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

Susana Martinez

Governor

Ken McQueen Cabinet Secretary Heather Riley, Division Director Oil Conservation Division



Matthias Sayer Deputy Cabinet Secretary

November 28, 2018

Steven Moskal BPX Energy Field Environmental Coordinator 1199 Main Ave, Suite 101 Durango, CO 81301

Reference

GCU 145 30-045-07909

BP's Request for Closure August 13, 2018

Mr. Moskal:

OCD has reviewed the files on the release referenced above. The available information shows BP's remediation efforts have removed impacts from the groundwater and met the monitoring requirements.

The available information indicates BP has met the requirements of 19.15.29-30 NMAC. No further corrective action is required. This referenced project is closed.

This finding by the OCD does not relieve BP of responsibility if future information shows a threat to ground water, surface water, human health, or the environment. Further, it does not relieve BP of responsibility for compliance with any federal, state, or local law.

Please properly plug remaining monitoring wells per requirements of the New Mexico Office of the State Engineer.

Thank you,

Vanessa Fields

Environmental Specialist 505-334-6178 ext. 119

P.O. Box 87, Bloomfield, New Mexico 87413 Phone: (505)632-1199 Fax: (505)632-3903

August 10, 2018

Mr. Steve Moskal BP America Production Company 380 Airport Road Durango, Colorado

Re: Transmittal of Closure Documentation

GCU 145

(A) Sec 26 - T29N - R12W

API: 30-045-07909

San Juan County, New Mexico

Dear Mr. Moskal:



At your request, Blagg Engineering, Inc. (BEI) has prepared documentation for closure of remedial activities at the BP operated GCU 145. This site is located on private property approximately 5 miles west of Bloomfield, New Mexico (Figures 1 and 2). Hydrocarbon impacts to groundwater were discovered during closure of a 95 barrel BGT on July 22, 2013. Initial assessment of the impacts indicated that they were limited in size. A groundwater monitor well was installed at the BGT location on February 12, 2014. Analytical test results from the initial well sampling indicated that impacts were limited to trace concentrations of benzene only and that natural attenuation would likely be effective at source mitigation.

The GCU 145 well pad was associated with a prior groundwater impact first discovered in 1994. That impact was subsequently remediated via excavation. Groundwater monitoring on five (5) wells installed in 2006 confirmed that groundwater impacts had been remediated. The site was assigned a 3RP-16 remediation file by the New Mexico Oil Conservation Division (NMOCD). Closure of that file was granted by NMOCD on February 24, 2017.

Quarterly groundwater sampling on MW-6 has confirmed that natural attenuation was effective at mitigation of the trace impacts. After six (6) of the first quarterly sample events with benzene testing slightly above closure standards, the following eight (8) quarterly events tested all BTEX constituents at below regulatory closure limits.

On May 15, 2018 two (2) down-gradient monitor wells were installed to confirm that impacts from the prior 95 BGT had not migrated from the source area. The wells were sampled on June 18, 2018. Laboratory analytical test results from those wells confirm that no residual groundwater impacts are present.

Blagg Engineering, Inc. is of the opinion that no further action is necessary to investigate or remediate the minor groundwater impact associated with the 95 BGT at the GCU 145. Site closure Attached to this transmittal is the supporting documentation for this recommendation, including boring logs, sampling notes and laboratory analytical reports.

Questions or comments with respect to this transmittal may be directed to myself at (505)320-1183. BEI appreciates the opportunity to provide services to BP.

Respectfully,

Blagg Engineering, Inc.

Jeffrey C Blagg, PE Digitally signed by Jeffrey C Blagg, PE DN: cn=Jeffrey C Blagg, PE, o, ou, email=jeffcblagg@aol.com, c=US Date: 2018.08.13 06:23:09 -06'00'

Jeffrey C. Blagg, P.E. President

Attachment: Closure Documentation

# BP America GCU 145

(A) Sec 26 – T29N – R12W San Juan County, New Mexico API: 30-045-07909

#### Summary Record of Impact Remediation

<u>July 22, 2013</u> Shallow groundwater encountered during closure of a 95 barrel BGT. No visual evidence or odor associated with the groundwater or soils at the BGT location. Soil sidewalls (at 3' depth) and groundwater (at 4'-5' depth) sampled for laboratory analysis. (Figure 1: Site Location Map Figure 2: Site Map)

<u>July 23, 2013</u> Initial receipt of rush laboratory results. Soil tested at non-detect for hydrocarbons. Groundwater tested at 72 ug/L for benzene. Other BTEX constituents tested below closure standards.

Site closure standard determined at 100 ppm TPH based on:

Depth to Groundwater < 10 feet (20 points)

Site location shown on Figure 1.

Note that the GCU 145 was a prior groundwater impact site, NMOCD 3RP-16. That impact had been remediated via excavation. Five (5) groundwater monitor wells were installed to confirm closure, which was granted by NMOCD on February 24, 2017. Historical measurements and sampling on the 3RP-16 monitor wells determined a uniform groundwater gradient to the southeast at the site. The monitor wells had been taken out of service prior to the discovery of impacts at the 95 BGT in July 2013 and could no longer be sampled or measured.

Febuary 12, 2014 Install monitor well (MW-6) at failed BGT location (Figure 2)

March 19, 2014 Initial sample event on MW-6. Failed on benzene only at 39 ug/L. Initiate quarterly sampling on MW-6.

<u>June 27, 2014 – May 28, 2015</u> Quarterly sample events on MW-6, generally testing low concentrations of benzene at levels slightly above closure standards. Other BTEX constituents test below regulatory limits.

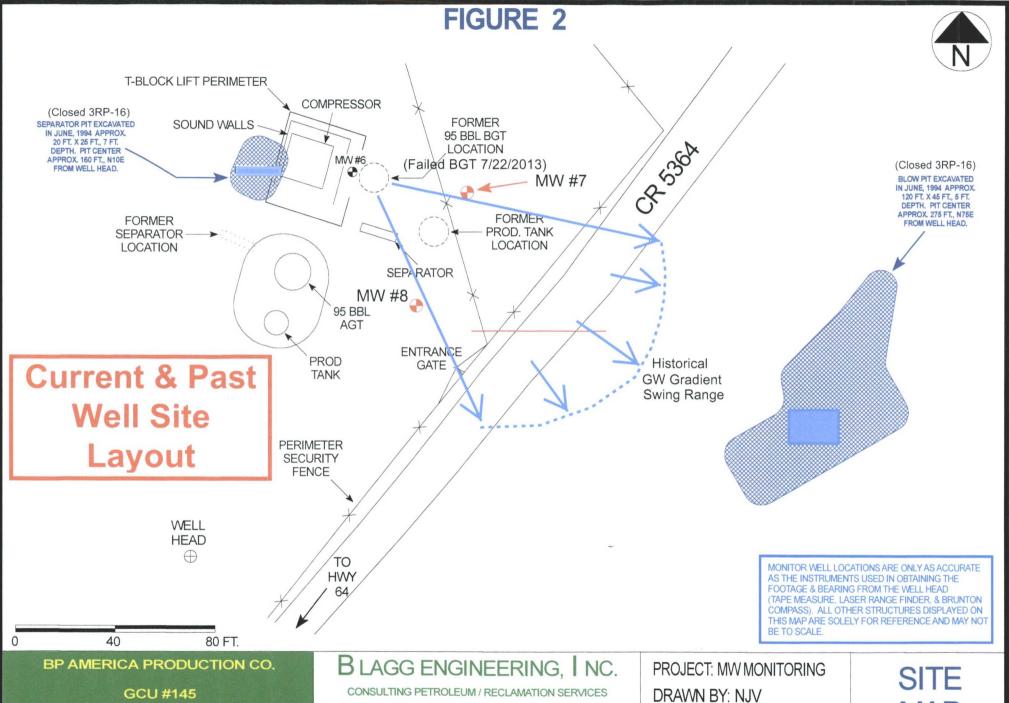
<u>August 26, 2015 – May 26, 2017</u> Achieve 8 consecutive quarterly groundwater sample events on MW-6 with all BTEX constituents testing below regulatory limits.

