1	уре)			Sample Templ	erature: 7	i d	1	E + 1	GRO	od 4	od 5		tals	N.	lved	us (1	Nitrite		<u>a</u>	osite	
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. /503483	BTEX +**	BTEX + MTBE	TPH 8015B (GRO / DRO	TPH (Method 418.1)	EDB (Method	PAH (8310 or	RCRA 8 Metals	Anions (F,Cl,NO ₃ ,NO ₂ ,PO ₄ ,SO ₄ )	Total Dissolved Solids	Iron, Ferrous (filtered)	Nitrate N /		Grab sample	5 pt. composite	
3/10/15	0905	WATER	MW # 6	40 ml VOA - 2	HCl & Cool	-001	V												V		T
Martin and the state of the sta						301													+	+	T
					,				-				-	-			-		+	+	+
							-	-		-		-	-				-		+	+	+
															-		-	$\vdash$	+	+	+
							-		_			_	-	-	-			-	+	+	+
							_	_	-			_			-	-		$\vdash$	+	+	+
				1								_		_	_	_		$\vdash$	+	+	+
				1										_	_			$\vdash$		$\bot$	+
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																					$\perp$
Date: 3/10/15	Time:	Relinquish	ed/by:	Received by:		Date Time	Rer	nark	s:		•	•		-							
	1609	111	m of	anust	Dale	3/10/15/609		BILL leff F					Cour	t Fa	rmin	gton	NIM	187401			
Date: 3/10/15	Time: 1840	Relinquishe	A Walte	Received by:	12/	Date Time		Payk						-, ra		БСОП	, 1414	37401			

# Hall Environmental Analysis Laboratory, Inc.

21

21

63

24

1.0

1.0

2.0

20.00

20.00

60.00

20.00

WO#:

1503483

13-Mar-15

S

Client:

Blagg Engineering

Project:

Toluene

Ethylbenzene

Xylenes, Total

Surr: 4-Bromofluorobenzene

GCU #169

Sample ID 5ML RB	SampType: MBLK TestCode: EPA Method 8021B: Volatiles										
Client ID: PBW	Batch	ID: R2	4802	RunNo: 24802							
Prep Date:	Analysis Da	ate: 3/	12/2015	S	SeqNo: 7	30484	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	SampTy	/pe: LC	s	Tes	tCode: E	PA Method	8021B: Volati	les			
Client ID: LCSW	Batch	ID: <b>R2</b>	4802	F	RunNo: 2	4802					
Prep Date:	Analysis Da	ate: 3/	12/2015	S	SeqNo: 7	30485	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				

0

0

0

107

105

105

120

80

80

80

80

120

120

120

120

#### 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

Page 2 of 2



Hall Environ

ntal 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

RcptNo: 1 Work Order Number: 1503483 BLAGG Client Name: Received by/date: \ Logged By: **Ashley Gallegos** 3/11/2015 8:10:00 AM 3/11/2015 3:33:20 PM Completed By: Ashley Gallegos 03 12 15 Reviewed By: Chain of Custody Not Present Yes 1 Custody seals intact on sample bottles? Yes 🗸 No 🗌 Not Present 2. Is Chain of Custody complete? 3 How was the sample delivered? Courier Log In No NA 🗌 Yes 🗸 4. Was an attempt made to cool the samples? NA 🗌 Yes 🗸 No | 5. Were all samples received at a temperature of >0° C to 6.0°C Yes V No 6. Sample(s) in proper container(s)? No 🗌 Yes 🗸 7 Sufficient sample volume for indicated test(s)? No 8. Are samples (except VOA and ONG) properly preserved? Yes No 🗸 NA L Yes 9. Was preservative added to bottles? No VOA Vials Yes 🗸 No __ 10. VOA vials have zero headspace? No V 11. Were any sample containers received broken? Yes # of preserved bottles checked No 🗌 for pH: 12. Does paperwork match bottle labels? Yes 🗸 (<2 or >12 unless noted) (Note discrepancies on chain of custody) Adjusted? No __ 13. Are matrices correctly identified on Chain of Custody? Yes V No 14. Is it clear what analyses were requested? Checked by: No . Yes 🗸 15. Were all holding times able to be met? (If no, notify customer for authorization.) Special Handling (if applicable) Yes NA 🗸 No L 16. Was client notified of all discrepancies with this order? Person Notified: Date By Whom: Via: eMail Phone Fax Regarding: Client Instructions: 17. Additional remarks: 18. Cooler Information Cooler No Temp °C | Condition Seal Intact Seal No Seal Date Signed By 2.1 Good

#### MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT: BP AMERICA PROD. CO. CHAIN-OF-CUSTODY #: N/AGCU # 169 LABORATORY (S) USED: HALL ENVIRONMENTAL UNIT I, SEC. 35, T29N, R12W Date: May 14, 2015 DEVELOPER / SAMPLER : Filename: GCU 169 mw log 2015-05-14.xls PROJECT MANAGER: WELL WELL WATER **DEPTH TO** TOTAL CONDUCT TEMP. SAMPLING рН **VOLUME** # ELEV. ELEV. WATER DEPTH TIME (umhos) (celcius) **PURGED** (ft) (ft) (ft) (ft) (gal.) 100.00 20.00 2 98.23 20.00 3 97.71 20.00 4 99.21 20.00 5 100.80 20.00 100.92 6 8.58 20.00 0845 7.14 900 13.3 4.00 2.800 INSTRUMENT CALIBRATIONS = 4.01/7.00/10.00 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

Lab Order 1505686

Date Reported: 5/18/2015

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: MW # 6

Project: GCU #169

Collection Date: 5/14/2015 8:45:00 AM

Lab ID: 1505686-001 Matrix: AQUEOUS

Received Date: 5/15/2015 7:26:00 AM

Analyses	Result	RL Q	Qual Ui	nits	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst	: NSB
Benzene	2.9	2.5	μ	g/L	5	5/15/2015 1:54:53 PM	R26234
Toluene	ND	5.0	μ	g/L	5	5/15/2015 1:54:53 PM	R26234
Ethylbenzene	230	5.0	μ	g/L	5	5/15/2015 1:54:53 PM	R26234
Xylenes, Total	1000	10	μ	g/L	5	5/15/2015 1:54:53 PM	R26234
Surr: 4-Bromofluorobenzene	134	80-120	S %	6REC	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.
- 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

Page 1 of 2

- P Sample pH Not In Range
- RL Reporting Detection Limit

C	hain-	of-Cus	stody Record	Turn-Around T	ime:		HALL ENVIRONMENTAL															
lient:	BLAG	G ENGR.	/ BP AMERICA	Standard	Rush _													R				
		A STATE OF THE STA	A CONTRACTOR CONTRACTO	Project Name:							www											
/ailing A	ddress:	P.O. BO	X 87	1	GCU # 16	9		49	01 H									8710	9			
		BLOOM	FIELD, NM 87413	Project #:				Te	1. 50	5-34	45-3	975	F	Fax	505	-345	-410	07				٠
'hone #:		(505) 63	2-1199	1								- 4	hnal	ysis	Red	ques	st					
mail or F	ax#:			Project Manag	jer:		~							(4)								
⊋A/QC Pad ✓ Standa			Level 4 (Full Validation)		NELSON VI	ELEZ	(8021B)	only)	MRO)			(S)		PO4,SC							e	
Accreditat	ion:			Sampler:	NELSON VI	ELEZ 97V	4	(Gas	DRO /	1)	1)	SIN		102,	lids	red	z				mp	
NELAP		□ Other		On Ice: 🔑	<b>∆</b> LYes	. No	1	+ TPH (Gas	-	118.	504.	3270	10	03,0	d So	filte	Nitrite				e sa	Z
∃ EDD (1	Гуре)			Sample Tempe	erature:	1.2	191	E + .	(GRC	pol	pou	or	etals	N,	lve	ns (	Z.			e e	osit	∠ 0
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO.	X	BTEX + MTBE	TPH 8015B (GRO	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,CI,NO ₃ ,NO ₂ ,PO ₄ ,SO ₄ )	Total Dissolved Solids	Iron, Ferrous (filtered)	Nitrate 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	٧													٧		-
																					$\Box$	
-															_							
											$\neg$										-	
											_							+			$\dashv$	
			1.444															+			$\dashv$	
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	Time	Delinguich	ad but	Received by:		Date Time	Davi											_	1			
)ate: /14/15	Time:	Relinquish	lasty	Mustal	Jacker 5	4			DIRE		TO E							4.07	104			
Date:	Time:	Relinquish		Received by:	$\Lambda$ .	Date Time	1				Ene / <u>H01</u>			t, Fa	rmin	gton	, NN	A 874	Ю1			

# Hall Environmental Analysis Laboratory, Inc.

18

20.00

WO#:

1505686

18-May-15

Client:

Blagg Engineering

**Project:** 

Surr: 4-Bromofluorobenzene

GCU #169

Sample ID 100NG BTEX LCS	SampT	ype: LC	S	Tes	Code: El	PA Method	8021B: Volati	iles		
Client ID: LCSW	Batch	ID: <b>R2</b>	6234	F	RunNo: 20	6234				
Prep Date:	Analysis D	ate: <b>5</b> /	15/2015	S	SeqNo: 7	79458	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	SampT	ype: ME	BLK	Tes	Code: EF	PA Method	8021B: Volati	iles	•	
Client ID: PBW	Batch	ID: R2	6234	F	RunNo: 20	6234				
Prep Date:	Analysis D	ate: 5/	15/2015	S	SeqNo: 7	79481	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
	ND	1.0								
Ethylbenzene	ND	1.0								

92.1

80

120

#### 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



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 C	rder Number:	15056	86			RcptN	lo: 1
Received by/da	ate: A		05/15/	15						
Logged By:	Lindsay Ma	angin	5/15/2015	7:26:00 AM			Street 1	Hayayo		
Completed By:	Lindsay Ma	angin	5/15/2015	8:08:52 AM			James 1	Hoppo		
Reviewed By:		A 5-1	5-15				U	0		
Chain of Cu	stody	(4) (	) ()							
1. Custody se	als intact on sa	imple bottles?			Yes		No		Not Present	
2. Is Chain of	Custody comp	lete?			Yes		No		Not Present	
3. How was th	ne sample deliv	ered?			Cour	ier				
Log In										
4. Was an at	tempt made to	cool the sample	es?		Yes		No		NA [	
5. Were all sa	amples received	d at a temperat	ure of >0° C	to 6.0°C	Yes		No		NA 🗆	
6. Sample(s)	in proper conta	niner(s)?			Yes		No			
7. Sufficient s	ample volume	for indicated te	st(s)?		Yes		No			
8. Are sample	es (except VOA	and ONG) pro	perly preserve	ed?	Yes		No			
9. Was prese	rvative added t	o bottles?			Yes		No		NA [	
10.VOA vials	have zero head	space?			Yes	*	No		No VOA Vials	
11. Were any	sample contain	ers received br	oken?		Yes		No			
									# of preserved bottles checked	
12. Does pape					Yes		No		for pH:	2 or >12 unless noted)
13. Are matrice	epancies on ch				Yes		No	П	Adjusted?	2 of 212 diffess floted)
14. Is it clear w					Yes		No			n diser bearing a
15. Were all ho					Yes		No		Checked by	y:
(If no, notif	y customer for	authorization.)						1		
Special Han	dling (if app	olicable)								
16. Was client	notified of all d	iscrepancies w	ith this order?		Yes		No		NA 🖣	
Pers	on Notified:			Date:			The State of the S			
By W	/hom:	Miles and Miles and Miles and American Control of the Control of t		Via: [	eMa	il 🗌	Phone	Fax	☐ In Person	
Rega	rding:		Detaile and Color and Arthur and Arthur Arth				Emiliano comina di alla di alla della			
Clien	t Instructions:			decent or her references and the problem is a condition	****			estera a militarila		
17. Additional	remarks:									*
18. Cooler Int	ormation									
Cooler	No Temp °C	Condition	Seal Intact	Seal No	Seal Da	ite	Signed E	Зу		
1	1.2	Good	Yes	-						

#### MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT: BP AMERICA PROD. CO. CHAIN-OF-CUSTODY#: N/A

GCU # 169 LABORATORY (S) USED : HALL ENVIRONMENTAL

Date: August 26, 2015 DEVELOPER / SAMPLER: N J V

Filename : GCU 169 mw log 2015-08-26.xls PROJECT MANAGER : N J V

WELL	WELL	WATER	DEPTH TO	TOTAL	SAMPLING	рН	CONDUCT	TEMP.	VOLUME
#	ELEV.	ELEV.	WATER	DEPTH	TIME		(umhos)	(celcius)	PURGED
	(ft)	(ft)	(ft)	(ft)					(gal.)
1	100.00	-	-	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
,			INICTDI	IMENT CALL	DDATIONS -	4.04/7.00/40.00	2 800		

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".