May 15, 2018 Install monitor wells MW-7 and MW-8 at down-gradient locations from MW-6 to provide evidence that impacts were not present. No evidence of soil impacts during well drilling.

June 15, 2018 Develop monitor wells MW-7 and MW-8.

<u>June 18, 2018</u> Sample event on monitor wells MW-7 and MW-8. Laboratory analytical test results determine groundwater tests below regulatory standards for site closure on both down-gradient wells.

## Figures



NE/4 NE/4 SEC. 26, T29N, R12W

SAN JUAN COUNTY, NEW MEXICO

P.O. BOX 87 BLOOMFIELD, NEW MEXICO 87413

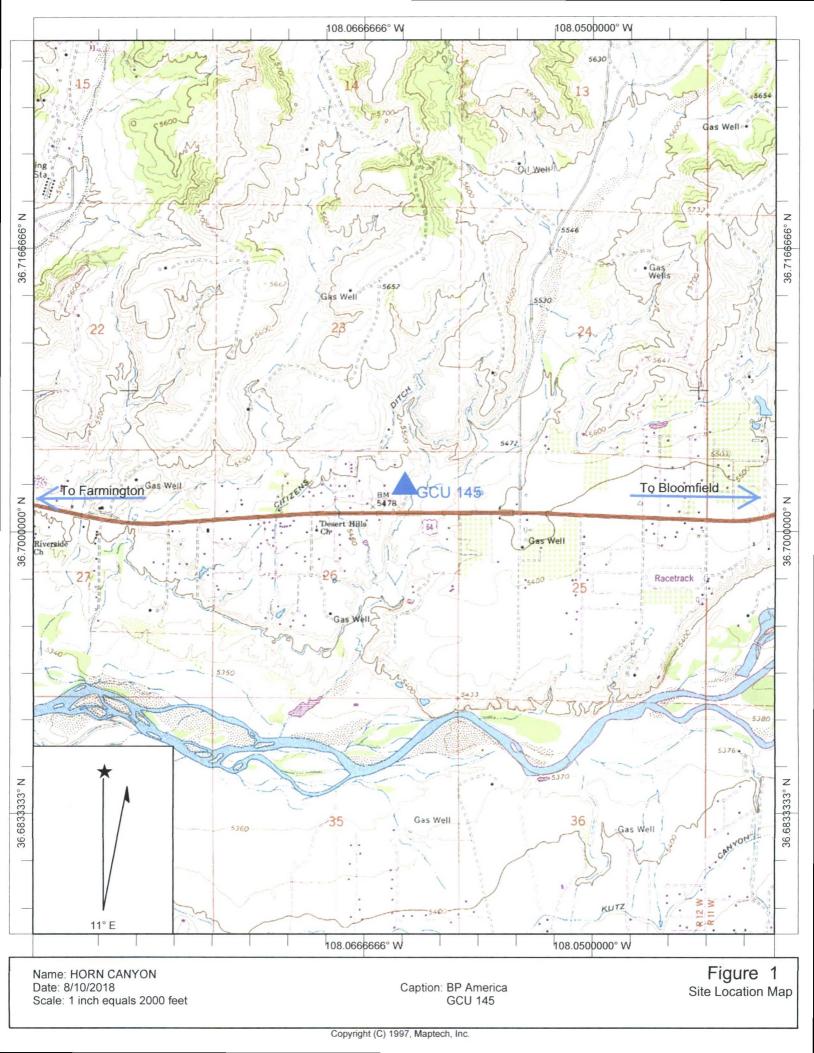
PHONE: (505) 632-1199

FILENAME: GCU 145-SM2.SKF

REVISED: 07-10-16 NJV

MAP

07/16



## Analytical Data Summary Spreadsheet

#### BP AMERICA PRODUCTION COMPANY

GROUNDWATER FIELD DATA & LAB BTEX RESULTS

GCU # 145 - 95 BGT UNIT A, SEC. 26, T29N, R12W Revised Date: August 10, 2018 Submitted by Blagg Engineering, Inc.

								BTEX US	S EPA METH	HOD 8021B	or 8260B
SAMPLE	WELL NAME	DEPTH TO	WELL	TDS	CONDUCT.	рН	FREE PHASE	BENZENE	TOLUENE	ETHYL	TOTAL
DATE	/ NUMBER /	WATER	DEPTH				PRODUCT			BENZENE	XYLENES
	SAMPLE ID	(ft)	(ft)	(mg/L)	(umhos)		(ft)	(ppb)	(ppb)	(ppb)	(ppb)
07/22/13	95 BGT GW @ 5'							72	ND	67	110
03/19/14	MW #6	10.06	17.66	926	1,200	7.28		39	ND	92	620
06/27/14		6.59			900	7.22		15	ND	62	240
08/26/14		6.09			700	7.33		18	1.4	70	540
12/01/14		7.72			700	7.49		7.6	ND	11	55
02/24/15		9.64			1,000	7.16		19	1.0	19	65
05/28/15		9.49			1,300	7.15		28	1.0	59	350
08/26/15		6.83			800	7.13		5.0	ND	9.1	30
12/09/15		7.01			900	7.31		4.1	ND	7.4	22
02/23/16		8.67			1,200	6.90		3.8	ND	4.2	9.1
06/22/16		7.75			1,200	7.14		1.5	ND	2.0	5.0
08/22/16		6.28			1,200	7.07		2.2	ND	6.0	24
12/16/16		7.48			800	6.96		ND	ND	2.5	6.5
03/14/17		9.07			1,200	7.24		ND	ND	1.8	8.7
05/26/17		8.25			1,400	6.99		1.2	ND	9.4	12
06/18/18	MW #7	5.22	14.00		1,100	6.94		ND	ND	ND	ND
06/18/18	MW #8	6.99	15.00		1,000	7.05		2.4	ND	ND	3.2
							Ti Ti				

SAMPLE DATE	WELL NAME /NUMBER	Fluoride (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Nitrate-N (mg/L)	TDS (mg/L)
03/19/14	MW #6	1.6	14	300	ND	926
06/18/18	MW #7	1.1	21	530	ND	1,170
06/18/18	MW #8	1.1	19	390	ND	868
CROUNDW	ATED STANDARDS	1.60	250	000	40	4.000

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).

750 750

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

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

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

☐ Initial Report ☐ Final Report

Form C-141

Revised August 8, 2011

## Release Notification and Corrective Action OPERATOR

Name of Company: BP	Contact: Steve Moskal							
Address: 380 Airport Road, Durango, CO 81303	Telephone No.: 505-330-9179							
Facility Name: Gallegos Canyon Unit No. 145	Facility Type: Natural gas well							
Surface Owner: Fee Mineral Owner	r: Fee API No. 30-045-07909							
LOCATIO	ON OF RELEASE							
Unit Letter   Section   Township   Range   Feet from the   Nor	th/South Line   Feet from the   East/West Line   County: San Juan							
A 26 29N 12W 842 Nor								
<b>Latitude</b> 36.70243°	Longitude108.06371°							
	E OF RELEASE							
Type of Release: Hydrocarbon – Unknown – hydrocarbons	Volume of Release: unknown Volume Recovered: none							
Source of Release: Flowline	Date and Hour of Occurrence: Date and Hour of Discovery: July 29, 2013							
Was Immediate Notice Given?	If YES, To Whom?							
☐ Yes ☐ No ☐ Not Require	d Brandon Powell - NMOCD							
By Whom? Courtney Cochran – BP	Date and Hour:7/29/2013							
Was a Watercourse Reached?  ☐ Yes ☑ No  ☐ If YES, Volume Impacting the Watercourse.								
If a Watercourse was Impacted, Describe Fully.*								
Describe Cause of Problem and Remedial Action Taken.*								
During the closure of 95 bbl BGT groundwater was encountered at	3-5 feet below grade. No visual impacts were noted to either soil sidewall or							
	ion. Laboratory analysis revealed impacted groundwater with a Benzene level of							
72 ppb. Soil sidewall sample came back non-detect. Continued grestandards. An additional 2 groundwater monitoring wells we installed	oundwater monitoring determined contaminants of concern below water quality							
Standards. An additional 2 groundwater monitoring wens we instance	as migration to commit no residual impacts.							
Describe Area Affected and Cleanup Action Taken.*								
Following discovery of impacts associated with a BGT closure sampling	g, further groundwater delineation and monitoring were performed. Once levels for lineation was performed. Attached are the results of downgradient groundwater							
	taminants of concern downgradient of the original source. Based on the attached							
report and laboratory results, BP requests closure of this site with no fur								
The beautiful that the information gives above in two and complete to	the heat of my linearised as and understand that many entite NIMOCD miles and							
regulations all operators are required to report and/or file certain release	to the best of my knowledge and understand that pursuant to NMOCD rules and enotifications and perform corrective actions for releases which may endanger							
	the NMOCD marked as "Final Report" does not relieve the operator of liability							
	ate contamination that pose a threat to ground water, surface water, human health							
or the environment. In addition, NMOCD acceptance of a C-141 report federal, state, or local laws and/or regulations.	does not relieve the operator of responsibility for compliance with any other							
redetal, state, or local laws and/or regulations.	OIL CONSERVATION DIVISION							
Signature: Man May	SIB CONCERN THE PROPERTY.							
Signature: Status (Muse)								
Printed Name: Steve Moskal	Approved by Environmental Specialist:							
Title: Field Environmental Coordinator	Approval Date:     25     Expiration Date:							
E-mail Address: steven.moskal@bp.com	Conditions of Approval:  Attached							
Date: August 12, 2018 Phone: 505-330-9179								

\* Attach Additional Sheets If Necessary

N 5 W 3 2 2 8 4 0 6 3 3

# Monitor Well Logs

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

MW #6

BORE / TEST HOLE REPORT

 BORING #.....
 BH-6

 MW #.....
 6

 PAGE #.....
 6

 DATE STARTED
 2/12/14

LOCATION NAME: CONTRACTOR: EQUIPMENT USED:

CLIENT:

BP AMERICA PRODUCTION CO.

GCU #145 - SEPARATOR PIT UNIT A, SEC. 26, T29N, R12W

BLAGG ENGINEERING, INC. / ENVIROTECH, INC.

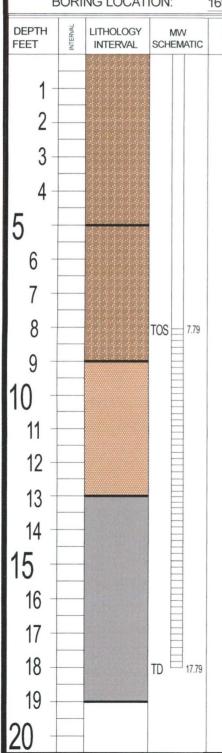
MOBILE DRILL RIG (CME 75)

DATE FINISHED 2/12/14
OPERATOR KP

BORING LOCATION:

169 FT., N22E FROM WELL HEAD.

OPERATOR...... KP
PREPARED BY NJV



#### FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROXIMATELY AT GRADE.

DARK YELLOWISH BROWN ROAD BASE AGGREGATE WITH SMALL TO LARGE RIVER GRAVEL, NON COHESIVE, FIRM, DRY TO SLIGHTLY MOIST, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY FROM AUGER CUTTINGS (0.0 - 5.0 FT. BELOW GRADE).

DARK YELLOWISH BROWN SAND WITH GRAVEL, NON COHESIVE, FIRM, SLIGHTLY MOIST TO WET, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY FROM AUGER CUTTINGS (5.0 - 9.0 FT. BELOW GRADE).

SAME AS ABOVE EXCEPT MONDERATE BROWN, SATURATED, NO APPARENT HYDROCARBON ODOR DETECTED WITHIN AUGER CUTTINGS (9.0 - 13.0 FT. BELOW GRADE).

SAME AS ABOVE EXCEPT DARK GRAY, SATURATED, STRONG APPARENT HYDROCARBON ODOR WITHIN AUGER CUTTINGS (13.0 - 19.0 FT. BELOW GRADE).

NOTE:

- ROAD BASE AGGREGATE AND/OR SAND AND GRAVEL.
- SAND.

TOS - TOP OF SCREEN FROM GROUND SURFACE.

TD - TOTAL DEPTH OF MONITOR WELL FROM GROUND SURFACE.

Monitor well consist of 2 inch PVC piping - casing from grade to 7.79 feet below grade, 0.010 slotted screen between 7.79 to 17.79 feet below grade, sanded annular to 5.00 feet below grade, bentonite chips from 3.00 to 5.00 feet below grade, concreted flush mount well cover at surface, secured with locking cap & padlock.

DRAWING: GCU 145-MW6.SKF

DATE: 02/12/14

DWN BY: NJV

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

UNIT G. SEC. 25, T29N, R12W

MW # 7

BORE/TEST HOLE REPORT

CLIENT:

LOCATION NAME:

CONTRACTOR: EQUIPMENT USED: BP AMERICA PRODUCTION CO.

GCU # 145 API #: 3004507909
BLAGG ENGINEERING, INC. / GEOMAT

MOBILE DRILL RIG (CME 55) - HOLLOW STEM AUGER

BORING LOCATION: APPROX. 186 FEET, N37.5E FROM WELL HEAD.