UNIT I, SEC. 35, T29N, R12W

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  $\sim$  2.00 ft., MW #2  $\sim$  2.00 ft., MW #3  $\sim$  2.00 ft., MW #4  $\sim$  2.00 ft., MW #5  $\sim$  2.00 ft., MW #6  $\sim$  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

# Lab Order 1508E35

Date Reported: 9/4/2015

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: MW # 6

**Project:** 

GCU # 169

Collection Date: 8/26/2015 8:35:00 AM

Lab ID: 1508E35-001 Matrix: AQUEOUS Received Date: 8/28/2015 8:25:00 AM

Analyses	Result	RL (	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SH	IORT LIST					Analys	t: 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.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 1 of 2 J

P Sample pH Not In Range

RL Reporting Detection Limit

C	hain-d	of-Cus	stody Record	Turn-Around 7	Γime:		١,	1	1 1		Δŀ	11	F	NV	/TF	5O	NI	ME	NT	ГА	
Client:	BLAG	G ENGR.	/ BP AMERICA		☐ Rush _													RA			
				Project Name:												ntal					
Mailing A	ddress:	P.O. BO	X 87		GCU # 16	9		49	01 H	lawl								37109	,		
Attended to the second		BLOOM	FIELD, NM 87413	Project #:				Te	el. 50	)5-3	45-3	975		Fax	505	-345	-410	)7			
Phone #:	de della jette en	(505) 63	32-1199					4.7				ļ	Anal	ysis	Red	ques	st				
email or F	ax#:			Project Manag	ger:									4					T		
QA/QC Pa			Level 4 (Full Validation)		NELSON VI	ELEZ	(8021B)	only)	MRO)			18)		PO4,50							a)
Accreditat	tion:			Sampler:	NELSON VI	ELEZ nv	1	(Gas	DRO /	1)	1)	SIN		102,	Solids	red	z				mp
□ NELAF		☐ Other		On Ice:	X Yes		Ħ	TPH.	-	418.	504	827(	10	03,0	d So	filte	/ Nitrite				e sa
□ EDD (	Гуре)			Sample Temp	erature: $\mathbb{Z}/3$	+0.3cF=26	#	3E +	(GR(	pod	pot	or	etal	D'N	olve	sno (	Nit.			Se	osit
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX +	BTEX + MTBE + TPH (Gas	TPH 8015B (GRO	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,CI,NO ₃ ,NO ₂ ,PO ₄ ,SO ₄ )	Total Dissolved	Iron, Ferrous (filtered)	Nitrate N			Grab sample	5 pt. composite sample
8/26/13	0835	WATER	MW # 6	40 ml VOA - 2	HCl & Cool	-001	٧													٧	
1			7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7																1	1	
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5				Desired to				L.												$\perp$	
Date: 8/27/15	Time:	Relinquishe	lary	Received by:	Whele	Date Time 8/37/15 /1600		nark BILL I	DIRE				Cour	t Fa	rmin	aton	NM	8740	1		
Date: 8/37/15	Time:	Relinguishe	Noto Walls	Received by:	lub 08,	Date Time 128/15 0925		Payk						-		Prom	, 14141	3,40	•		

# Hall Environmental Analysis Laboratory, Inc.

11

11

9.7

10.00

10.00

10.00

WO#:

1508E35

04-Sep-15

Client:

Blagg Engineering

**Project:** 

GCU # 169

Sample ID rb	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8260: Volatile	es Short L	ist	
Client ID: PBW	Batch	h ID: A2	8626	F	RunNo: 2	8626				
Prep Date:	Analysis D	Date: 9/	2/2015	S	SeqNo: 80	66329	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 Ics	SampT	ype: LC	s	Tes	tCode: El	PA Method	8260: Volatile	es Short L	.ist	
Client ID: LCSW	Batch	n ID: A2	8626	F	RunNo: 2	8626				
Prep Date:	Analysis D	Date: 9/	2/2015	S	SeqNo: 80	66330	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
		4.0	00.00	0	98.9	70	130			
Benzene	20	1.0	20.00	0	30.3	70	130			
Benzene Toluene	20 19	1.0	20.00	0	97.2	70	130			

105

108

97.2

70

70

70

130

130

130

#### Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix

Surr: 4-Bromofluorobenzene

Surr: Dibromofluoromethane

Surr: Toluene-d8

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

# HALL VIRON NTAL 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: 8/28/2015 8:25:00 AM Logged By: Lindsay Mangin 8/31/2015 6:21:43 AM Completed By: Lindsay Mangin Reviewed By: Chain of Custody Yes No Not Present 1. Custody seals intact on sample bottles? Yes 🖈 Not Present No 2. Is Chain of Custody complete? 3. How was the sample delivered? Courier Log In No [ NA | 4. Was an attempt made to cool the samples? NA 🗌 5. Were all samples received at a temperature of >0° C to 6.0°C No No 6. Sample(s) in proper container(s)? 7. Sufficient sample volume for indicated test(s)? 8. Are samples (except VOA and ONG) properly preserved? No NA 🗌 9. Was preservative added to bottles? No Yes No VOA Vials 10. VOA vials have zero headspace? No Yes No 🛷 11. Were any sample containers received broken? Yes # of preserved bottles checked for pH: 12. Does paperwork match bottle labels? No (<2 or >12 unless noted) (Note discrepancies on chain of custody) Adjusted? No T 13. Are matrices correctly identified on Chain of Custody? No [ 14 Is it clear what analyses were requested? Checked by: No 🗌 15. Were all holding times able to be met? (If no, notify customer for authorization.) Special Handling (if applicable) Yes NA 🖈 16. Was client notified of all discrepancies with this order? No 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 2.6 Good

#### MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT: BP AMERICA PROD. CO. CHAIN-OF-CUSTODY #: N/A

GCU # 169 LABORATORY (S) USED: HALL ENVIRONMENTAL

DEVELOPER / SAMPLER : Date: December 2, 2015 NJV

Filename: GCU 169 mw log 2015-12-02.xls PROJECT MANAGER: NJV

WELL	WELL	WATER	DEPTH TO	TOTAL	SAMPLING	рН	CONDUCT	TEMP.	VOLUME
#	ELEV.	ELEV.	WATER	<b>DEPTH</b>	TIME		(umhos)	(celcius)	PURGED
	(ft)	(ft)	(ft)	(ft)					(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	-	-	1-1	-	-
6	100.92	92.86	8.06	20.00	1315	7.23	900	12.7	5.75
			INSTRI	JMENT CAL	BRATIONS =	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./f(3) 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 ".

UNIT I, SEC. 35, T29N, R12W

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  $\sim$  2.00 ft., MW #2  $\sim$  2.00 ft., MW #3  $\sim$  2.00 ft., MW #4  $\sim$  2.00 ft., MW #5  $\sim$  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 cloud	dy
wind speed	0 - 5	direct.	E-SE

Lab Order 1512207

Date Reported: 12/11/2015

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: MW #6

Project: GCU #169

Collection Date: 12/2/2015 1:15:00 PM

Lab ID: 1512207-001 Matrix: AQUEOUS

Received Date: 12/4/2015 8:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHO	ORT 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.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 2
- P Sample pH Not In Range
- RL Reporting Detection Limit

C	hain-	of-Cus	stody Record	Turn-Around	Time:					1	ıΑ	3 3	F	M	/TE	20	DA P	MEN	IT/	A. E	
Client:	BLAG	G ENGR.	/ BP AMERICA		Rush													RA			,
				Project Name												ntal					
Mailing A	ddress:	P.O. BO	X 87		GCU # 16	9		49	01 H	ławk	ins	NE -	- Alt	ouqu	ierq	ue, N	M 8	7109			
		BLOOM	FIELD, NM 87413	Project #:						)5-3						-345					
Phone #:		(505) 63	2-1199										4 8 6 20		AND THE PARTY	ques	DEP NAME				
email or F	ax#:			Project Manag	ger:						PSOTONIC		-	-4							
QAVQC Pa			Level 4 (Full Validation)		NELSON VI	ELEZ	(80218)	(Aluo	(MRO)			(5)		PO4,50						6	The state of the s
Accreditat	tion:			Sampler:	NELSON VI	ELEZ 777	1	+ TPH (Gas	DRO /	1)	1)	NISC		102	Solids	red	z			sample	
□ NELAF	>	□ Other		On Ice:	⊠ Yes	□ No	Ŧ	TPH	-	418.1)	504	827		03,6	d So	filte	Nitrite N				:
□ EDD (	Type)			Sample Temp	erature: 1.3		1		(GRC	por	por	or 0	etals	S	olve	) sno	Nit /		Je	osit	111
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 15/2207	BTEX +-	BTEX + MTBE	PH 80158 (GRO	TPH (Method	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,CI,NO3,NO2,PO4,SO4)	Total Dissolved	Iron, Ferrous (filtered)	Nitrate N		Grab sample	5 pt. composite	Air Dubble
12/2/15	1315	WATER	MW # 6	40 ml VOA - 2	HCI & Cool	-001	٧												V	-	
-	-																		1		
																			1	T	T
ate:	Time	Relinquisho	ed by	Received by:		Date Time	Ren	nark	S:												
12/3/15	1732	90	dar V J	Ch.	lay	12/3/15/732				LY T											
ate:	Time:	Relinquishe	ed by	Received by	W.	Date Time								ton,	NM	874(	01 A	ttn.: S.	Mos	kal	
13/17	1741	11 h-	+ Waste	Sour a	12/6	04/15 0800	VI	D:	VI	HIXO	NEV	/RM									
	If necess	ary, samples si	ubmitted to Hall Environmental may help	et incommence a																	

### Hall Environmental Analysis Laboratory, Inc.

WO#: 1512207

11-Dec-15

Client:

Blagg Engineering

**Project:** 

GCU #169

Sample ID rb	SampT	ype: ME	BLK	Tes	tCode: E	PA Method	8260: Volatile	es Short I	_ist	
Client ID: PBW	Batch	h ID: A3	0730	F	RunNo: 3	0730				
Prep Date:	Analysis D	Date: 12	2/9/2015	5	SeqNo: 9	38973	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 Icsc	SampT	ype: LC	S	Tes	tCode: E	PA Method	8260: Volatile	es Short L	_ist	
Client ID: LCSW	Batch	n ID: A3	0730	F	RunNo: 3	0730				
Prep Date:	Analysis D	Date: 12	2/9/2015	\$	SeqNo: 9	38974	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	SampT	ype: ME	BLK	Tes	tCode: E	PA Method	8260: Volatile	es Short L	ist	
Client ID: PBW	Batch	n ID: A3	0773	F	RunNo: 3	0773				
Prep Date:	Analysis D	Date: 12	2/10/2015	5	SeqNo: 9	40002	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 Ics	SampT	ype: LC	S	Tes	tCode: E	PA Method	8260: Volatile	es Short L	.ist	
Client ID: LCSW	Batch	n ID: A3	0773	F	RunNo: 3	0773				
Prep Date:	Analysis D	Date: 12	2/10/2015	5	SeqNo: 9	40003	Units: %REC			
Analyte	Result	PQL		SPK Ref Val		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.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit



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

# Sample Log-In Check List

Client Name: BLAGG		Work Order Number	15123	207	<del></del>	Rooti	No: 1
CHERT Hame. BLAGG						, topti	
Received by/date:	12	12/04/15			· .		
Logged By: Joe Arch	nuleta	12/4/2015 8:00:00 AM	1				
Completed By: Joe Arch	nuleta	12/4/2015 11:16:30 A	М		1.54		
Reviewed By:		12/04/15					
Chain of Custody		( - 1/10					
Custody seals intact on	sample bottles?		Yes	[.]	No :	Not Present	<b>→</b>
2. Is Chain of Custody cor	mplete?		Yes		No []	Not Present [	ij
3. How was the sample de	elivered?		Cour	ier			
Log In							
4. Was an attempt made	to cool the samples	?	Yes		No [	NA	
5. Were all samples recei	ved at a temperatur	re of >0° C to 6.0°C	Yes		No 🗌	NA [	
6. Sample(s) in proper co	ontainer(s)?		Yes		No [		
7. Sufficient sample volun	ne for indicated test	(s)?	Yes		No [ ]		
8. Are samples (except V	OA and ONG) prope	erly preserved?	Yes		No		
9. Was preservative adde	ed to bottles?		Yes	[ ]	No 🏕	NA	
10.VOA vials have zero he	eadspace?		Yes		No []	No VOA Vials	
11. Were any sample cont	ainers received bro	ken?	Yes		No 🖈	# of preserved	
						bottles checked	
12.Does paperwork match (Note discrepancies on			Yes		No	for pH: (	<2 or >12 unless noted)
13. Are matrices correctly i		of Custody?	Yes		No [	Adjusted?	•
14 Is it clear what analyse			Yes		No 🗔		
15. Were all holding times (If no, notify customer to			Yes		No	Checked t	by:
Special Handling (if a	applicable)						
16. Was client notified of a	II discrepancies with	this order?	Yes		No 🗔	NA	
Person Notified:		Date:				-	
By Whom:		Via:	eM	ail [	Phone Fa	x [] In Person	
Regarding:					and the second s	na marifeliot altira di Arista (Mila) alta eta eta eta eta eta eta eta eta eta e	-
Client Instruction	s:			-		1	-
17. Additional remarks:	·						
18. Cooler Information Cooler No Temp 1 1.3		Seal Intact   Seal No	Seal D	ate	Signed By	-	

#### MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT: BP AMERICA PROD. CO. CHAIN-OF-CUSTODY # : N/A GCU #169 LABORATORY (S) USED: HALL ENVIRONMENTAL UNIT I, SEC. 35, T29N, R12W Date: February 23, 2016 DEVELOPER / SAMPLER : ____ GCU 169 mw log 2016-02-23.xls PROJECT MANAGER: Filename: DEPTH TO WATER TOTAL CONDUCT TEMP. **VOLUME** WELL WELL SAMPLING Hq # ELEV. ELEV. WATER DEPTH (celcius) **PURGED** TIME (umhos) (ft) (ft) (ft) (ft) (gal.) 100.00 20.00 91.59 8.41 2 98.23 20.00 20.00 3 97.71 89.17 8.54 9.09 4 99.21 90.12 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 = 2,800 4.01/7.00/10.00 DATE & TIME = 02/23/16 0630 Volume of water purged from well prior to sampling; V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores). NOTES: (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  $\sim$  2.00 ft., MW #2  $\sim$  2.00 ft., MW #3  $\sim$  2.00 ft., MW #4  $\sim$  2.00 ft., MW #5  $\sim$  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

# Lab Order **1602A70**Date Reported: **3/1/2016**

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering Client Sample ID: MW #6

 Project:
 GCU #169
 Collection Date: 2/23/2016 1:30:00 PM

 Lab ID:
 1602A70-001
 Matrix: AQUEOUS
 Received Date: 2/25/2016 7:20:00 AM

Analyses	Result	PQL (	Qual U	Jnits	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analys	st: NSB
Benzene	ND	1.0		µg/L	1	2/26/2016 10:31:40 AI	M R32443
Toluene	1.9	1.0	1	µg/L	1	2/26/2016 10:31:40 Al	M R32443
Ethylbenzene	200	10		µg/L	10	2/26/2016 10:07:00 AI	M R32443
Xylenes, Total	750	20	1	µg/L	10	2/26/2016 10:07:00 AI	M R32443
Surr: 4-Bromofluorobenzene	374	65-127	S	%Rec	1	2/26/2016 10:31:40 AI	M R32443

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

#### Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- 3 Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 2
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Cł	nain-c	of-Cus	tody Record	Turn-Around	Time:		١,	1 1	1	Н	ΔΙ		F	V	TR	20	N	1FI	NT/	M	
lient:	BLAG	G ENGR.	/ BP AMERICA	✓ Standard	☐ Rush _														TO		r
				Project Name						,	wwv	v.ha	llen	viro	nme	ntal	.con	1			
1ailing A	ddress:	P.O. BO	X 87		GCU # 16	9		49	01 H									7109			
	-	BLOOM	FIELD, NM 87413	Project #:				Те	1. 50	5-34	5-39	975	F	ax 5	05-	345-	410	7			
hone #:		(505) 63	2-1199									A	naly	sis	Red	lues	it				
mail or F	ax#:			Project Manag	jer:		~							(4)							
A/QC Pa	_		Level 4 (Full Validation)		NELSON VI	ELEZ	141B19 (8021B)	+ TPH (Gas only)	/ MRO)			15)		PO4,SC						au au	
ccredita	tion:			Sampler:	<b>NELSON VI</b>	ELEZ 97V	4	(Ga	/ DRO	1)	1)	OSIN		VO2,	lids	red	z			ldmi	
NELAF	>	□ Other		The second section of the sect	⊠ Yes	□ No	Ŧ	TP+	0	418.1)	504	827	S	03,	d Sc	filte	rite			te sa	or N
EDD (	Гуре)			Sample Temp	erature: /, 2		4	3E +	(GR	pou	pol	o	etal	S,	lve	sno	N.		e e	osit	2
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO.	BTEX +-MTBE	BTEX + MTBE	TPH 8015B (GRO	TPH (Method	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,CI,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	V				1								V		
											1										
											$\top$	$\dashv$	$\forall$				$\neg$		+	T	$\vdash$
										+	+	$\dashv$	_	$\neg$			$\neg$	$\top$	+	T	
					***************************************					+	+	$\dashv$	-	$\dashv$				+	+	+-	$\vdash$
					V		-		$\dashv$	+	$\dashv$	$\dashv$	$\dashv$	-				+	+	+	$\vdash$
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ate:	Time:	Relinquishe	ed by:	Received by:		Date Time	Ren	nark	s:												
2/24/16	1609	1	MnV	Amost	- Walter	2/24/14 1409	ВІ			LY TO											
ate:	Time:	Relinquishe	ed by:	Received by:	1	Date Time				Court	t, Fai	rmin	gton	, NN	1 874	101	Attı	ı.: Jol	nn Rit	chie	
24/16	1814	Thrus	to Welter	4	02	25/16 0700	VI	D: _		VRITO	WL	FEC		-							
	If necessary.	amóles subi	mitted to Hall Environmental may be sul	ocontracted to other a	ccredited laboratorie	s. This serves as notice of	of this	nossih	ility L	lov suh	-cont	racted	Idata	will be	e clea	rly not	ated o	n the ar	alytical	report	