 BORING #......
 BH - 7

 MW #.....
 7

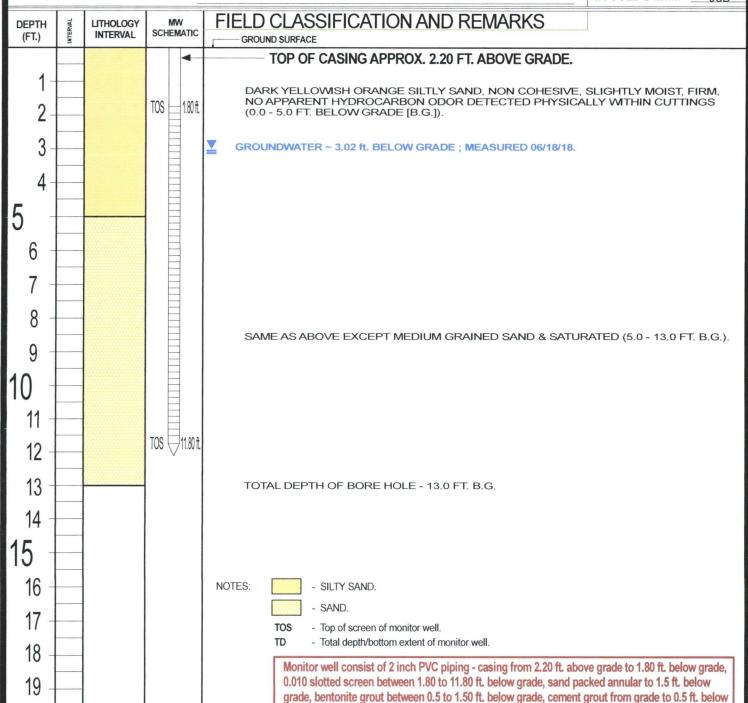
 PAGE #.....
 7

 DATE STARTED
 05/15/18

 DATE FINISHED
 05/15/18

 OPERATOR......
 KP

 LOGGED BY......
 JCB



grade. Well protector encompassing above grade casing and secured with padlock

DRAWING: GCU 145-MW7, SKF DATE: 08/08/18 DWN BY: NJV

P.O. BOX 87 BLOOMFIELD, NM 87413

MW#8

DRAWING: GCU 145-MW8, SKF DATE: 08/08/18 DWN BY: NJV

(505) 632-1199

#### BORE / TEST HOLE REPORT BORING #..... \_\_ BH - 8 MW#..... PAGE #..... BP AMERICA PRODUCTION CO. CLIENT: DATE STARTED 05/15/18 GCU # 145 API#: 3004507909 UNIT G, SEC. 25, T29N, R12W LOCATION NAME: DATE FINISHED CONTRACTOR: BLAGG ENGINEERING, INC. / GEOMAT 05/15/18 MOBILE DRILL RIG (CME 55) - HOLLOW STEM AUGER **EQUIPMENT USED:** OPERATOR..... KP **BORING LOCATION:** APPROX. 137 FEET, N42E FROM WELL HEAD. LOGGED BY..... **JCB** FIELD CLASSIFICATION AND REMARKS LITHOLOGY **DEPTH** SCHEMATIC INTERVAL (FT.) GROUND SURFACE TOP OF CASING APPROX. 2.20 FT. ABOVE GRADE. DARK YELLOWISH ORANGE SILTLY SAND WITH IMPORTED ROUNDED COBBLES. NON COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 4.0 FT. BELOW GRADE [B.G.]). TOS 4 GROUNDWATER ~ 4.79 ft. BELOW GRADE; MEASURED 06/18/18. 5 SAME AS ABOVE EXCEPT SILTY SAND ONLY & SATURATED (4.0 - 7.0 FT. B.G.). 6 10 SAME AS ABOVE EXCEPT MEDIUM GRAINED SAND (7.0 - 14.0 FT. B.G.). TOS -12.80 ft 13 14 TOTAL DEPTH OF BORE HOLE - 14.0 FT. B.G. NOTES: - SILTY SAND & GRAVEL MIX. 16 - SILTY SAND. - SAND. TOS - Top of screen of monitor well. TD - Total depth/bottom extent of monitor well. 18 Monitor well consist of 2 inch PVC piping - casing from 2.20 ft. above grade to 2.80 ft. below grade, 0.010 slotted screen between 2.80 to 12.80 ft. below grade, sand packed annular to 1.5 ft. below grade, bentonite grout between 0.5 to 1.50 ft. below grade, cement grout from grade to 0.5 ft. below grade. Well protector encompassing above grade casing and secured with padlock.

## Laboratory Analytical Data Reports

and

Field Monitor Well Sampling Notes

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

CLIENT:	CLIENT: BP AMERICA PROD. CO. CHAIN-OF-CUSTODY#: N/A									
GCU # 145	50 00 T00N	DAOM			LABORATOR	RY(S) USED	:	HALL ENVIR	RONMENTAL	
UNIT A, S	EC. 26, T29N	, R12VV								
Date :	March 19,	2014				EVELOPER	/ SAMPLER :	N.	JV	
Filename:	GCU 145 m	w log 03-19-	14.xls			PROJECT	MANAGER:	N.	JV	
Campula	WELL	WATER	DEPTH TO	TOTAL	SAMPLING	ml I	CONDUCT	TEMP.	VOLUME	
Sample ID	ELEV.	ELEV.	WATER	DEPTH	TIME	рН	(umhos)	(celcius)	PURGED	
	(ft)	(ft)	(ft)	(ft)	THVIC		(4111103)	(ccicius)	(gal.)	
									10 /	
MW #6	-	-	10.06	17.66	1430	7.28	1,200	11.3	3.75	
			INSTRU		BRATIONS =	4.01/7.00/10.00	2,800			
				DAT	E & TIME =	03/18/14	0615			
NOTES:	Volume of	water nurge	d from well	prior to a	ompling: \/ =	ni V r2 V h	V 7 40 gal /ft	2) V 2 (wallb	oroo)	
NOTES.	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.)									
	(	()		(	(=, 1=) 1.	,				
	Ideally a m	inimum of t	hree (3) we	llbore volur	mes:	2.00 " well	diameter =	0.49 gal. / f	t. of water.	
Comments	or note wel	i diameter i	t not standa	<u>ra 2".</u>						
Installad on	0/40/2044 D-		nd 50 mallana		2/47/2044 /		la alcia anna a		A\	
					on 2/17/2014 (				nt)	
					I using 2 inch s					
				- Company of the Comp	near sampling	end of tubing	. Collected s	amples for		
BTEX per U	S EPA Method	8021B & gene	eral chemistry	parameters.						
Top of casin	g: <b>MW</b> #6 ~ 0.1	13 ft. below gra	ade.							

on-site	1:45 PM	_temp.	49 F
off-site	2:45 PM	_temp.	49 F
sky cond.		Mostly sunr	ту
wind speed	calm	direct.	NA

#### **Analytical Report**

#### Lab Order 1403864

Date Reported: 3/28/2014

#### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: MW #6

Project: GCU #145

Collection Date: 3/19/2014 2:30:00 PM

**Lab ID:** 1403864-001

Matrix: AQUEOUS

Received Date: 3/20/2014 10:00:00 AM

Analyses	Result	RL Q	ual Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	39	5.0	μg/L	5	3/21/2014 3:10:16 PM	R17507
Toluene	ND	5.0	μg/L	5	3/21/2014 3:10:16 PM	R17507
Ethylbenzene	92	5.0	μg/L	5	3/21/2014 3:10:16 PM	R17507
Xylenes, Total	620	10	μg/L	5	3/21/2014 3:10:16 PM	R17507
Surr: 4-Bromofluorobenzene	109	82.9-139	%REC	5	3/21/2014 3:10:16 PM	R17507
EPA METHOD 300.0: ANIONS					Analyst	JRR
Fluoride	1.6	0.10	mg/L	1	3/21/2014 1:29:20 AM	R17478
Chloride	14	0.50	mg/L	1	3/21/2014 1:29:20 AM	R17478
Nitrogen, Nitrate (As N)	ND	0.10	mg/L	1	3/21/2014 1:29:20 AM	R17478
Sulfate	300	10	mg/L	20	3/21/2014 1:41:45 AM	R17478
EPA METHOD 6010B: DISSOLVED M	ETALS				Analyst	JLF
Iron	0.024	0.020	mg/L	1	3/25/2014 2:37:07 PM	R17555
SM2540C MOD: TOTAL DISSOLVED	SOLIDS				Analyst	KS
Total Dissolved Solids	926	40.0	* mg/L	1	3/25/2014 5:22:00 PM	12342