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1602A70

01-Mar-16

Client:

Blagg Engineering

**Project:** 

GCU #169

Sample ID 5ML RB	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8021B: Volat	les		
Client ID: PBW	Batch	ID: R3	2443	F	RunNo: 3	2443				
Prep Date:	Analysis D	ate: 2/	26/2016	S	SeqNo: 9	92135	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 LC	S Sampl	ype: LC	s	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID: LCSW	Batc	n ID: R3	2443	F	RunNo: 3	2443				
Prep Date:	Analysis D	oate: 2/	26/2016	S	SeqNo: 9	92136	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.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109

TEL: 505-345-3975 FAX: 505-345-4107

# Sample Log-In Check List

Website: www.hallenvironmental.com

Clier	nt Name:	BLAGG		Work C	order Numbe	r: 1602A70		RcptNo:	1
Rece	ived by/date	e:	702/2	5/16					
Logge	ed By:	Anne Thor	ne	2/25/2016	7:20:00 AN	1	anne An	~	
Comp	oleted By:	Anne Thor	ne	2/25/2016	5		anne An	_	
Revie	ewed By:		Zu	02/	25/10	2			
Chair	n of Cus	tody /		,	11				
1. C	custody sea	ls intact on sa	mple bottles?			Yes	No 🗌	Not Present	
2. Is	Chain of C	Custody comp	lete?			Yes 🗸	No 🗌	Not Present	
3. H	low was the	sample deliv	ered?			Courier			
Log	<u>In</u>								
4. v	Vas an atte	mpt made to	cool the samp	les?		Yes 🗸	No 🗆	NA 🗆	
5. V	Vere all san	nples received	i at a tempera	ture of >0° C	to 6.0°C	Yes 🗸	No 🗌	na 🗆	
6. s	Sample(s) ir	n proper conta	iner(s)?			Yes 🗹	No 🗌		
7. S	ufficient sa	mple volume	for indicated to	est(s)?		Yes 🗸	No 🗌		
8. A	re samples	(except VOA	and ONG) pro	operly preserve	ed?	Yes 🗸	No 🗆		
9. W	Vas preserv	rative added to	bottles?			Yes $\square$	No 🗸	NA 🗆	
10.V	OA vials ha	ave zero head	space?			Yes 🗸	No 🗌	No VOA Vials	
11. V	Vere any sa	ample contain	ers received b	roken?		Yes	No 🗸	# -6	
							_	# of preserved bottles checked	
		vork match bo				Yes 🗸	No L	for pH:	or >12 unless noted)
		pancies on ch	,	n of Custody?		Yes 🗸	No 🗌	Adjusted?	or 12 diless flotody
		at analyses w				Yes 🗸	No 🗆		
		ding times abl		•		Yes 🗸	No 🗌	Checked by:	
		customer for							
Spec	ial Hand	lling (if app	olicable)						
16. V	Vas client n	otified of all d	screpancies v	vith this order?		Yes	No 🗌	NA 🗸	
	Persor	Notified:			Date			*	
	By Wh	iom:			Via:	eMail [	Phone Fax	In Person	
	Regard	ding:							
	Client	Instructions:							
17.	Additional re	emarks:						-	
18. <u>c</u>	Cooler Info	rmation							
	Cooler N	o Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By	4	
	1	1.2	Good	Yes					

# MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT :	BP AME	RICA PR	OD. CO.		CHAIN-OF-C	USTODY # :		N	/ A	
GCU # 169 UNIT I, SE	C. 35, T29N,	R12W			LABORATOR	RY(S) USED	i.	HALL ENVIR	RONMENTAL	
Date : Filename :	June 6, 201 GCU 169 m		06-06.xls		С		/ SAMPLER : MANAGER :		1 V	
WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	рН	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)	
1 2 3	100.00 98.23 97.71	91.15 - 88.77	8.85 - 8.94	20.00 20.00 20.00	-		-		-	
4 5 6	99.21 100.80 100.92	89.68 90.88 91.79	9.53 9.92 9.13	20.00 20.00 20.00	- - 0925	- - 7.30	- - 900	- - 14.9	- - 5.25	
NOTES:	INSTRUMENT CALIBRATIONS = 4.01/7.00/10.00 2,800 DATE & TIME = 06/02/16 0700									
	or note we	ll diameter	ee (3) wellbo	ard 2".		2.00" well d		0.49 gal./ft.		
Purged well valve attach	using 2 inch	submersible	e electric pump	o, new/cle	slight apparen ar vinyl tubing ted sample fr	g, and with	brass adjusta	able flow	у.	
and the second s	ng <b>MW</b> #1 ~ 2.00 ft. above		IW #2 ~ 2.00	Oft., MW #	#3 ~ 2.00 ft.	, MW #4 ~	2.00 ft. , M\	W #5 ~ 2.00	O ft. ,	

on-site	8:40 AM	temp	73 F
off-site	9:40 AM	temp	77 F
sky cond.		Mostly sun	ny
wind speed	0 - 10	direct.	ENE - E

### Lab Order 1606468

Date Reported: 6/16/2016

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: MW #6

**Project:** GCU 169 Collection Date: 6/6/2016 9:25:00 AM

Lab ID: 1606468-001

Matrix: AQUEOUS

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	5
Toluene	5.2	1.0		μg/L	1 6/13/2016 10:41:42 AM B34875	5
Ethylbenzene	170	20		µg/L	20 6/14/2016 1:45:10 PM B34904	4
Xylenes, Total	840	40		μg/L	20 6/14/2016 1:45:10 PM B34904	4
Surr: 4-Bromofluorobenzene	295	87.9-146	S	%Rec	1 6/13/2016 10:41:42 AM B34875	5

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits
  - % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- Value above quantitation range
- Analyte detected below quantitation limits Page 1 of 2 J
- P Sample pH Not In Range
- Reporting Detection Limit
- Sample container temperature is out of limit as specified

C	hain-	of-Cus	stody Record	Turn-Around	ime:		,	I		ŀ	44		F	NV	TE	5O	N	F	NT	All	
lient:	BLAG	G ENGR.	/ BP AMERICA	Standard     Standard	Rush _			330											TO		
				Project Name:							www	w.ha	illen	viro	nme	ntal	.con	1			
1ailing A	ddress:	P.O. BO	X 87	1	GCU # 16	9		49	01 H		ins N								9		
		BLOOM	FIELD, NM 87413	Project #:							45-39			ax .							
hone #:	and the second s	(505) 63	32-1199									A	nal	ysis	Rec	ques	t				
mail or F	ax#:			Project Manag	er:					9											
A/QC Pa	_		Level 4 (Full Validation)		NELSON VE	LEZ	**************************************	only)	/ MRO)	MS) PO4,500					٩						
ccreditat	tion:			Sampler:	<b>NELSON VE</b>	LEZ 97V	8)	трн (Gas	/ DRO /	18.1) 14.1) 270SIM 270SIM 3,NO ₂ ,P Olids Balance					sample						
NELAF		□ Other		The second second second second	The state of the s	□ No	*	TPH	0/0	10 / DI 418. 504. 504. 10 3, N 10 3, N 10 Solid 10 Solid 10 Solid 10 Solid 10 Solid 11 Solid 12 Solid 13 Solid 14 Solid 15 Solid 16 Solid 17 Solid 18 Solid 18 Solid 18 Solid 19 Solid 19 Solid 19 Solid 10 Solid					te sa	N N					
1 EDD (1	Гуре)			Sample Temp	erature: 13	100	4	BE +	(GR	hod	hod	0 or	eta	C,N	lved	(AC	ni-V	ation	ala	posi	S (7 c
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX +-NAT	BTEX + MTBE	TPH 8015B (GRO	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,CI,NO ₃ ,NO ₂ ,PO ₄ ,SO ₄ )	Total Dissolved Solids	8260B (VOA)	8270 (Semi-VOA)	Anions / Cations	Grab sample	5 pt. composite	Air Bubbles (Y or N)
6/6/16	0925	WATER	MW # 6	40 ml VOA - 2	HCl & Cool	1006468	<u>8</u>	.83	F		ш	<u>a</u>	~	A	Ĕ	00	80	Ā	V	-	Ā
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Will transferred by column									$\neg \uparrow$		$\dashv$								$\top$		
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ate; 5/8/16	Time: 1815	Relinquishe	my J	Received by:	Maeter	Date Time 6/8/16 1815	815 BILL DIRECTLY TO BP:														
ate:  8 16	Time: 1844	Relinquishe	ed by: U	Received by:	5 Oxlon	Date Time	200 Energy Court, Farmington, NM 87401 Attn.: John Ritchie VID: VDRINKJWA1														

# Hall Environmental Analysis Laboratory, Inc.

WO#: 1606468

16-Jun-16

Client: Blagg Engineering

**Project:** GCU 169

Sample ID	5ML RB	SampT	ype: ME	BLK	Tes	tCode: E	PA Method	8021B: Volati	iles		
Client ID:	PBW	Batch	ID: <b>B3</b>	4875	F	RunNo: 3	4875				
Prep Date:		Analysis D	ate: 6/	13/2016	5	SeqNo: 1	077031	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-Bron	nofluorobenzene	22		20.00		110	87.9	146	VII. ( )		
Sample ID	100NG BTEX LCS	SampT	ype: LC	S	Tes	tCode: El	PA Method	8021B: Volati	iles		
Client ID:	LCSW	Batch	ID: <b>B3</b>	4875	F	RunNo: 3	4875				
Prep Date:		Analysis D	ate: 6/	13/2016	5	SeqNo: 1	077032	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-Bron	nofluorobenzene	23		20.00		4 4 E	87.9	146			
				20.00		115	07.9	146			
Sample ID			ype: ME		Tes		***************************************	8021B: Volati	iles		
	5ML RB	SampT	ype: ME	BLK			PA Method	Manufacture of the second seco	iles		
Sample ID	5ML RB	SampT	ID: <b>B3</b>	BLK 4904	F	tCode: El	PA Method 4904	Manufacture of the second seco	iles		
Sample ID Client ID:	5ML RB	SampT Batch	ID: <b>B3</b>	3LK 4904 14/2016	F	tCode: El	PA Method 4904	8021B: Volati	iles %RPD	RPDLimit	Qual
Sample ID Client ID: Prep Date:	5ML RB	SampT Batch Analysis D Result ND	ID: <b>B3</b> ate: <b>6/</b> PQL 1.0	3LK 4904 14/2016	F	tCode: El RunNo: 3 SeqNo: 1	PA Method 4904 078033	8021B: Volati Units: μg/L		RPDLimit	Qual
Sample ID Client ID: Prep Date: Analyte	5ML RB PBW	SampT Batch Analysis D Result	ID: <b>B3</b> ate: <b>6</b> /	3LK 4904 14/2016	F	tCode: El RunNo: 3 SeqNo: 1	PA Method 4904 078033	8021B: Volati Units: μg/L		RPDLimit	Qual
Sample ID Client ID: Prep Date: Analyte Ethylbenzene Xylenes, Total	5ML RB PBW	SampT Batch Analysis D Result ND	ID: <b>B3</b> ate: <b>6/</b> PQL 1.0	3LK 4904 14/2016	F	tCode: El RunNo: 3 SeqNo: 1	PA Method 4904 078033	8021B: Volati Units: μg/L		RPDLimit	Qual
Sample ID Client ID: Prep Date: Analyte Ethylbenzene Xylenes, Total Surr: 4-Bron	5ML RB PBW	SampT Batch Analysis D Result ND ND 22	ID: <b>B3</b> ate: <b>6/</b> PQL 1.0	8LK 4904 14/2016 SPK value 20.00	F SPK Ref Val	tCode: El RunNo: 3 SeqNo: 1 %REC	PA Method 4904 078033 LowLimit	8021B: Volati Units: µg/L HighLimit	%RPD	RPDLimit	Qual
Sample ID Client ID: Prep Date: Analyte Ethylbenzene Xylenes, Total Surr: 4-Bron	5ML RB PBW  nofluorobenzene  100NG BTEX LCS	SampT  Batch Analysis D  Result  ND  ND  22  SampT	ate: <b>6/</b> PQL 1.0 2.0	BLK 4904 14/2016 SPK value 20.00	SPK Ref Val	tCode: El RunNo: 3 SeqNo: 1 %REC	PA Method 4904 078033 LowLimit 87.9	8021B: Volati Units: µg/L HighLimit	%RPD	RPDLimit	Qual
Sample ID Client ID: Prep Date: Analyte Ethylbenzene Xylenes, Total Surr: 4-Bron	5ML RB PBW  nofluorobenzene  100NG BTEX LCS	SampT  Batch Analysis D  Result  ND  ND  22  SampT	PQL 1.0 2.0 ype: LC	BLK 4904 14/2016 SPK value 20.00 S 4904	SPK Ref Val	tCode: El RunNo: 3 SeqNo: 1 %REC 110 tCode: El	PA Method 4904 078033 LowLimit 87.9 PA Method 4904	8021B: Volati Units: µg/L HighLimit	%RPD	RPDLimit	Qual
Sample ID Client ID: Prep Date: Analyte Ethylbenzene Xylenes, Total Surr: 4-Bron Sample ID Client ID:	5ML RB PBW  nofluorobenzene  100NG BTEX LCS	SampT Batch Analysis D Result ND ND 22 SampT Batch	PQL 1.0 2.0 ype: LC	3LK 4904 14/2016 SPK value 20.00 S 4904 14/2016	SPK Ref Val	tCode: El RunNo: 3 SeqNo: 1 %REC 110 tCode: El RunNo: 3	PA Method 4904 078033 LowLimit 87.9 PA Method 4904	8021B: Volati Units: µg/L HighLimit 146 8021B: Volati	%RPD	RPDLimit RPDLimit	Qual
Sample ID Client ID: Prep Date: Analyte Ethylbenzene Xylenes, Total Surr: 4-Bron Sample ID Client ID: Prep Date:	5ML RB PBW  nofluorobenzene  100NG BTEX LCS	SampT Batch Analysis D Result ND ND 22 SampT Batch Analysis D	PQL 1.0 2.0 2.0 1D: B3 ate: 6/	3LK 4904 14/2016 SPK value 20.00 S 4904 14/2016	SPK Ref Val  Tes	tCode: El RunNo: 3 SeqNo: 1 %REC 110 tCode: El RunNo: 3 SeqNo: 1	PA Method 4904 078033 LowLimit 87.9 PA Method 4904 078034	8021B: Volati Units: µg/L HighLimit 146 8021B: Volati Units: µg/L	%RPD		
Sample ID Client ID: Prep Date: Analyte Ethylbenzene Xylenes, Total Surr: 4-Bron Sample ID Client ID: Prep Date: Analyte	5ML RB PBW  nofluorobenzene  100NG BTEX LCS LCSW	SampT Batch Analysis D Result ND ND 22 SampT Batch Analysis D	PQL 1.0 2.0 1D: B3 ate: 6/PQL PQL PQL PQL	8LK 4904 14/2016 SPK value 20.00 S 4904 14/2016 SPK value	SPK Ref Val  Tes  F SPK Ref Val	tCode: El RunNo: 3 SeqNo: 1 %REC 110 tCode: El RunNo: 3 SeqNo: 1 %REC	PA Method 4904 078033 LowLimit 87.9 PA Method 4904 078034 LowLimit	8021B: Volati Units: µg/L HighLimit  146  8021B: Volati Units: µg/L HighLimit	%RPD		

#### Qualifiers:

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



4901 Hawkins NE Albuquerque, NM 87109

TEL: 505-345-3975 FAX: 505-345-4107

# Sample Log-In Check List

LA KAI Y	Website: www	hallenvironmental.c	com		
Client Name: BLAGG	Work Order Num	er: 1606468		RcptNo:	1
Received by/date:	M orloa	10	***************************************		-
Logged By: Ashley Gallego	s 6/9/2016 8:00:00 AM	М	A		
Completed By: Ashley Gallego	s 6/9/2016 12:35:52 F	PM	A		
Reviewed By:	06/09/16		V		
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 in	dicated test(s)?	Yes 🗹	No 🗌		
8. Are samples (except VOA and	ONG) properly preserved?	Yes 🗸	No 🗌		
9. Was preservative added to bot	tles?	Yes	No 🗸	NA 🗌	
10. VOA vials have zero headspac	e?	Yes 🗸	No 🗌	No VOA Vials	
11. Were any sample containers re	eceived broken?	Yes	No 🗸	# of preserved	EASTER).
				bottles checked	
<ol> <li>Does paperwork match bottle la (Note discrepancies on chain of</li> </ol>		Yes 🗹	No 🗆	for pH: (<2 o	r >12 unless noted
13. Are matrices correctly identified		Yes 🗸	No 🗌	Adjusted?	, , , , , , , , , , , , , , , , , , , ,
14. Is it clear what analyses were r	·	Yes 🗸	No 🗆		
15. Were all holding times able to I	be met?	Yes 🗸	No 🗆	Checked by:	
(If no, notify customer for author	rization.)		L		
Special Handling (if applica	nble)				
16. Was client notified of all discre	pancies with this order?	Yes	No 🗌	NA 🗸	
Person Notified:	Date				
By Whom:	Via:	,	hone Fax	☐ In Person	
Regarding:					
Client Instructions:	AND THE RESIDENCE OF THE PARTY		The second second	Connector have to a known of the accommon	
17. Additional remarks:					
18. Cooler Information Cooler No Temp °C C	ondition   Seal Intact   Seal No	Seel Date	Signed By		
Cooler No Lieub C C	Judition   Seal Intact   Seal No	Seal Date	Signed By		

-	Cooler No		Condition	Seal Intact	Seal No	Seal Date	Signed By
	1	1.3	Good	Yes			

### MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : BP AMERICA PROD. CO. CHAIN-OF-CUSTODY#: N/A												
GCU # 169 UNIT I, SE	C. 35, T29N,	R12W			LABORATOR	RY(S) USED	· ·	HALL ENVIR	RONMENTAL			
Date : Filename :	August 18, 2 GCU 169 m		08-18.xls		D		/ SAMPLER : MANAGER :		1 V			
WELL WATER DEPTH TO TOTAL SAMPLING PH CONDUCT TEMP. VOLUME # ELEV. ELEV. WATER DEPTH TIME (umhos) (celcius) PURGED (ft) (ft) (ft) (ft) (ft) (gal.)												
1	100.00	-	-	20.00	- 1	-	-	-	-			
2	98.23	-	-	20.00	-	-	-	-	-			
3	97.71	-	-	20.00	-	-	-	-				
4	99.21	-	-	20.00	-	-	-	-	-			
5	100.80	92.12	8.80	20.00	1250	7.27	900	19.8	5.50			
NOTES :	(i.e. 2" MW	r = (1/12) f	ed from well i. h = 1 ft.)	DAT prior to s (i.e. 4" MW	BRATIONS = E & TIME = ampling; V = r = (2/12) ft.	h = 1 ft.)						
	or note we	ll diameter	ee (3) wellbo	ard 2".	: slight apparen	2.00" well d		0.49 gal./ft.				
					ar vinyl tubing				,			
valve attach	ment added	near samplin	g end of tubi	ing . Collect	ted sample fro	om MW #6	only for BTE	X per				
US EPA Me	thod 8021B.											
-												
					The Company of the Co							
	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.,											

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

Client Sample ID: MW # 6

Project: GCU 169

Collection Date: 8/18/2016 12:50:00 PM

**Lab ID:** 1608C14-001

Matrix: AQUEOUS

Received Date: 8/20/2016 9:15:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8021B: VOLATILES</b>					Analys	t: 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.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 2
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

C	hain-d	of-Cus	stody Record	Turn-Around 1	ime:					-	łΑ	LL	E	NV	/IF	20	NI	ME	N	ГА	L	
Client:	BLAG	G ENGR.	/ BP AMERICA		Rush													RA				
				Project Name:				1071			ww	w.ha	allen	viro	nme	ntal	.com	1				
Mailing A	ddress:	P.O. BO	X 87		GCU # 16	9		49	01 F	ławk	ins	NE -	Alk	ouqu	erqu	ue, N	1M 8	3710	9			
		BLOOM	FIELD, NM 87413	Project #:				Te	el. 50	)5-3	45-3	975	- 1	Fax .	505-	-345	-410	17				
Phone #:		(505) 63	2-1199									A	Anal	ysis	Rec	ques	it					
email or F	ax#:			Project Manag	jer:						62											
QA/QC Pad	-		Level 4 (Full Validation)		NELSON V	ELEZ	84s (8021B)	only)	MRO)			15)		05,50							e	
Accreditat	ion:			Sampler:	NELSON V	ELEZ nv	8)	TPH (Gas	DRO /	1)	od 418.1) od 504.1) or 8270SIMS) tals I,NO3,NO2,PO ed Solids A) ions Balance						sample					
□ NELAP	)	□ Other		On Ice:	⊿ Yes	□ No	1	TPH	Q/C	418.	504.1)	827(		03,1	Solic		(AC	s Bal			e sa	S
□ EDD (1	ype)			Sample Temp	erature: 🚄	8	1	+	(GRC	po	po	o	stal	Z	ved	(A)	-\-\-	tion		e e	osit	(ح
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO. ]	BTEX MATE	BTEX + MTBE	TPH 8015B (GRO /	TPH (Method 418.1)	EDB (Method	PAH (8310	RCRA 8 Metals	Anions (F,CI,NO ₃ ,NO ₂ ,PO ₄ ,SO ₄ )	Total Dissolved Solids	8260B (VOA)	8270 (Semi-VOA)	Anions / Cations		Grab sample	5 pt. composite	Air Bubbles (Y or N)
8/18/16	1250	WATER	MW#6	40 ml VOA - 2	HCI & Cool	-001	٧													٧		
-																						
																					$\neg$	
				-																$\neg$	$\neg$	
																				$\dashv$	$\neg$	
																			$\neg$	$\dashv$	$\dashv$	_
																			-	$\dashv$	$\dashv$	-
													_			_		$\vdash$	$\dashv$	$\dashv$	$\dashv$	
																		$\vdash$	-	$\dashv$	$\dashv$	
													_					$\vdash$		_	$\dashv$	
Date: 8/19/16	10-	Relinquish	he V	Received by:	a Walk	Date Time 8 19 16 1057		L DI	RECT	LY T				. N. P.	. 074	04	A 44		h = 1	:b		
Date: 8/19/14	Time:	Relinquish	ed by: Walk	Received by:	081	Date Time 20160915	VID: VDRINKJWA1															
	If necessa	ary, samples s	ubmitted to Hall Environmental may be s	ubcontracted to other	accredited laboratorie	es. This serves as notice of	tice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.					-										

### Hall Environmental Analysis Laboratory, Inc.

WO#:

1608C14

25-Aug-16

Client:

Blagg Engineering

Project:

GCU 169

Sample ID 5ML RB	SampT	ype: ME	BLK	Test	Code: El	PA Method	8021B: Volat	iles		
Client ID: PBW	Batch	ID: <b>B3</b>	6734	R	tunNo: 3	6734				
Prep Date:	Analysis D	ate: 8/	24/2016	S	eqNo: 1	138368	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 LC	SampT	ype: LC	s	Tes	tCode: El	PA Method	8021B: Volati	les		
Client ID: LCSW	Batch	n ID: <b>B3</b>	6734	F	RunNo: 3	6734				
Prep Date:	Analysis D	ate: 8/	24/2016	S	SeqNo: 1	138369	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.

D Sample Diluted Due to Matrix

Holding times for preparation or analysis exceeded Н

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

S % Recovery outside of range due to dilution or matrix Analyte detected in the associated Method Blank

Value above quantitation range

Reporting Detection Limit

J Analyte detected below quantitation limits

P Sample pH Not In Range

Sample container temperature is out of limit as specified



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	16080	214			RcptNo:	1
Received by/dat	Lindsay Ma	l nein	8/20/2016 9:15:00 AM			Someon H	loging)		
		-				() J			
Completed By:	Lindsay Ma		8/20/2016 11:56:08 A	VI		January 111	ladays O		
Reviewed By:		8/23/16							ļ.
Chain of Cus	stody								
1. Custody sea	als intact on sa	mple bottles?		Yes		No		Not Present	
2. Is Chain of (	Custody compl	ete?		Yes		No		Not Present	
3. How was the	e sample delive	ered?		Cour	ier				
Log In									
4. Was an atte	empt made to	cool the samples?		Yes		No		NA 🗆	
5. Were all sai	mples received	i at a temperature	of >0° C to 6.0°C	Yes		No [		NA 🗀	
6. Sample(s) i	in proper conta	iner(s)?		Yes	•	No			
7. Sufficient sa	ample volume i	for indicated test(s	5)?	Yes		No [			
8. Are sample:	s (except VOA	and ONG) proper	ly preserved?	Yes		No [			
9. Was preser	vative added to	bottles?		Yes		No	d)	NA 🗆	
10.VOA vials h	nave zero head	space?		Yes		No [		No VOA Vials	
11. Were any s	sample contain	ers received broke	en?	Yes		No	*		
							1	# of preserved bottles checked	
12.Does paper				Yes		No		for pH:	
		ain of custody)	0.440	V		No	<u> </u>	Adjusted?	r >12 unless noted)
		ntified on Chain of	Custody?	Yes		No [		•	
14. Is it clear w 15. Were all ho				Yes Yes	*	No (		Checked by:	
	customer for			163	•••	140			
Special Hand	dling (if and	olicable)							
		iscrepancies with	this order?	Yes		No		NA 🖝	
1	on Notified:		**************************************		adianatus Sancia		-		
By W			Date:   Via:	□ eM	ail [	Phone I	Fax	In Person	
	rding:		va.	CIVI	all [	Thone	I ax	III I GISOII	
4	t Instructions:				-	de de como de mando de estado d			
17. Additional	,	1							I
10 Contactor	a manatic -								
18. Cooler Inf	No Temp °C		eal Intact   Seal No	Seal D	ate	Signed B	у		
1	3.8	Good Yes	3			1			

#### MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT: BP AMERICA PROD. CO. CHAIN-OF-CUSTODY # : N/A GCU # 169 LABORATORY (S) USED: HALL ENVIRONMENTAL UNIT I, SEC. 35, T29N, R12W DEVELOPER / SAMPLER : ____ Date: December 13, 2016 GCU 169 mw log 2016-12-13.xls Filename: PROJECT MANAGER: WELL WELL WATER DEPTH TO TOTAL SAMPLING рН CONDUCT TEMP. VOLUME ELEV. # ELEV. WATER DEPTH TIME (umhos) (celcius) **PURGED** (ft) (ft) (ft) (ft) (gal.) 100.00 20.00 2 98.23 20.00 3 97.71 20.00 4 99.21 20.00 5 100.80 20.00 100.92 92.45 8.47 20.00 0950 7.02 800 12.6 5.00 INSTRUMENT CALIBRATIONS = 2,800 4.01/7.00/10.00 12/06/16 DATE & TIME = 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  $\sim$  2.00 ft., MW #2  $\sim$  2.00 ft., MW #3  $\sim$  2.00 ft., MW #4  $\sim$  2.00 ft., MW #5  $\sim$  2.00 ft.,

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

MW #6 ~ 2.00 ft. above grade.