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 5

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

Cl	nain-c	of-Cus	tody Record	I uni-Around i	IIIIC.				1	ŀ	Ah	LL	E	NV	/IF	20	NI	ME	NT	ΓΑΙ	L
Client:	BLAG	G ENGR.	/ BP AMERICA		☐ Rush _					_								RA			
				Project Name:			-				ww	w.ha	allen	viro	nme	ntal	.com	1			
Mailing Ad	ddress:	P.O. BO	X 87		GCU # 14	5		490	01 H	lawk	ins I	NE -	Alk	uqu	erqu	ue, N	M 8	37109	€		
		BLOOM	FIELD, NM 87413	Project #:				Te	1. 50	)5-34	45-3	975		Fax	505	-345	-410	17			
Phone #:		(505) 63	2-1199									ļ	Anal	ysis	Red	ques	st				1
email or F	ax#:			Project Manag	er:		<u></u>							(4)							
QA/QC Pad	_		Level 4 (Full Validation)		NELSON VE	LEZ	(8021B)	only)	/ MRO)			(5)		+02,504)			97 L				e
Accreditat	ion:			Sampler:	NELSON VE	LEZ TN	1	тРН (Gas	80	1)	1)	NISC	かし	10 Z	lids	red	*				dwi
□ NELAP		□ Other		On lice:	X Yes	□ No	Ħ	표	0/0	418	504	827	5	5	d So	filte	#				te Sa
□ EDD (T	ype)			Sample Tempe	erature:	$\mathfrak{A}$	#	+	(GR(	pol	pot	or	etal	D,	lve	ns (	/ Nitrite N			e e	osit
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO.	BTEX +**	BTEX + MTBE	TPH 8015B (GRO / DRO	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,CI,NO	Total Dissolved Solids	Iron, Ferrous (filtered)	Nitrate N 7			Grab sample	5 pt. composite sample
3/19/14	1430	WATER	MW # 6	40 mł VOA - 2	HCI & Cool	-001	٧													٧	
3/19/14	1430	WATER	MW # 6	500 ml - 1	Cool	-CD								٧	٧					٧	
3/19/14	1430	WATER	MW # 6	125 ml - 1	HNO <sub>3</sub> & Cool	-001										٧				٧	
3/19/14	1430	WATER	MW # 6	125 ml - 1	H₂SO <sub>4</sub>	-00											٧			٧	
Date: /	Time:	Relinquish	ed by:	Received by:		Date Time	1	nark													
19 114	1543	9/1	nUf	Chino to W	alb	3/19/14 1543	Se	end i	nvoid	ce to		agg I	ngin	eeri	ng. II	nc.					
Date:	Time:	Relinquishe	ed by:	Received by:	1	Date Time					P.	O. Be	ox 87	,							
2/19/14	11757	1/m	tu Valle		accordited taboratorie	ZO   Z   1000	f this -	:-:	EL. A.				field				ted on	the or	alution	al reno	ort.

#### **QC SUMMARY REPORT**

#### Hall Environmental Analysis Laboratory, Inc.

WO#:

1403864

28-Mar-14

Client:

Blagg Engineering

Project:

Prep Date:

Nitrogen, Nitrate (As N)

Analyte

Fluoride

Chloride

Sulfate

GCU #145

Sample ID MB	SampT	ype: MB	LK	Test	Code: E	PA Method	300.0: Anions	3		
Client ID: PBW	Batch	ID: <b>R1</b>	7478	R	unNo: 1	7478				
Prep Date:	Analysis D	ate: 3/2	20/2014	S	eqNo: 5	03445	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Nitrogen, Nitrate (As N)	ND	0.10								
Sulfate	ND	0.50		4.						
Sample ID LCS	SampT	ype: LC	S	Test	Code: E	PA Method	300.0: Anions	3		
Client ID: LCSW	Batch	ID: <b>R1</b>	7478	R	unNo: 1	7478				

0

0

0

0

SPK value SPK Ref Val

0.5000

5.000

2.500

10.00

SegNo: 503446

LowLimit

90

90

90

90

%REC

103

94.3

99.4

95.2

Units: mg/L

HighLimit

110

110

110

110

%RPD

**RPDLimit** 

Qual

Analysis Date: 3/20/2014

**PQL** 

0.10

0.50

0.10

0.50

Result

0.51

4.7

2.5

9.5

#### 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 5

#### **OC SUMMARY REPORT**

#### Hall Environmental Analysis Laboratory, Inc.

WO#:

1403864

28-Mar-14

Client:

Blagg Engineering

Project:

GCU #145

Sample	ID	5ML	RB
--------	----	-----	----

SampType: MBLK

TestCode: EPA Method 8021B: Volatiles

Client ID:

PRW

Batch ID: R17450

RunNo: 17450

Prep Date:

Analysis Date: 3/20/2014

Units: %REC

Analyte

**PQL** SPK value SPK Ref Val %REC

SeqNo: 503110 LowLimit

**RPDLimit** Qual

Surr: 4-Bromofluorobenzene

19

20.00

96.6

139

HighLimit

Sample ID 100NG BTEX LCS

Client ID:

LCSW

SampType: LCS Batch ID: R17450 TestCode: EPA Method 8021B: Volatiles

RunNo: 17450

Prep Date:

Analysis Date: 3/20/2014

SegNo: 503111

Units: %REC

%RPD

Analyte

Result

SPK value SPK Ref Val

%REC LowLimit

HighLimit 139 %RPD **RPDLimit**  Qual

Surr: 4-Bromofluorobenzene

20

Result

ND

ND

19

20.00

Sample ID 5ML RB

SampType: MBLK

TestCode: EPA Method 8021B: Volatiles

RunNo: 17507

Prep Date:

Client ID: PBW Batch ID: R17507

Analysis Date: 3/21/2014

20.00

SeqNo: 504436

Units: µg/L

HighLimit

%RPD **RPDLimit** 

Qual

Analyte Benzene Toluene

Ethylbenzene Xylenes, Total Surr: 4-Bromofluorobenzene ND 1.0 ND 2.0

1.0

1.0

SPK value SPK Ref Val %REC LowLimit

139

Sample ID 100NG BTEX LCS Client ID:

LCSW

SampType: LCS Batch ID: R17507

PQL

1.0

1.0

TestCode: EPA Method 8021B: Volatiles

0

RunNo: 17507

Prep Date: Analyte Benzene

Toluene

Ethylbenzene

Result

20

20

Analysis Date: 3/21/2014

SegNo: 504437

%REC

102

102

LowLimit

Units: µg/L HighLimit

120

120

%RPD

**RPDLimit** 

Qual

S

Xylenes, Total Surr: 4-Bromofluorobenzene

20 1.0 20.00 60.00 61 2.0 16 20.00

20.00

20.00

SPK value SPK Ref Val

0 101 102 0 81 1

80 80 82.9

80

80

120 120 139

#### Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits Spike Recovery outside accepted recovery limits

Analyte detected below quantitation limits

- 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
- Reporting Detection Limit

Page 3 of 5

#### **OC SUMMARY REPORT**

#### Hall Environmental Analysis Laboratory, Inc.

WO#:

1403864

28-Mar-14

Client:

Blagg Engineering

Project:

GCU #145

Sample ID MB

SampType: MBLK

TestCode: EPA Method 6010B: Dissolved Metals

Client ID:

PBW

Batch ID: R17555

RunNo: 17555

Prep Date:

Analysis Date: 3/25/2014

SegNo: 505683

Units: ma/L

**PQL** SPK value SPK Ref Val %REC LowLimit

HighLimit

%RPD **RPDLimit** 

Qual

Iron

Analyte

ND 0.020

Sample ID LCS

SampType: LCS

TestCode: EPA Method 6010B: Dissolved Metals

Client ID: LCSW

0.46

0.47

Result

0.46

Batch ID: R17555

RunNo: 17555 SegNo: 505684

Units: mg/L

Analyte Iron

Prep Date: Result

Analysis Date: 3/25/2014 PQL

SPK value SPK Ref Val

0

%REC 91.6

LowLimit HighLimit 120

%RPD **RPDLimit** 

Qual

Sample ID 1403864-001CMS

SampType: MS

TestCode: EPA Method 6010B: Dissolved Metals RunNo: 17555

Prep Date:

Client ID: MW #6

Batch ID: R17555 Analysis Date: 3/25/2014

0.020

0.020

SegNo: 505688

Units: mg/L

Analyte Iron

Result PQL

SPK value SPK Ref Val

SPK value SPK Ref Val

0.02409

0.5000

0.5000

0.5000

%REC 0.02409 88.3

LowLimit

LowLimit

75

HighLimit %RPD 125

**RPDLimit** 

Qual

Qual

Sample ID 1403864-001CMSD Client ID:

Prep Date:

MW #6

SampType: MSD Batch ID: R17555 TestCode: EPA Method 6010B: Dissolved Metals

RunNo: 17555

125

HighLimit

0.424

Iron

Analyte

Analysis Date: 3/25/2014 PQL

0.020

SeqNo: 505689

%REC

87.9

Units: mg/L

%RPD

**RPDLimit** 

20

**Oualifiers:** 

Value exceeds Maximum Contaminant Level.

E Value above quantitation range

Analyte detected below quantitation limits J

RSD is greater than RSDlimit O

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

ND Not Detected at the Reporting Limit Sample pH greater than 2.

Reporting Detection Limit

Page 4 of 5

#### **QC SUMMARY REPORT**

#### Hall Environmental Analysis Laboratory, Inc.

WO#:

1403864

28-Mar-14

Client:

Blagg Engineering

Project:

GCU #145

Sample ID MB-12342

SampType: MBLK

TestCode: SM2540C MOD: Total Dissolved Solids

PBW Client ID:

Batch ID: 12342

RunNo: 17558

Prep Date: 3/24/2014 Analysis Date: 3/25/2014

SeqNo: 505731

Units: mg/L

Analyte

**PQL** 

SPK value SPK Ref Val %REC LowLimit

HighLimit

%RPD **RPDLimit** Qual

**Total Dissolved Solids** 

ND 20.0

SampType: LCS

TestCode: SM2540C MOD: Total Dissolved Solids

Client ID: LCSW Prep Date: 3/24/2014

Sample ID LCS-12342

Batch ID: 12342 Analysis Date: 3/25/2014 RunNo: 17558 SeqNo: 505732

Units: mg/L

%RPD

Qual

Analyte

Result **PQL** 

1000

SPK value SPK Ref Val %REC

HighLimit

**RPDLimit** 

Total Dissolved Solids

1030

20.0

LowLimit

Qualifiers:

Value exceeds Maximum Contaminant Level.

Spike Recovery outside accepted recovery limits

Value above quantitation range

Analyte detected below quantitation limits

0 RSD is greater than RSDlimit

RPD outside accepted recovery limits R

J

H Holding times for preparation or analysis exceeded

Analyte detected in the associated Method Blank

Not Detected at the Reporting Limit

P Sample pH greater than 2

Reporting Detection Limit

Page 5 of 5



11au Environmeniai Anatysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109

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

#### Sample Log-In Check L

Client Name: **BLAGG** Work Order Number: 1403864 RcptNo: 1 Received by/date: ame Alm Logged By: **Anne Thorne** 3/20/2014 10:00:00 AM an Am 3/20/2014 Completed By: **Anne Thorne** Reviewed By: Chain of Custody Yes Not Present ✓ 1. Custody seals intact on sample bottles? No 🗔 No 🗌 Yes 🗸 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? No 🗌 NA 🗌 5. Were all samples received at a temperature of >0° C to 6.0°C No 6. Sample(s) in proper container(s)? 7. Sufficient sample volume for indicated test(s)? Yes 🗸 8. Are samples (except VOA and ONG) properly preserved? NA I Yes No 🗸 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? # of preserved bottles checked No 🗌 for pH: Yes 🗸 12. Does paperwork match bottle labels? 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? No 🗌 Checked by: Yes 🗸 15. Were all holding times able to be met? (If no, notify customer for authorization.) Special Handling (if applicable) Yes 🗌 16. Was client notified of all discrepancies with this order? No 🗌 NA 🗸 Person Notified: Date By Whom: Via: eMail Phone Fax In Person Regarding: Client Instructions: 17. Additional remarks: 18. Cooler Information Cooler No Temp °C Condition Seal Intact Seal No Seal Date Signed By Good

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

CLIENT :	BP AME	RICA PRO	D. CO.		CHAIN-OF-C	USTODY#:		N / A		
GCU#145 UNIT A, SE	EC. 26, T29N	I, R12W			LABORATOR	:	HALL ENVIR	RONMENTAL		
Date :	June 27,	/ SAMPLER :	R: NJV							
Filename:	GCU 145 m	w log 06-27-	14.xls			PROJECT	MANAGER :	N.	JV	
Sample	WELL	WATER	DEPTH TO	TOTAL	SAMPLING	рН	CONDUCT	TEMP.	VOLUME	
ID	ELEV.	ELEV.	WATER	DEPTH	TIME	pri	(umhos)	(celcius)	PURGED	
	(ft)	(ft)	(ft)	(ft)			(3)	(55151115)	(gal.)	
MW #6	-	-	6.59	17.66	1135	7.22	900	18.5	5.50	
			INSTRU		BRATIONS =	4.01/7.00/10.00	2,800			
				DAT	e & TIME = [	06/24/14	1730			
NOTES:	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 wel	ll diameter i	f not standa	rd 2".						
Excellent red	covery in MV	#6. Collec	cted sample f	or BTEX pe	r US EPA Me	ethod 8021B	from MW #	6 only .		
Purged well	using 2 inch	submersible	electrical pun	np, new/cle	ear vinyl tubir	ig, and with	brass adjusta	ble flow		
valve attach	ment added	near sampling	g end of tubi	ng						
			· · · · · · · · · · · · · · · · · · ·							
Top of casing	g: MW #6 ~ 0.	13 ft. below gr	ade.							

on-site	10:45 AM	_temp	78 F
off-site	11:45 AM	_temp	80 F
sky cond.		Sunny	
wind speed	10 - 20	direct.	NW - W