#### Lab Order 1612888

Date Reported: 12/27/2016

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering Client Sample ID: MW #6

 Project:
 GCU #169
 Collection Date: 12/13/2016 9:50:00 AM

 Lab ID:
 1612888-001
 Matrix: AQUEOUS
 Received Date: 12/16/2016 7:15:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES S	HORT LIST				Anal	yst: 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.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 2
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Standard	C	hain-d	of-Cus	stody Record	Turn-Around T	ime:					Į.	A		F	NV	/T F	20	NI	ИF	NT	ΓΑΙ	ı	
Mailing Address: P.O. BOX 87  BLOOMFIELD, NM 87413  Project #:  Pr	Client:	BLAG	G ENGR.	/ BP AMERICA		Rush _					-	-											
Project #:   Project Manager:					Project Name:																		
Phone #: (505) 632-1199  email or Fax#:  CANCC Package:  Sampler:  NELSON VELEZ  Sampler:  NELSON VELEZ  On Ice:	Mailing A	ddress:	P.O. BO	X 87		GCU # 16	9		49	01 H	ławk	ins I	NE -	- All	ouqu	erqı	ue, N	1M 8	710	9			
Project Manager:   Project Man			BLOOM	FIELD, NM 87413	Project #:				Te	el. 50	)5-34	15-3	975		Fax	505-	345	-410	7				
OA/QC Package:  Standard  Level 4 (Full Validation)  Accreditation:  NELSON VELEZ  777  On ite:  NELSON VELEZ  1888  On ite:  NELSON VEL	Phone #:		(505) 63	32-1199									ļ	Anal	ysis	Rec	ques	it					
12/13/16   0950   WATER   MW # 6   40 ml VOA - 2   HCl & Cool   — 00   V     V     V     V     V     V     V     V     V   V     V     V     V     V     V     V     V     V     V     V   V     V     V     V     V     V     V     V     V     V     V   V     V     V     V     V     V     V     V     V     V     V   V     V     V     V     V     V     V     V     V     V     V   V     V     V     V     V     V     V     V     V     V     V   V     V     V     V     V     V     V     V     V     V     V   V     V     V     V     V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V	email or F	ax#:			Project Manag	er:									4)							T	
12/13/16   0950   WATER   MW # 6   40 ml VOA - 2   HCl & Cool   — 00   V     V     V     V     V     V     V     V     V   V     V     V     V     V     V     V     V     V     V     V   V     V     V     V     V     V     V     V     V     V     V   V     V     V     V     V     V     V     V     V     V     V   V     V     V     V     V     V     V     V     V     V     V   V     V     V     V     V     V     V     V     V     V     V   V     V     V     V     V     V     V     V     V     V     V   V     V     V     V     V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V				Level 4 (Full Validation)		NELSON VI	ELEZ	021B)	only)	/ MRO)			15)		PO4,SO							е	
12/13/16   0950   WATER   MW # 6   40 ml VOA - 2   HCl & Cool   — 00   V     V     V     V     V     V     V     V     V   V     V     V     V     V     V     V     V     V     V     V   V     V     V     V     V     V     V     V     V     V     V   V     V     V     V     V     V     V     V     V     V     V   V     V     V     V     V     V     V     V     V     V     V   V     V     V     V     V     V     V     V     V     V     V   V     V     V     V     V     V     V     V     V     V     V   V     V     V     V     V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V	Accreditat	ion:			Sampler:	NELSON VI	ELEZ 97V	8)	(Gas	SRO /	1.	1.	OSIN		VO ₂ ,	ds			lance			dwe	
12/13/16   0950   WATER   MW # 6   40 ml VOA - 2   HCl & Cool   — 00   V     V     V     V     V     V     V     V     V   V     V     V     V     V     V     V     V     V     V     V   V     V     V     V     V     V     V     V     V     V     V   V     V     V     V     V     V     V     V     V     V     V   V     V     V     V     V     V     V     V     V     V     V   V     V     V     V     V     V     V     V     V     V     V   V     V     V     V     V     V     V     V     V     V     V   V     V     V     V     V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V			□ Other					1	TPH	_	418	504	827	S	03,1	Solic		(AC	s Ba			te sa	S
12/13/16   0950   WATER   MW # 6   40 ml VOA - 2   HCl & Cool   — 00   V     V     V     V     V     V     V     V     V   V     V     V     V     V     V     V     V     V     V     V   V     V     V     V     V     V     V     V     V     V     V   V     V     V     V     V     V     V     V     V     V     V   V     V     V     V     V     V     V     V     V     V     V   V     V     V     V     V     V     V     V     V     V     V   V     V     V     V     V     V     V     V     V     V     V   V     V     V     V     V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V	□ EDD (T	ype)	T		Sample Temp	rature: 1	>	1	+	(GR	por	por	or)	etal	C,N	ved	(AC	i-V(	tion		elc	osi	ζ,
12/13/16   0950   WATER   MW # 6   40 ml VOA - 2   HCl & Cool   - 00   V     V     V     V     V     V     V     V     V   V     V     V     V     V     V     V     V     V     V     V   V     V     V     V     V     V     V     V     V     V     V   V     V     V     V     V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V   V	Date	Time	Matrix	Sample Request ID				BTEX - NAT	+	TPH 8015B	TPH (Met	EDB (Met	PAH (8310	RCRA 8 M	Anions (F,	Total Disso	8260B (VC	8270 (Sen	Anions / Ca		Grab sam	5 pt. com	Air Bubbles
12/15/16/1721 3/h / Mistre 12/15/14/77/ BILL DIRECTLY TO BP:	12/13/16	0950	WATER	MW # 6	40 ml VOA - 2	HCl & Cool	-001	٧													٧		
12/15/16/1721 3/h / Mistre 12/15/14/77/ BILL DIRECTLY TO BP:																							
12/15/16/1721 3/h / Mistre 12/15/14/77/ BILL DIRECTLY TO BP:												_								_	_	$\dashv$	
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12/15/16/1721 3/h / Mistre 12/15/14/77/ BILL DIRECTLY TO BP:																				_	_	_	
12/15/16/1721 3/h / Mistre 12/15/14/77/ BILL DIRECTLY TO BP:																					$\perp$		
	. 1 1	Time:	Relinquishe	ed by:	Mbu	e Walt	12/1 12/	BII	LL DI	RECT													
Date: Time: Relinquished by: Date Time 200 Energy Court, Farmington, NM 87401 Attn.: John Ritchie	Date:	Time:	Relinquishe	ed by:	Received by:	N.	Date Time	1							, NM	874	01	Attn	ı.: Jo	hn R	itchi	е	
2/5/14/08/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00-15/00	415/14	B	Mbs	b WCULE	ubcontracted to other	12/									uill bo	doad	notat	ad on	the an	abtical	renor	+	

# Hall Environmental Analysis Laboratory, Inc.

WO#: **1612888** 

27-Dec-16

Client: Blagg Engineering

**Project:** GCU #169

Project: GCU#	169									
Sample ID 100ng LCS	SampTy	pe: LC	S	Tes	tCode: El	PA Method	8260: Volatil	es Short L	ist	
Client ID: LCSW	Batch	ID: SL	W39559	F	RunNo: 3	9559				
Prep Date:	Analysis Da	ite: 12	2/21/2016	S	SeqNo: 1	239951	Units: %Red	С		
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	SampTy	pe: ME	BLK	Tes	tCode: El	PA Method	8260: Volatil	es Short L	ist	
Client ID: PBW	Batch	ID: SL	W39559	F	RunNo: 3	9559				
Prep Date:	Analysis Da	ite: 12	2/21/2016	S	SeqNo: 1	239952	Units: %Red	С		
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 Ics	SampTy	pe: LC	S	Tes	tCode: El	PA Method	8260: Volatil	es Short I	_ist	
Client ID: LCSW	Batch	ID: SL	W39586	F	RunNo: 3	9586				
Prep Date:	Analysis Da	ite: 12	2/22/2016	5	SeqNo: 1	240940	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	SampTy	pe: ME	BLK	Tes	tCode: El	PA Method	8260: Volatil	es Short L	ist	
Client ID: PBW	Batch	ID: SL	W39586	F	RunNo: 3	9586				
Prep Date:	Analysis Da	ite: 12	2/22/2016	8	SeqNo: 1	240943	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			

#### **Oualifiers:**

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- Page 2 of 2
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified



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/dat	te: LM	12/16/16				
Logged By: Completed By:	Andy Jansson Andy Jansson	12/16/2016 7:15:00 AM		04/200		
Reviewed By:  Chain of Cus	etody	16/Ne/n				
	als intact on sample bottles?		Yes	No 🗔	Not Present	
,,	Custody complete?		Yes 🗸	No 🗌	Not Present	
3. How was the	e sample delivered?		Courier			
Log In						
4. Was an atte	empt made to cool the samples	,	Yes 🗹	No 🗌	NA $\square$	
5. Were all sa	mples 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 sa	ample volume for indicated test(	s)?	Yes 🗸	No 🗆		
8. Are sample:	s (except VOA and ONG) prope	rly preserved?	Yes 🗸	No 🗌		
9. Was preser	vative added to bottles?		Yes	No 🗸	NA 🗌	
10.VOA vials h	nave zero headspace?		Yes	No 🗆	No VOA Vials	
11. Were any s	sample containers received brok	en?	Yes	No 🗸	# of preserved	
	work match bottle labels?		Yes 🗸	No 🗆	bottles checked for pH:	r >12 unless noted)
	es correctly identified on Chain of	Custody?	Yes 🗸	No 🗌	Adjusted?	
	hat analyses were requested?	,	Yes 🗸	No 🗌		
15. Were all ho	olding times able to be met?  y customer for authorization.)		Yes 🗸	No 🗌	Checked by:	
	dling (if applicable)					
16. Was client	notified of all discrepancies with	this order?	Yes 🗌	No L	NA 🗹	٦
By W Rega	on Notified: /hom: rding: t Instructions:	Date Via:	eMail	Phone Fax	in Person	
17. Additional	remarks:			•		_
18. Cooler Inf Cooler I	formation		Seal Date	Signed By		
Nam					-	

#### MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT: BP AMERICA PROD. CO. CHAIN-OF-CUSTODY #: N/A GCU # 169 LABORATORY (S) USED: HALL ENVIRONMENTAL UNIT I, SEC. 35, T29N, R12W Date: February 23, 2017 DEVELOPER / SAMPLER : NJV GCU 169 mw log 2017-02-23.xls Filename: PROJECT MANAGER: SAMPLING WELL WELL WATER **DEPTH TO** TOTAL рН CONDUCT TEMP. **VOLUME** # ELEV. ELEV. WATER DEPTH (umhos) **PURGED** TIME (celcius) (ft) (ft) (ft) (ft) (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 90.04 9.17 99.21 20.00 5 100.80 91.18 9.62 20.00 6 8.78 7.35 800 9.2 100.92 92.14 20.00 1505 5.50 INSTRUMENT CALIBRATIONS = 2,800 4.01/7.00/10.00 02/23/17 DATE & TIME = 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  $\sim$  2.00 ft., MW #2  $\sim$  2.00 ft., MW #3  $\sim$  2.00 ft., MW #4  $\sim$  2.00 ft., MW #5  $\sim$  2.00 ft.,

on-site	2:15 PM	temp	42 F
off-site	3:15 PM	temp	42 F
sky cond.		Partly cloud	ly
wind speed	10 - 20	direct.	West

MW #6 ~ 2.00 ft. above grade

## **Analytical Report**

# Lab Order 1702A93

Date Reported: 3/3/2017

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering Client Sample ID: MW #6

 Project:
 GCU 169
 Collection Date: 2/23/2017 3:05:00 PM

 Lab ID:
 1702A93-001
 Matrix: AQUEOUS
 Received Date: 2/24/2017 8:08:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES S	HORT LIST				Analys	t: 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.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 2
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

C	hain-d	of-Cus	stody Record	Turn-Around 1	Time:						AF		=	RIA.	/TE	20	B.E		MIT	ΓΑΙ	E
Client:			/ BP AMERICA	✓ Standard	Rush _													RA			
	errortus alla chilli de la Manana de con de una fini			Project Name:	gyygg (1999) in 1994 han hin dd yn arfain diw 1994 (1994) i tha ar			*****		•					nme						
Mailing A	ddress:	P.O. BO	X 87	1	GCU # 16	9		49	01 H	lawl								37109	9		
		BLOOM	FIELD, NM 87413	Project #:			-				45-3				505						
Phone #:	nggingamik Malandarya amar arka and ta ad	(505) 63	2-1199									-	Anal	ysis	Red	ques	st	A TUR			
email or F	ax#:			Project Manag	jer:									÷							
QA/QC Pa	_		Level 4 (Full Validation)		NELSON VI	ELEZ	#B's (8021B)	+ TPH (Gas only)	MRO)			15)		05,50							e
Accreditat	ion:			Sampler:	NELSON VI	ELEZ 97V	8)	(Gas	DRO/	1)	1)	SIN		102,1	şş.			ance			dw
□ NELAF	)	□ Other			γ⁄i) Yes		1	TPH	_	418	504	827		03,1	Solids		(AC	s Bal			e sa
□ EDD (1	Гуре)			Sample Temp	erature: /-(		1	Æ +	(GR(	por	pot	or	etal	Z	ved	8	i-VC	tion		e e	osit
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX - NATE	BTEX + MTBE	TPH 8015B (GRO	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	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	٧													٧	
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Date: 2/23/17	Time:	Relinquishe	ed by:	Received by:	nh	Date Time	20 VI	0 En			rt, Fa I <b>N</b> KV			ı, NN	1874	101	Attr	n.: Jo	nn R	itchi	е
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# **QC SUMMARY REPORT**

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1702A93

03-Mar-17

**Client:** 

Blagg Engineering

Project:

GCU 169

GCO I										
Sample ID rb	SampT	ype: ME	BLK	Tes	tCode: E	PA Method	8260: Volatile	es Short L	.ist	
Client ID: PBW	Batch	ID: <b>B4</b>	1093	F	RunNo: 4	1093				
Prep Date:	Analysis D	ate: 3/	1/2017	5	SeqNo: 1	287202	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 Ics	SampT	ype: LC	s	Tes	tCode: E	PA Method	8260: Volatile	es Short L	ist	
Client ID: LCSW	Batch	ID: <b>B4</b>	1093	F	RunNo: 4	1093				
Prep Date:	Analysis D	ate: 3/	1/2017	S	SeqNo: 1	287203	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.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- Value above quantitation range
- Analyte detected below quantitation limits
- P Sample pH Not In Range Reporting Detection Limit

RL

Sample container temperature is out of limit as specified

Page 2 of 2



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

RcptNo: 1 **BLAGG** Work Order Number: 1702A93 Client Name: Received by/date: 2/24/2017 8:08:00 AM Logged By: Ashley Gallegos Ashley Gallegos 2/24/2017 9:03:57 AM Completed By: Reviewed By: Chain of Custody No | Not Present V Yes 1 Custody seals intact on sample bottles? No [ Not Present Yes 🗸 2. Is Chain of Custody complete? 3. How was the sample delivered? Courier Log In NA [] No 4. Was an attempt made to cool the samples? Yes 🗸 NA No 5. Were all samples received at a temperature of >0° C to 6.0°C No 6. Sample(s) in proper container(s)? Yes 🗸 No | 7. Sufficient sample volume for indicated test(s)? Yes No L 8. Are samples (except VOA and ONG) properly preserved? Yes NA No V 9. Was preservative added to bottles? Yes No VOA Vials No 10. VOA vials have zero headspace? Yes 🗸 No 🗸 11. Were any sample containers received broken? Yes # of preserved bottles checked No for pH: 12. Does paperwork match bottle labels? Yes (<2 or >12 unless noted) (Note discrepancies on chain of custody) Adjusted? No L 13. Are matrices correctly identified on Chain of Custody? Yes V No 14. Is it clear what analyses were requested? Checked by: No _ 15. Were all holding times able to be met? Yes V (If no, notify customer for authorization.) Special Handling (if applicable) No | NA V Yes 16. Was client notified of all discrepancies with this order? 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 1.0 Good Yes