#### **Analytical Report**

#### Lab Order 1407178

Date Reported: 7/9/2014

#### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: MW #6

Project: GCU #145

Collection Date: 6/27/2014 11:35:00 AM

Lab ID: 1407178-001

Matrix: AQUEOUS

Received Date: 7/3/2014 7:06:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	15	5.0	μg/L	5	7/3/2014 4:23:28 PM	R19692
Toluene	ND	5.0	μg/L	5	7/3/2014 4:23:28 PM	R19692
Ethylbenzene	62	5.0	μg/L	5	7/3/2014 4:23:28 PM	R19692
Xylenes, Total	240	10	μg/L	5	7/3/2014 4:23:28 PM	R19692
Surr: 4-Bromofluorobenzene	136	82.9-139	%REC	5	7/3/2014 4:23:28 PM	R19692

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

C	hain-d	of-Cu	tody Record	I am-mound	iiio.		١,	1 1	1	ь	dΕ	LL	E	NV	/TF	20	NI	MEN	IT/	AL	
Client:	BLAG	G ENGR.	/ BP AMERICA	✓ Standard	Rush _		-											RA'			r
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			Project Name:	The state of the s												.com				
Mailing A	ddress:	P.O. BO	X 87	1	GCU # 14	5		490	)1 H									7109			
		BLOOM	FIELD, NM 87413	Project #:	****		1				45-3						-410				
Phone #:		(505) 63	2-1199	1			5				=,"	-			Rec						
email or F	ax#:			Project Manag	er:		_							4					T	T	T
QA/QC Pa			Level 4 (Full Validation)		NELSON VI	ELEZ	(8021B)	+ TPH (Gas only)	(MRO)			(S)		PO4,504)						e l	
Accreditat	ion:			Sampler:	NELSON VI	ELEZ NV	4	(Gas	RO/	1)	1)	SIN		50,	lids	red	*			dmi	
□ NELAF	)	□ Other		On Ice:	⊠∕Yes	⊡ No	f	TPH	0/0	418	504	827(	ر (	Tr.	d So	filte	/ Nitrite N			te sa	
□ EDD (	Type)			Sample Tempe	rature:	3	#	Æ +	(GR(	pou	pot	or	etal	2,0	olve	sno (	1		le	osit	١
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO.	BTEX +-NATBE	BTEX + MTBE	TPH 8015B (GRO / DRO	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,NO3,NO2,	Total Dissolved Solids	Iron, Ferrous (filtered)	Nitrate N,		Grab sample	5 pt. composite sample	the same of the sa
6/27/14	1135	WATER	MW # 6	40 ml VOA - 2	HCl & Cool	-01	٧												V	1	T
																			T		T
																			$\top$	1	T
																			$\top$	1	T
																		$\top$	+	$\top$	t
																			+	+	t
																			+	+	t
																			+	+	t
																		$\vdash$	+	+	$\dagger$
												-	-	-		-			+	+	$\dagger$
							-												+	+	$\dagger$
							-								-			-	+	+	+
Date: 7/2/14	Time: 1500	Relinquish	In of	Received by	and he	Date Time 07/03/14 0704	1	nark:		ce to		ngg 5	L	l ecri	ng, li	ı		L			Τ
Date:	Time:	Relinquish		Received by:		Date Time					P.O	o. Bo	ox 87 field	, NM	874	13					
	If ne	y, samples s	ubmitted to Hall Environmental may be s	subcontracted to other	accredited laboratorie	es. This serves as notice o	f this p	lidiazo	tv. A	nv sub	-contr	acted	data v	will be	C	y notal	ted on	the analy	ucal ref	port.	

#### **QC SUMMARY REPORT**

#### Hall Environmental Analysis Laboratory, Inc.

WO#: 1407178

09-Jul-14

Client:

Blagg Engineering

Project:

GCU #145

Project:	GCU #14	5									
Sample ID	5ML RB	SampT	ype: ME	BLK	Tes	tCode: E	PA Method	8021B: Volat	iles		
Client ID:	PBW	Batch	ID: <b>R1</b>	9692	F	RunNo: 1	9692				
Prep Date:		Analysis Da	ate: 7/	3/2014	5	SeqNo: 5	71873	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		ND	1.0								
Toluene		ND	1.0								
Ethylbenzene		ND	1.0								
Xylenes, Total		ND	2.0								
Surr: 4-Brom	ofluorobenzene	22		20.00		109	82.9	139			
Sample ID	100NG BTEX LCS	SampT	ype: LC	s	Tes	tCode: E	PA Method	8021B: Volat	iles		
Client ID:	LCSW	Batch	ID: <b>R1</b>	9692	F	RunNo: 1	9692				
Prep Date:		Analysis Da	ate: 7/	3/2014	5	SeqNo: 5	71874	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	103	80	120			
Ethylbenzene		20	1.0	20.00	0	102	80	120			
Xylenes, Total		64	2.0	60.00	0	106	80	120			
Surr: 4-Brom	ofluorobenzene	20		20.00		100	82.9	139			
Sample ID	1407178-001AMS	SampTy	/pe: <b>MS</b>	3	Tes	tCode: E	PA Method	8021B: Volat	iles		
Client ID:	MW #6	Batch	ID: R1	9692	F	RunNo: 1	9692				
Prep Date:		Analysis Da	ate: 7/	3/2014	8	SeqNo: 5	71878	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		120	5.0	100.0	14.69	108	71	129			
Toluene		110	5.0	100.0	0	108	68.4	135			
Ethylbenzene		180	5.0	100.0	61.81	115	69.4	135			
Xylenes, Total		570	10	300.0	241.7	111	72.4	135			
Surr: 4-Brom	ofluorobenzene	130		100.0		133	82.9	139			
Sample ID	1407178-001AMSE	SampTy	/pe: <b>MS</b>	SD	Tes	tCode: E	PA Method	8021B: Volat	iles		
Client ID:	MW #6	Batch	ID: <b>R1</b>	9692	F	RunNo: 1	9692				
Prep Date:		Analysis Da	ate: 7/	3/2014	S	SeqNo: 5	71879	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		120	5.0	100.0	14.69	106	71	129	1.19	20	
Toluene		110	5.0	100.0	0	107	68.4	135	1.64	20	
Ethylbenzene		180	5.0	100.0	61.81	113	69.4	135	0.757	20	
Xylenes, Total		570	10	300.0	241.7	111	72.4	135	0.0853	20	
Surr: 4-Brom	ofluorobenzene	130		100.0		128	82.9	139	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

D. G. I. H. A. A. A. A.

Page 2 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

Website: www.hallenvironmental.com Work Order Number: 1407178 BLAGG RcptNo: 1 Client Name: 07/03/1 Received by/date: an Am 7/3/2014 7:06:00 AM Logged By: **Anne Thorne** anne Am Completed By: 7/3/2014 Anne Thorne Reviewed By: Chain of Custody Not Present V Yes 1 Custody seals intact on sample bottles? No 🗌 Yes V 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? NA 🗌 5. Were all samples received at a temperature of >0° C to 6.0°C Yes 🗸 Sample(s) in proper container(s)? 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? Yes No VOA Vials **V** No \_ 10. VOA vials have zero headspace? No 🗸 Yes 11. Were any sample containers received broken? # of preserved bottles checked 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? No 🗌 14. Is it clear what analyses were requested? No 🗌 Checked by: Yes V 15. Were all holding times able to be met? (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