# BLAGG ENGINEERING, INC.

#### MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT: BP AMERICA PROD. CO. N/ACHAIN-OF-CUSTODY #: GCU # 169 HALL ENVIRONMENTAL LABORATORY (S) USED: UNIT I, SEC. 35, T29N, R12W DEVELOPER / SAMPLER : Date: May 26, 2017 GCU 169 mw log 2017-05-26.xls PROJECT MANAGER: NJVFilename: CONDUCT WELL WELL WATER DEPTH TO TOTAL SAMPLING Hq TEMP. VOLUME ELEV. DEPTH **PURGED** # ELEV. WATER (umhos) (celcius) TIME (ft) (ft) (ft) (ft) (gal.) 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 7.12 1,000 14.2 5.00 9.19 20.00 1245 INSTRUMENT CALIBRATIONS = 4.01/7.00/10.00 2,800 DATE & TIME = 05/26/17 0600 Volume of water purged from well prior to sampling; V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores). NOTES: (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  $\sim$  2.00 ft., MW #2  $\sim$  2.00 ft., MW #3  $\sim$  2.00 ft., MW #4  $\sim$  2.00 ft., MW #5  $\sim$  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 sun	ny
wind speed	0 - 10	direct.	WSW

#### **Analytical Report**

Lab Order **1705F00** 

Date Reported: 6/2/2017

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: MW #6

Project: GCU 169

Collection Date: 5/26/2017 12:45:00 PM

**Lab ID:** 1705F00-001

Matrix: AQUEOUS

Received Date: 5/31/2017 7:15:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SH	IORT LIST				Analys	t: <b>RAA</b>
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.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 2
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

CI	hain-d	of-Cus	stody Record	Turn-Around	lime:					-	A &		E	NIL	/TC	20	N.	ME	NT	AI	
Client:	BLAC	G ENGR	/ BP AMERICA	✓ Standard	Rush														TO	-	
				Project Name								w.ha								- 1 -	
Mailing A	ddress:	P.O. BO	X 87		GCU # 16	9		49	01 H									87109	9		
**************************************		BLOOM	FIELD, NM 87413	Project #:					el. 50								-410				
Phone #:		(505) 63	2-1199	1				Alk Total	1			ALCOHOLD IN	A DESCRIPTION	ysis	CANADA .	SE HEROE	(Self-track) makes				
email or l	Fax#:			Project Mana	ger:		Name (See )				A SHEET WAY			-						No.	
QA/QC Pa			Level 4 (Full Validation)		NELSON V	ELEZ	80218)	TPH (Gas only)	/ MRO)			(S)		PO4,50,			OFF (The contraction is a second and a second a second and a second and a second and a second and a second an			(	2
Accredita	tion:			Sampler:	NELSON V	ELEZ nv	8) 54	(Ga	DRO	=	1)	8270SIMS)		0,0	1s			Balance		olames	4
□ NELAF	-	□ Other		On Ice.	Z Yes	□ No	1	TPH	-	418	504.1)	827(		0	Solie		)A.				N
□ EDD (	Type)			Sample Temp	erature: /,	3		8E +	(GR	pou	poi	ö	etale	N.	Ved	(A)	J-1	Cations	4	ne h	(Y o
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO. 1705 FOO	BTEX WI	BTEX + MTBE	TPH 8015B (GRO	TPH (Method 418.1)	EDB (Method	PAH (8310	RCRA 8 Metals	Anions (F,Cl,NO3,NO2,PO4,SO4)	Total Dissolved Solids	8260B (VOA)	8270 (Semi-VOA)	Anions / Ca	Tank cum	de la	Air Bubbles (Y or N)
5/26/17	1245	WATER	MW # 6	40 ml VOA - 2	HCI & Cool	-061	٧												ACCORDINATION AND ADDRESS	1	
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					Printer St. St. Co. Co. Co. Co. Co. Co. Co. Co. Co. Co					1									1	1	
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# **QC SUMMARY REPORT**

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1705F00

02-Jun-17

Client:

Blagg Engineering

**Project:** 

GCU 169

Sample ID 100ng lcs	SampT	ype: LC	S	Tes	tCode: El	PA Method	8260: Volatile	s Short L	.ist	
Client ID: LCSW	Batch	ID: R4	3196	F	RunNo: 4	3196				
Prep Date:	Analysis D	ate: 6/	1/2017	S	SeqNo: 1	360075	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			
Surr: Toluene-d8  Sample ID rb		ype: ME		Tes			130 8260: Volatile	es Short L	ist	
	SampT	ype: ME	BLK			PA Method		es Short L	ist	
Sample ID rb	SampT	ID: <b>R4</b>	3196	F	tCode: El	PA Method 3196		es Short L	ist	
Sample ID rb Client ID: PBW	SampT Batch	ID: <b>R4</b>	3LK 3196 1/2017	F	tCode: El	PA Method 3196	8260: Volatile	es Short L	.ist  RPDLimit	Qual
Sample ID rb Client ID: PBW Prep Date:	SampT Batch Analysis D	ID: <b>R4</b>	3LK 3196 1/2017	F	tCode: El RunNo: 4 SeqNo: 1	PA Method 3196 360076	8260: Volatile Units: μg/L			Qual
Sample ID rb Client ID: PBW Prep Date: Analyte	SampT Batch Analysis D Result	n ID: <b>R4</b> Pate: <b>6</b> /	3LK 3196 1/2017	F	tCode: El RunNo: 4 SeqNo: 1	PA Method 3196 360076	8260: Volatile Units: μg/L			Qual
Sample ID rb Client ID: PBW Prep Date: Analyte Benzene	SampT Batch Analysis D Result ND	PQL 1.0	3LK 3196 1/2017	F	tCode: El RunNo: 4 SeqNo: 1	PA Method 3196 360076	8260: Volatile Units: μg/L			Qual
Sample ID rb Client ID: PBW Prep Date: Analyte Benzene Toluene	SampT Batch Analysis D Result ND ND	PQL 1.0	3LK 3196 1/2017	F	tCode: El RunNo: 4 SeqNo: 1	PA Method 3196 360076	8260: Volatile Units: μg/L			Qual
Sample ID rb Client ID: PBW Prep Date: Analyte Benzene Toluene Ethylbenzene	SampT Batch Analysis D Result ND ND ND	PQL 1.0 1.0	3LK 3196 1/2017	F	tCode: El RunNo: 4 SeqNo: 1	PA Method 3196 360076	8260: Volatile Units: μg/L			Qual
Sample ID rb Client ID: PBW Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total	SampT Batch Analysis D Result ND ND ND ND	PQL 1.0 1.0	3196 1/2017 SPK value	F	tCode: El RunNo: 4 SeqNo: 1 %REC	PA Method 3196 360076 LowLimit	8260: Volatile Units: µg/L HighLimit			Qual
Sample ID rb Client ID: PBW Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 1,2-Dichloroethane-d4	SampT Batch Analysis D Result ND ND ND ND ND	PQL 1.0 1.0	3196 1/2017 SPK value	F	tCode: El RunNo: 4 SeqNo: 1 %REC	PA Method 3196 360076 LowLimit	8260: Volatile Units: µg/L HighLimit			Qual

#### Qualifiers:

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

Page 2 of 2



#### 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 anne Am Received By: Anne Thorne 5/31/2017 7:15:00 AM Completed By: Richie Eriacho 5/31/2017 9:43:00 AM 5/31/17 Reviewed By Chain of Custody No 🗌 Not Present ✓ 1. Custody seals intact on sample bottles? No 🗍 Yes 🗸 Not Present 2. Is Chain of Custody complete? 3 How was the sample delivered? Courier Log In 4. Was an attempt made to cool the samples? NA . Yes V NA 🗌 No 🗌 5. Were all samples received at a temperature of >0° C to 6.0°C Yes V No 🗌 6. Sample(s) in proper container(s)? No 🗍 Yes 🗸 7. Sufficient sample volume for indicated test(s)? No 🗌 8. Are samples (except VOA and ONG) properly preserved? NA 🔲 No V 9. Was preservative added to bottles? Yes Yes 🗌 No 🗌 No VOA Vials 🗸 10.VOA vials have zero headspace? 11. Were any sample containers received broken? # of preserved bottles checked No L for pH: 12. Does paperwork match bottle labels? (<2 or >12 unless noted) (Note discrepancies on chain of custody) Adjusted? No 🗌 13. Are matrices correctly identified on Chain of Custody? Yes 🗸 No [ Yes V 14. Is it clear what analyses were requested? Yes 🗸 No [ Checked by: 15. Were all holding times able to be met? (If no, notify customer for authorization.) Special Handling (if applicable) No 🗌 Yes NA V 16. Was client notified of all discrepancies with this order? Person Notified: Date: By Whom: In Person Via: eMail Phone Fax Regarding: Client Instructions: 17. Additional remarks: 18. Cooler Information Cooler No Temp °C Condition Seal Intact Seal No Seal Date 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

DEVELOPER / SAMPLER :

Filename:

GCU 169 mw log 2017-09-06.xls

PROJECT MANAGER:

NJV

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

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  $\sim$  2.00 ft., MW #2  $\sim$  2.00 ft., MW #3  $\sim$  2.00 ft., MW #4  $\sim$  2.00 ft., MW #5  $\sim$  2.00 ft.,

MW #6  $\sim$  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 Client Sample ID: MW #3

**Project:** GCU 169 **Collection Date:** 9/6/2017 10:45:00 AM

Lab ID: 1709432-001 Matrix: AQUEOUS Received Date: 9/8/2017 7:00:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES					Analys	t: 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. Analyte detected in the associated Method Blank D Sample Diluted Due to Matrix E Value above quantitation range Analyte detected below quantitation limits Page 1 of 3 Holding times for preparation or analysis exceeded J ND Not Detected at the Reporting Limit Sample pH Not In Range P PQL Practical Quanitative Limit Reporting Detection Limit RL % Recovery outside of range due to dilution or matrix Sample container temperature is out of limit as specified

#### **Analytical Report**

Lab Order 1709432

Date Reported: 9/14/2017

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: MW #6

Project: GCU 169

Collection Date: 9/6/2017 11:45:00 AM

**Lab ID:** 1709432-002

Matrix: AQUEOUS

Received Date: 9/8/2017 7:00:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	5.0	μg/L	5	9/13/2017 10:15:14 PM	M B45593
Toluene	ND	5.0	μg/L	5	9/13/2017 10:15:14 PM	M B45593
Ethylbenzene	52	5.0	μg/L	5	9/13/2017 10:15:14 PM	M B45593
Xylenes, Total	220	10	μg/L	5	9/13/2017 10:15:14 PM	M B45593
Surr: 4-Bromofluorobenzene	119	72.5-140	%Rec	5	9/13/2017 10:15:14 PM	M B45593

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

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 2 of 3
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

C	hain-	of-Cus	stody Record	Turn-Around 1	lime:			,	1	5	J A		E	AI.	/TE	20		MEN	JT/	A 1
Client:	BLAC	G ENGR.	/ BP AMERICA	Standard Project Name:	Rush						AN	AL	Y:	SI	S L	A	ВО	RA		
Mailing A	ddraces			-		_					ww	w.h	allen	viro	nme	enta	l.con	n		
- Ividilling A	duress:	P.O. BO			GCU # 16	9		49	01 H	lawl	kins	NE .	All	buqu	ierq	ue, f	NM 8	37109		
	-	BLOOM	FIELD, NM 87413	Project #:				Te	1.50	05-3	45-3	975		Fax	505	-345	-410	)7		
Phone #:		(505) 63	2-1199						in the second				Anal	ysis	Rec	ques	st			
email or F	ax#			Project Manag	jer:									7						
QA/QC Pa			Level 4 (Full Validation)		NELSON VI	ELEZ	(8021B)	TPH (Gas only)	/ MRO)	No. of Company Committee and C		(5)		PO4,SO						e
Accreditat	tion:			Sampler:	NELSON VI	ELEZ nv	8	(Gas	80	1)	1)	8270SIMS)		102,	1s			Balance		sample
□ NELAF	>	□ Other			A Yes	□ No	1	TPH	0/0	418.1)	504.1)	827	ıs	03,1	Solids		(AC	s Bal		
□ EDD (	Гуре)			Sample Tempe	erature: 2.1			+	(GR(	por	pou	0	etal	CIN	ved	JA]	ni-VC	Cations	Se	osit
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO.	BTEX MATH	BTEX + MTBE	TPH 8015B (GRO / DRO	TPH (Method	EDB (Method	PAH (8310	RCRA 8 Metals	Anions (F,Cl,NO ₃ ,NO ₂ ,PO ₄ ,SO ₄ )	Total Dissolved	8260B (VOA)	8270 (Semi-VOA)	Anions / Ca	Grab sample	
9/6/17	1045	WATER	MW # 3	40 ml VOA - 2	HCI & Cool	701	٧												٧	
9/6/17	1145	WATER	MW # 6	40 ml VOA - 2	HCI & Cool	T02	٧												V	
																			-	-
*																			+	++
																		$\vdash$	+	++
Order													NOTE SECURITIES		A moreovoruses.					
9/7/7	Time:	Relinquishe	in Vj	Repeived by:	Lost	Date Time 9/7/7 /647	1	LL DI	RECT		O BI			842			A * * *			11
Date:	1810	Relinquishe	h har	Received by:	10	Date Time 9/03/17 0700							-					0169-E:		

# **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 Units: µg/L Prep Date: Analysis Date: 9/13/2017 SeqNo: 1446434 SPK value SPK Ref Val %REC LowLimit %RPD **RPDLimit** Qual Analyte Result PQL HighLimit ND Benzene 1.0 Toluene ND 1.0 Ethylbenzene ND 1.0 ND 2.0 Xylenes, Total Surr: 4-Bromofluorobenzene 21 20.00 103 72.5 140

Sample ID 100NG BTEX LC	SB SampT	ype: LC	s	Tes	tCode: El	PA Method	8021B: Volati	iles		
Client ID: LCSW	Batch	ID: <b>B4</b>	5593	F	RunNo: 4	5593				
Prep Date:	Analysis D	ate: 9/	13/2017	S	SeqNo: 1	446435	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.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

**PQL** Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix

Analyte detected in the associated Method Blank B

Value above quantitation range

J Analyte detected below quantitation limits

Reporting Detection Limit

P Sample pH Not In Range

RL

Sample container temperature is out of limit as specified

Page 3 of 3



#### 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

Work Order Number: 1709432 RcptNo: 1 BLAGG Client Name: anne Ham Received By: Anne Thorne 9/8/2017 7:00:00 AM anne Ham Completed By Anne Thorne 9/8/2017 2:27:09 PM 9/11 LB Reviewed By: Chain of Custody No 🗌 Not Present 🗸 1. Custody seals intact on sample bottles? Yes 🗸 No 🗌 Not Present 2. Is Chain of Custody complete? 3. How was the sample delivered? Courier Log In NA . No 🗌 4. Was an attempt made to cool the samples? Yes V NA No 5. Were all samples received at a temperature of >0° C to 6.0°C Yes 🗸 No 6. Sample(s) in proper container(s)? Yes 🗸 No 7. Sufficient sample volume for indicated test(s)? No _ Yes 🗸 8. Are samples (except VOA and ONG) properly preserved? No 🗸 NA 🗌 9. Was preservative added to bottles? Yes 10. VOA vials have zero headspace? Yes 🗸 No No VOA Vials No V 11. Were any sample containers received broken? # of preserved bottles checked Yes 🗸 No for pH: 12. Does paperwork match bottle labels? (<2 or >12 unless noted) (Note discrepancies on chain of custody) Adjusted? No 🗌 13. Are matrices correctly identified on Chain of Custody? Yes V No 14. Is it clear what analyses were requested? No 🗌 Checked by: 15. Were all holding times able to be met? Yes **V** (If no, notify customer for authorization.) Special Handling (if applicable) Yes 🗌 No NA V 16. Was client notified of all discrepancies with this order? Person Notified: Date By Whom: Via: eMail Phone Fax Regarding: Client Instructions: 17. Additional remarks: 18. Cooler Information Cooler No Temp °C Condition Seal Intact | Seal No Seal Date 2.6 Good Yes

# APPENDIX E

1996 Pit Closures and 2003 BGT Closure Documentation District I
P.O. Box 1980, Hobbs, NM
District II
District II
District III
Strict III
1000 Rio Brazos Rd, Aztec, NM 87410

# State of New Mexico Energy, Minerals and Natural Resources Department

SUBMIT 1 COPY TO APPROPRIATE DISTRICT OFFICE AND 1 COPY TO SANTA FE OFFICE

#### OIL CONSERVATION DIVISION

P.O. Box 2088 Santa Fe, New Mexico 87504-2088

# PIT REMEDIATION AND CLOSURE REPORT

Operator:	Amoco Production Company	<b>Telephone:</b> (505) - 326-9200				
Address:	200 Amoco Court, Farmington	n, New Mexico 87401				
Facility Or:	6 CU 169					
Location: Unit or Qtr/Qtr Sec I Sec 35 T29N R12W County SAN JUAN						
Pit Type: Sepa	rator Dehydrator C	other Blow				
Land Type: BI	M, State, Fee/	, Other UNIT AGMT,				
Pit Location: 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 50 feet (20 points) 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						
domestic water so	ction Area: eet from a private surce, or; less than l other water sources)	Yes (20 points) No (0 points)				
Distance To Su (Horizontal dista lakes, ponds, riv irrigation canals	ers, streams, creeks,	Less than 200 feet (20 points) 200 feet to 1000 feet (10 points) Greater than 1000 feet (0 points)				
		RANKING SCORE (TOTAL POINTS): 20				

Date Remediation St	arted:	Date Completed:	2-7-96
Remediation Method:	Excavation X	Approx. cubic yards	
(Check all appropriate sections)		Insitu Bioremediation	
,			
Remediation Location (ie. landfarmed onsite, name and location of offsite facility)		site	-
Excavation		1:	
Extavatio	01 20103	14 DDA (A. 114 A. 12 A.	
	HEKATE COMMIN	MATER - EXPOSE	10 Sun.
Ground Water Encoun	tered: No	Yes X Depth 6'	
Final Pit: Closure Sampling: (if multiple samples,	Sample location	see Attached Documents	
attach sample results and diagram of sample	Sample depth	6' - 6. W. MULTIPLE	2
locations and depths)		-7-26 FUML Sample time	
	Sample Results		
	Benzene(ppm)		
		om)	
	Field headspa	ce(ppm)	
	TPH		
Ground Water Sample		(If yes, attach sample re	esults)
I HEREBY CERTIFY TH.		ABOVE IS TRUE AND COMPLETE	TO THE BEST
DATE 4-9-96	PRINTED	NAME Buddy D. Sha E Environmental Co.	iu). ,
SIGNATURE / 2/ 5 L	VAW AND TITE	E Environmental Cor	rdinator

CLIENT: AMO CO BLAGG ENGINEER P.O. BOX 87, BLOOMFIE (505) 632-1	LD, NM 87413
FIELD REPORT: PIT CLOSUI	RE VERIFICATION 1/2
QUAD/UNIT: I SEC. 35 TWP: 29 N RNG. 12 W BM: NM	CNTY: ST ST: MM DATE FINISHED: 2-1-86
EXCAVATION APPROX. 80 FT. x 70 FT. x 8	AND THE STATE OF T
DISPOSAL FACILITY: ON - SITE FRANCIULTURAL LEASE: FR	REMEDIATION METHOD: CAM FARM
FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATEL DEPTH TO GROUNDWATER: 6' NEAREST WATER SOURCE: 710.  NMOCD RANKING SCORE: 20 NMOCD TPH CLOSURE STD: 100	NEAREST SURFACE WATER: 71000
SOIL AND EXCAVATION DESCRIPTION: PIT DISPOSITION:	ASAMONED
SCALE  O 20 MOFT  PIT PERIMETER  FIELD 418.1 CALCULAT  SAMPLE 1.D. LAB NO: WEIGHT (g) ml. FREON  OVM  RESULTS  A SAMPLE PELD HEAD  PO (PP	PIT PROFILE
PIT LAB SAMPLE SURPRICE SURPRICE TO TO  TO  WELL  TO  WELL	J6' V
TRAVEL NOTES: CALLOUT: 1-25-96 ONSITE	: 1-25-96 1700

HORT

CLIENT: AMOCO
FIELD REPORT: CLOSURE VERIFICATION PAGE NO: 2 of 2
QUAD/UNIT: I SEC:35 TWP:29N RNG: 12W PM: NM CNTY: ST ST:NM ENVIRONMENTAL NU  QTR/FORTAGE: CONTRACTOR: P. VELASQUEZ SPECIALIST:
EXCAVATION APPROX 70 FT x 80 FT x 9' FT. DEEP. CUBIC YARDAGE: 1950  DISPOSAL FACILITY: 9~-5/7E REMEDIATION METHOD: FORMATION: 0K
FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY FT FROM WELLHEAD.  DEPTH TO GROUNDWATER: <50 Nearest water source: >1000 Nearest surface water: >100
SUIL AND EXCAVATION DESCRIPTION:  — YPIT ABANDONED — STEEL TANK INSTALLED
FIELD 4181 CALCULATIONS  TIME SAMPLE I.D. LAB NO; WEIGHT (g) mL. FREON DILUTION READING CALC. ppm  SCALE  O FT  PIT PERIMETER N  RESULTS  THI  Zo' SAMPLE FIFTH HADSPACE PD (ppm)  THI  ZO' SAMPLE FIFTH HADSPACE PD (ppm)
BO IST IDEMPLES  SAMPLES  SAMP
TRAVEL NOTES: ONSITE:



#### **PURGEABLE AROMATICS**

#### Blagg Environmental, Inc.

Report Date:

Date Sampled:

Date Received:

Date Analyzed:

01/29/96

01/25/96

01/25/96

01/26/96

Project ID:

Amoco/GCU 169

Sample ID:

Pit Water

Lab ID:

2522 Water

Sample Matrix: Preservative:

Cool, HgCl₂

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

Ber State of the S	minimals to any or	
Intal RTEX		1 414
		A Company of the Comp
Control ( ) and the control of the c		The state of the s

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:

Lanca Carmon
Analyst

Duis Mb



#### **PURGEABLE AROMATICS**

#### Blagg Engineering, Inc.

Report Date:

Date Sampled:

Date Received:

Date Analyzed:

02/09/96

02/07/96

02/07/96

02/07/96

Project ID:

GCU 169 Blow Pit

Sample ID:

PW 2 @ GW (8')

-

Lab ID: Sample Matrix: 2598 Water

Preservative:

Cool, HgCl₂

Condition:

Intact

Farget Analyte	Concentration (ug/L)	Defection 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	

A CONTRACTOR OF THE PARTY OF TH	* * **********************************	.4.14.1
		and the first control of the property of the control of the contro
T-1-1-DTFF		420 24
Otal Blev		40.3
		The second secon
and the state of t		

ND - Analyte not detected at the stated detection limit.

**Quality Control:** 

Surrogate

Percent Recovery

Acceptance Limits

Trifluorotoluene

103

88 - 110%

Deine/h

Reference:

Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209,

Oct. 1984.

Comments:

anica aimon

Review



# **General Water Quality** Blagg Engineering, Inc.

Project ID:

GCU 169 Blow Pit

Date Reported: 02/09/96

Sample ID:

PW2 @ GW (8')

02/07/96

Laboratory ID:

2598

Date Sampled: 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.



#### **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, HgCl₂

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

	THE THE PERSON NAMED IN COLUMN 1		V. V	
Total BTEX	P0000000000000000000000000000000000000	ND.		₩.
	Nik II u			

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:

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Company Company Analytica Lab I.D.: PROJECT MANAGER Required Turnaround Time (Prior Authorization Required for Rush) Shipped Via: Proj. Name & Proj. #: 80303 PIT WATER Sample ID Project Information 1-25-96 6 1-25-96 0 NM 87401 • (505) 326-2395 1400 Received Cold. Received Intact Custody Seals: No. Containers: 1345 WATER Time Sample Receipt MITER Matrix ≼ 282 N NA Lab ID Received By Petroleum Hydrocarbons (418.1) Sampled By Gasoline / Diesel (mod. 8015) Gasoline (GRO) Aromatic HCs BTEX/MTBE (602 / 8020) ORGANIC ANALYSES Chlorinated Hydrocarbons (8010) SDWA Volatiles (502.1 / 503.1) Chlorinated Pesticides / PCBs (608 / 8080) Date Herbicides (615 / 8150) Volatiles GC/MS (624 / 8240 / 8260) Base / Neutral / Acid GC/MS (625 / 8270) Relinquished By: Received By: Polynuclear Aromatic Hydrocarbons (8100) TCLP Extraction Other (specify): Cation / Anion Specific Cations (specify): 1-25-96 WATER ANALYSES 1225 Specific Anions (specify): BOD / Fecal / Total Coliform Solids: TDS / TSS / SS Relinquished By: Received By Nutrients: NH4+ / NO2- / NO3- / TKN Oil and Grease Other (specify): **Priority Pollutants** RCRA Metals (Total) METALS RCRA Metals TCLP (1311) Other (specify): Please Fill Out Thoroughly. White/Yellow: Analytica Shaded areas for lab use only. COMMENTS Pink: Client

P. O. No.

CHAIN OF CUSTODY

Fax: Phone: Analytica Lab I.D.: PROJECT MANAGER P. O. No: Address: Company: Address Company: Required Turnaround Time (Prior Authorization Required for Rush) Shipped Via: Proj. Name: 8202 Proj. #: GCU auz C Gw Sample ID CARLTON • FARMINGTON, NM 87401 • (505) 326-2395 Project Information 169 2/1/96 0840 WATER Received Cold: Received Intact: Quetody Seals: Y No Containers: Sample Receipt Matrix 2 AROUE H LabiD Z Received By: Petroleum Hydrocarbons (418.1) Sampled By: BAGE Gasoline / Diesel (mod. 8015) Gasoline (GRO) Aromatic HCs BTEXMTBE (602 8020) ORGANIC ANALYSES Chlorinated Hydrocarbons (8010) SDWA Volatiles (502.1 / 503.1) Chlorinated Pesticides / PCBs (608 / 8080) 0840 Herbicides (615 / 8150) Volatiles GC/MS (624 / 8240 / 8260) Base / Neutral / Acid GC/MS (625 / 8270) Relinquished By: Received By: BLACC. Polynuciear Aromatic Hydrocarbons (8100) TCLP Extraction Other (specify): Cation / Anion Specific Cations (specify): 2/1/96 WATER ANALYSES 1130 Specific Anions (specify): BOD / Fecal / Total Coliform Solids: TDS / TSS / SS Received By: Relinquished Nutrients: NH4+ / NO2- / NO3- / TKN Qil and Grease Other (specify): Ву Priority Pollutants RCRA Metals (Total) RCRA Metals TCLP (1311) Time: Other (specify): ACESERY - Hych Please Fill Out Thoroughly. Sample MESERY White/Yellow: Analytica Pink: Client ANDON/CATION for lab use only COMMENTS Shaded areas

BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: 60303 C.O.C. NO: ANK-YTISA
FIELD REPORT: CLOSURE VERIFICATION	PAGE No: _/_ of _/_
QUAD/UNIT: I SEC:35 TWP:29N RNG/ZW PM:NM CNTY:57 STNM QUER/FOOTAGE: NELY SELY CONTRACTOR: P. VEWSQUEZ	DATE STARTED: 1-31-96 DATE FINISHED: ENVIRONMENTAL SPECIALIST:
EXCAVATION APPROX. 67 FT. x 35 FT. x 9 FT. DEEP. CUBIC DISPOSAL FACILITY: 60-517E REMEDIATION METHOLAND USE: 10-65 ACREAL. LEASE: FEE FOR	D: LANDFERMED
FIELD NOTES & REMARKS: PIT LUCATED APPROXIMATELY 150 FT. Note of the depth to groundwater < 501 nearest water source: >10001 nearest surface	
NMOCD RANKING SCORE: 30 NMOCD TPH CLOSURE STD: 100 PPM  SOIL AND EXCAVATION DESCRIPTION:	<u>CHECK ONE</u> : 'PIT ABANDONED STEEL TANK INSTALLED
TEPARATOR WIST SHOWS INTERVALS OF 4' OF LT. TO DK. GRAY DISC LIMITED DUE TO SURROUNDING SURFACE EQUIPMENT & NEARBY BURIED 10  2-00. TH 1: 4 2000 MS  FIELD 418.1 CALCULATIONS  TIME SAMPLE I.D. LAB No: WEIGHT (g) ML. FREON DISC SCALE	
TANK 4	PROFILE  ORGANIZER 4110  ORGANIZER  FIREWAY  GW 4110
TRAVEL NOTES: CALLOUT: 1-31-96 morn. ONSITE: 1-31-96 morn	1./2-7-96 magn

1-31



#### 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 Bromofluorobenzene	101 % 100 %	

References:

 ${\sf Method\ 5030,\ Purge-and-Trap,\ Test\ Methods\ for\ Evaluating\ Solid\ Waste,\ SW-846,\ USEPA,}$ 

July 1992.

Method 8020, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846,

USEPA, Sept. 1994.

Comments:

GCU 169 Separator Pit.

Analyst L. Capleser

Stacy W Sendler



#### **PURGEABLE AROMATICS**

#### Blagg Engineering, Inc.

Project ID:

GCU 169 Separator Pit

02/08/96

Report Date:

Date Sampled:

Date Received:

Date Analyzed:

Sample ID:

TH 1 @ GW (8')

Lab ID:

2557

01/31/96

Sample Matrix:

Water

02/01/96 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

The state of the s	1 X C C C C C C C C C C C C C C C C C C		CITE	1.11 4.	CAMPAGE
17,806	- Williams.	26 324 200 200 200 200 200 200 200 200 200 2	SSSS STATE OF THE PERSON S		- KKINDY
Tatal	BTEX	2, x2#6; xx: X334444	MA (	Z	
Old		1300 C	23.4		
	- June 1997	wateries	- Pett	-Elling - Australia	
	Total Control of the	The second second	ARM ARM		

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:

Janua Jaemon Analyst

Dune Pale



# 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.

Duro Policia

AN ALVITOA						
ANALYTICA			CHAIN OF CUSTO		415744.0	Page of
ENVIRONMENTAL LABORATORY 807 S. CARLTON • FARMINGTON, NM	P7404 - /E0E) 296 000E	ORGANIC ANALYS	ES WAT	ER ANALYSES	METALS	COMMENTS
PROJECT MANAGER: Analytica Lab I.D.:	8/401 • (505) 326-2395	8020) 8 / 8080)	(8100)	1 TKN		, ,
Company: Address:	BLAGG	ns (418.1) . 8015) . B015) TBE (602 / 80 ons (8010) / 503.1) / PCBs (608 /	al / Acid GC/MS (625 / 8270) Aromatic Hydrocarbons (8100) stion fy): ions (specify): ons (specify):	603		PRESARV
Phone: Fax:		Hydrocarbons (418.1) Diesel (mod. 8015) SRO) ICS BTEX/MTBE (602 d Hydrocarbons (8010 atiles (502.1/503.1) d Pesticides / PCBs (6015/8150) c(615/8150)	Acid GC/M matic Hyd n s (specify): (specify):	Colifo NO2-	otal)	
Bill To: Company: Address:	SAME AS ABOVE	eum ine / atic H inate inate inate es G	V Neutr uclear (speci (speci fic Cat fic Cat	BOD / Fecal / Total Solids: TDS / TSS Nutrients: NH4+ / Oil and Grease Other (specify):	Priority Pollutants RCRA Metals (Total) RCRA Metals TCLP Other (specify):	
Sample ID Date	Time Matrix Lab ID	Petro Gass Gass Chic Chic Chic Vola	Base Polyn TCLP Other Cation Speci	Solic Oil a	Prio Prio Othe	,
Wenzerows chlor	0820 WATER					SEP. PIT
10 Puze 60(8) 2/1/96 PW186W(8)						
Project Information	Sample Receipt	Sampled By:	Relinquished By:	Relinquished B	By:	and the same of th
Proj. #: GC4 169 - Proj. Name: SEP. PIT	No. Containers: Custody Seals: Y / N / NA	Melon Vely 2/1/96	111 0	1/96		Please Fill Out Thoroughly.
P. O. No:	Received Intact:	Company: Time:	Company: Tin		Time:	
Shipped Via:	Received Cold	BLAGG 0820	<del></del>	30		Shaded areas
Required Turnaround Time (Prior	Authorization Required for Rush		Received By:	Received By:		for lab use only.
		Signature Date:  Company: Time:	Signature Dai Company: Tin	Dunth	1777/16 Time:	White/Yellow: Analytica Pink; Client
				Housen	(A) 10.46	

CHAIN OF CUSTODY

WATER ANALYSES METALS COMMENTS

Company: Address: Phone: Address: Company: Analytica Lab I.D.: PROJECT MANAGER THICGOCO') +31-96 P. O. No: Proj. #: Required Turnaround Time (Prior Authorization Required for Rush) Shipped Via: Proj. Name C-Cu Sample ID CAHLTON • FARMINGTON, NM 87401 • (505) 326-2395 Project Information 80303 169 10.50 Apoeived Intact Custody Seals: Y No. Containers: Received Cold: Time Sample Receipt WATER Matrix JASON E . Z . N Received By Petroleum Hydrocarbons (418.1) Sampled By: BURGE Gasoline / Diesel (mod. 8015) Gasoline (GRO) Aromatic HCs TEXMTBE (602 (8020) ORGANIC ANALYSES Chlorinated Hydrocarbons (8010) SDWA Volatiles (502.1 / 503.1) Chlorinated Pesticides / PCBs (608 / 8080) Time Herbicides (615 / 8150) Volatiles GC/MS (624 / 8240 / 8260) Base / Neutral / Acid GC/MS (625 / 8270) Relinquished By: Received By: Polynuclear Aromatic Hydrocarbons (8100) TCLP Extraction Other (specify): Cation / Anion Specific Cations (specify): 2-1-96 0900 Specific Anions (specify): BOD / Fecal / Total Coliform Solids: TDS / TSS / SS Relinquished Received By Nutrients: NH4+ / NO2- / NO3- / TKN Oil and Grease Other (specify): В Priority Pollutants RCRA Metals (Total) **RCRA Metals TCLP (1311)** Time Other (specify): SEPARATOR Please Fill Out Thoroughly. White/Yellow: Analytica COOL 4 for lab use only Shaded areas Pink: Client PIT

### **CHAIN OF CUSTODY RECORD**

Client/Project Name		Project Location	SEP. PIT				F7500	
BAGG / Amoc	0	Gen 169	1			ANALYSIS/PARAM	ETERS	
Sampler: (Signature)		Chain of Custody Tape N	No.				Rem	arks
Sampler: (Signature)				No. of Containers	30			
Sample No./ Samp Identification Date		Lab Number	Sample Matrix	No	8020)			
PW1 @ GW (8') 2-7-	96 0820	9987	WATER	2	<b>✓</b>		PRESERU 1	4gClz+ coul
								ATT 37 ATT 37 HING
Relinquished by: (Signature)	)			Received by:	gnature)	L. afin	D4	Time
Relinquished by: (Signature)			196 1108	Received by: (S	Gignature)	a. Copie	2/7	196 1108
Relinquished by: (Signature)		,	F	Received by: (5	Signature)			
				J				

# ENVIROTECH INC.

5796 U.S. Highway 64-3014 Farmington, New Mexico 87401 (505) 632-0615

san juan repre Form 578-81

VUL

District | P.O. Sex 1988, Hebbs, NM State of New Mexico
Energy, Minerals and Natural Resources Department

SUBMIT I COPY TO
APPROPRIATE
DISTRICT OPPICE
AND I COPY TO

SANTA PE OFFICE

District []

1000 Rin Straw Rd., Amer., KM

OIL CONSERVATION DIVISION P.O. BOX 2088 SANTA FE, NEW MEXICO 87504-2088

# PIT REMEDIATION AND CLOSURE REPORT

Operator: BP AMERICA PRODUCTION CO. Telephone: (505) 326-9200							
Address: 200 ENERGY	COURT, FARMINGTO	N. NM 87401					
Facility or Well Name:	ncu #169						
P. Control of the con	ec <u>T</u> Sec <u>35</u>	TAGN RIDW Count	v San Juan				
	Dehydrator Other						
Land Type: BLM,	State, Fee, Oth	ier					
Pit Location:	Pit dimensions: length	NA , width NA	, depth NA				
(Attach diagram)	Reference: wellhead X	_, other					
л.	Footage from reference: _	177'					
		20 Degrees	East North				
			West South				
Depth To Groundwater: (Vertical distance from		Less than 50 feet 50 feet to 99 feet	(20 points) (10 points)				
bigh water elevation of		Greater than 100 feet	( 0 points)				
groundwater)							
Wellhead Protection Area: (Less than 200 feet from a private		Yes No	(20 points) (0 points) 0				
domestic water source, or; less than		140	( o points)				
1000 feet from all other water sources)							
Distance To Surface Water	9	Less than 100 feet	(20 points) (10 points) 10 KAG				
(Horizontal distance to perennial lakes, ponds, rivers, streams, creeks,		100 feet to 1000 feet Greater than 1000 feet	(10 points) 10 10 10 10 10 10 10 10 10 10 10 10 10				
irrigation canals and ditches)							
		RANKING SCORE (TOT	AL POINTS):				
revised: 09/11/02			bel1202.wpd				

Date Remediation Star	rted:	Date Completed:	2-13-03			
Remediation Method:	Excavation X	Approx. cubic yards	NA			
(Check all appropriate sections)	Landfarmed	Insitu Bioremediation				
	Other CLOSE AS IS	710				
Remediation Location: (i.e. landfarmed oasite, name and location of offsite facility)	Onsite X Offsite		<b>31</b> ∪			
	f Remedial Action: Excavation					
Groundwar	ter impact. mw	REQUIRED FOLLOWING	BP'S GROUNDWATER			
MANAGEMENT	- PLAN. STEEL TAN	K REPLACED WI DOUBLE	WALL STEEL TANK.			
	0.15					
Groundwater Encount	rered: No X Yes X	Depth 9'				
	The same and the same specific and the same					
Final Pit Closure Sampling:	Sample location <u>see Attached D</u>	ocuments				
(if multiple samples, attach sample results	Sample depth 7.5'-8'	- (Tast hala bottom) //	LATTER SAMPLE & 9			
and diagram of sample locations and depths)	Sample date 5012 → 2/10 + 2/					
	Sample Results	Soil	WATER			
	Soil: Benzene (ppm	Water: Benzene	e (ppb) 4.8			
		) Toluene				
	Field Headspace (ppm		enzene (ppb) 310			
	TPH (ppm		ylenes (ppb) 2,920			
Groundwater Sample		AU				
Groundwater Sample: Yes 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 2-13-03 PRINTED NAME Jeffrey C. Blagg						
SIGNATURE THE C 369GAND TITLE President P.E. # 11607						
revised: 03/27/02	0 '/		bei1202 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:

The state of the s	The state of the s
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

Denny Foust, Environmental Geologist, NMOCD, Aztec, NM

Brittany Benko, Environmental Coordinator, BP America Production Company, Farmington, NM

NV/nv

CC:

GCU169-2.LTR

	The state of the s					
n P			NEERING	•	LOCATION NO	D: B0303
CLIENT: BP		(87, BLO (505) 632		), NM 8741	COCR NO:	12154
F ELD REPORT						
LOCATION: NAME: GC			169 TYPE		DATE STARTED:	
QUAD/UNIT: I SEC. 35	,				DATE FINISHED:	
QTR/FOOTAGE: 23605	The second secon	The second secon			SPECIALIST:	NV
EXCAVATION APPROX					1	
7 /					): _BP's	
LAND USE: KANGE A		-				DK
FIELD NOTES & REMAR	/					
DEPTH TO GROUNDWATER: 45					FACE WATER: _ <	1000
NMOCD RANKING SCORE: 3	NMOCD TPH	CLOSURE STD:	/00 PF			
SOIL AND EXCAVATION	ON DESCRIPT	TION:			AD = 50.8 ppn $AD = 100$ ppn	
		4.11			am/m DATE:	,
SOIL TYPE: SAND/ SILTY SAI						
SOIL COLOR: OK. YELL.  COHESION (ALL OTHERS): NON C				COHESIVE		
CONSISTENCY (NON COHESIVE SO	OILS): 4.00SEAFIRM	D DENSE / VERY	DENSE			
PLASTICITY (CLAYO): NON PLASTI DENSITY (COHESIVE CLAYS & SILT				HIGHLY PLASTIC		
MOISTURE: DRY / SLIGHTLY MOIS	T MOIST WET ISAT	TURATEDY SUPE	R SATURATED		1	
DISCOLORATION/STAINING OBSER HC ODOR DETECTED (155) NO E	VED: YES NO EXP	PLANATION - BE	ACK-2-4	ABOVE LT. GR	roy / ET. GRAY .	3/12 GW_
SAMPLE TYPE: GRAB COMPOSITE	E-#OF PTS					* · · · · · · · · · · · · · · · · · · ·
ADDITIONAL COMMENTS: CREATER ML	3 KEPLACINET		ok with Do	VBRE MART 21	refltank.	
IMPACT	O /CEONING.					
SCALE SAME TO			ELD 418.1 CALC			
SCALE SAMP. TR	ME SAMP. ID	LAB NO.	WEIGHT (g)	mL FREON DI	ILUTION READING	CALC. (ppm)
0 FT						
PIT PERIMET	TER N		<u> </u>	TESTHOLE	PROFIL	E
11111111111			NVM			
1	pw1	REA SAMPLE	DING FIELD HEADSPACE	·		
FENCE	SAMPLE PT.	10 1 @ 7.5-8	(ppm) / Time 380   1552			
16	1 /	2 @	500 1 1000		6 8.6.	
18	+	3 @ 4 @	\-		T Bettom	
T.H 1 - 1 - 1 - 1 - 1	FORMER	5@		- Z"-4" BLACK &	1 1 11.5	<b>3</b> 4.
7.H. 3 0. ~3 8.T.B.	TANK TANK			U.GRAY &	5,1	INTEKNACE.
	-2.20				لاللا	
PAN OFFICE AND	8.6.					
	TO.	LAB S	AMPLES			
, 10	PROD.	SAMPLE AN	NALYSIS TIME			
WEAD WELL	TANK	PW1 (6/X4) 6	7EX(80218) 0845	2/11/63		
, .		XYENES	- FAILED			
P.D. = PIT DEPRESSION; B.G. = BELOW T.H. = TEST HOLE; ~ = APPROX.; T.B. =						
TRAVEL NOTES: CALLOUT:	11	AFTER.	ONSITE: 2	10/03 - AFTE	R. 2/11/03-0	mo/2 N)
	-110100	7(, , , , ,	ONOTIE.	- / - / - /	7	10/4/5

612 E. Murray Drive Farmington, NM 87401

Off: (505) 327-1072

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P.O. Box 2606 Farmington, NM 87499

Fax: (505) 327-1496

Date: 18-Feb-03

CLIENT:

Blagg Engineering

Work Order:

0302007

Project:

BP - GCU #169 Separator Pit (II)

Lab ID:

0302007-001A

Client Sample Info: BP - GCU #169 Separator Pit II

Client Sample ID: PW1 @ GW (9ft)

Collection Date: 2/11/2003 8:45:00 AM

Matrix: AQUEOUS

Parameter	Result	PQL Qua	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B			Analyst: <b>JEM</b>
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

9 - 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

Page 1 of 1



# CHA N OF CUSTODY RECORD

Date: _____2 ///03_____

Page: _____ of ____

612 E. Murray Dr. • P.O. Box 2606 • Farmington, NM 87499 LAB: (505) 325-5667 • FAX: (505) 327-1496

Purchase Order No.: Project No.			0	Name News Vicez Company TAME						-	Title							
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	Address					REPORT RESULTS TO	City,	State, Z	Zip									
=	City, State, Zip					- E	Telephone No. 182 - 1199 Telefax No. 652 - 1199 835										9 8935	
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