Seal Date

Signed By

1.3

Cooler No Temp °C Condition Seal Intact Seal No

Yes

Good

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

CLIENT:	Developer / Sample   Well   Water   Depth to   (ft)   (f											
GCU # 145 UNIT A, SI	EC. 26, T29N	I, R12W			LABORATOR	RY (S) USED	:	HALL ENVIR	CONMENTAL			
Date :						DEVELOPER	/ SAMPLER :					
Filename:	GCU 145 m	w log 08-26-	14.xls			PROJECT	MANAGER :	N.	JV			
Sample	WELL	WATER	DEPTH TO	TOTAL	SAMPLING	На	CONDUCT	TEMP.	VOLUME			
	1	1			1							
	(ft)	(ft)	(ft)	(ft)					(gal.)			
1414140			0.00	17.00	1010	7.00	700	24.7				
MVV #6	-	-						21.7	5.75			
			INSTRU									
				DAT	e a mine - [	00/20/14	0000	J				
NOTES:	Volume of	water purge	d from well	prior to sa	ampling; V =	pi X r2 X h	X 7.48 gal./ft	3) X 3 (wellb	ores).			
	(i.e. 2" MW	r = (1/12)  ft.	. h = 1 ft.)	(i.e. 4" MW	r = (2/12)  ft.	h = 1  ft.						
	Ideally a m	ninimum of t	hree (3) we	llbore volur	nes:	2.00 " well	diameter =	0.49 gal. / f	t. of water.			
Comments	or note wel	l diameter i	f not standa	ard 2".								
Excellent re	covery in MW	#6. Collec	cted sample f	or BTEX pe	r US EPA Me	ethod 8021B	from MW #	6 only .				
Purged well	using 2 inch	submersible	electrical pun	np, new/cle	ear vinyl tubir	ng, and with	brass adjusta	ble flow				
valve attach	ment added i	near sampling	g end of tubi	ng								
Top of casing	g: MW #6 ~ 0.1	13 ft. below gr	ade.									

on-site	9:45 AM	temp	67 F
off-site	10:45 AM	temp	71 F
sky cond.		Cloudy	
wind speed	5 - 10	direct.	ENE - E

#### **Analytical Report**

#### Lab Order 1408F61

Date Reported: 9/9/2014

#### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: MW #6

Project: Go

GCU #145

Collection Date: 8/26/2014 10:40:00 AM

**Lab ID:** 1408F61-001

Matrix: AQUEOUS

Received Date: 8/29/2014 8:25:00 AM

Analyses	Result	RL (	Oual 1	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES							t: NSB
Benzene	18	1.0		μg/L	1	9/2/2014 3:28:47 PM	R20946
Toluene	1.4	1.0		μg/L	1	9/2/2014 3:28:47 PM	R20946
Ethylbenzene	70	1.0		μg/L	1	9/2/2014 3:28:47 PM	R20946
Xylenes, Total	540	20		μg/L	10	9/3/2014 1:33:56 PM	R20970
Surr: 4-Bromofluorobenzene	196	82.9-139	S	%REC	1	9/2/2014 3:28:47 PM	R20946

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

CI	nain-c	of-Cu	tody Record	Turn-Around I	IIIIE.		,	1 1	ī	н	HΑ	LL	E	NV	/TF	20	NI	ME	NT	ΓΑΙ	L
Client:	BLAG	G ENGR.	/ BP AMERICA		Rush _				$\exists$									RA			
				Project Name:	The second secon		9										.com				
Mailing Ad	ddress:	P.O. 80	X 87		GCU # 14	5		490	01 H									7109	}		
	4.4-11.17.	BLOOM	FIELD, NM 87413	Project #:				Te	1. 50	)5-34	45-3	975		Fax	505-	345	-410	17			
Phone #:		(505) 63	2-1199	1			i i					1	Anal	ysis	Red	ues			1		
email or F	ax#:			Project Manag	er:		~							(4)							
QA/QC Pad  Standa			Level 4 (Full Validation)		NELSON VE	LEZ	(8021B)	only)	/ MRO}			(S)		PO4,SC		(					e
Accreditat	ion:			Sampler:	<b>NELSON VE</b>	LEZ nv	1	(Gas	ORO,	.1)	(T	8270SIMS)		VO2,	lids	ered	Z				dwe
□ NELAP		☐ Other		On Ice:	tiv Yes ∷	□ No	1	TPH	0/0	418	504	827	S	0,0	d So	filte	trite				te s
□ EDD (T	ype)			Sample Tempe	erature: / i		#	3E +	(GR	pou	pou	or	etal	O,N	olve	ons (	Ž		Î	ble	posi
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO 1408F6/	BTEX <del>←M</del>	BTEX + MTBE + TPH (Gas	TPH 8015B (GRO / DRO	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or	RCRA 8 Metals	Anions (F,CI,NO <sub>3</sub> ,NO <sub>2</sub> ,PO <sub>4</sub> ,SO <sub>4</sub> )	Total Dissolved Solids	Iron, Ferrous (filtered)	Nitrate N / Nitrite N			Grab sample	5 pt. composite sample
8/26/14	1040	WATER	MW # 6	40 ml VOA - 2	HCI & Cool	-001	٧													٧	
																			$\exists$		
																			T	$\top$	
																	$\Box$		$\neg$		$\neg$
																			$\neg$		$\neg$
																			$\neg$	$\neg$	1
																	$\Box$		$\neg$	$\neg$	$\top$
																	$\Box$		$\dashv$		$\top$
																					$\dashv$
							_								1						_
							<del>                                     </del>						-		<del>                                     </del>						
Date: 8/28/14	Time:	Relinquish	luly	Received by:  Moto Received by:	Wate	Date Time	BI		RECT	ILY T 200 f			ourt,	Farr	ningt	on, N	لـــــا 8 MN	7401			
Date: 8/28/14	Time:	Relinquish	for two Way of the submitted to Hall Environmental may be:	Muhis	U fruis accredited laboratorie	Oxb9/14 0825	Fir	nd Pu	ırcha	ise O	rder	in e	mail	fron	BP.				alytica	al repo	rt.

#### **QC SUMMARY REPORT**

#### Hall Environmental Analysis Laboratory, Inc.

WO#: 1

1408F61

09-Sep-14

Client:

Blagg Engineering

Project:

GCU #145

Project:	GCU #14	5									
Sample ID	5ML RB	SampT	ype: ME	BLK	Tes	tCode: E	PA Method	8021B: Volat	iles		
Client ID:	PBW	Batch	n ID: R2	0946	F	RunNo: 2	20946				
Prep Date:		Analysis D	ate: 9/	2/2014	8	SeqNo: 6	09490	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								
Surr: 4-Bron	nofluorobenzene	21		20.00		103	82.9	139			
Sample ID	100NG BTEX LCS	SampT	ype: LC	s	Tes	tCode: E	PA Method	8021B: Volati	les		
Client ID:	LCSW	Batch	n ID: R2	0946	F	RunNo: 2	20946				
Prep Date:		Analysis D	ate: 9/	2/2014	8	SegNo: 6	09491	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	100	80	120			
Ethylbenzene		20	1.0	20.00	0	101	80	120			
Surr: 4-Brom	nofluorobenzene	24		20.00		118	82.9	139		*************************	
Sample ID	5ML RB	SampT	ype: ME	BLK	Tes	tCode: E	PA Method	8021B: Volati	les		
Client ID:	PBW	Batch	1D: <b>R2</b>	0970	R	RunNo: 2	20970				
Prep Date:		Analysis D	ate: 9/	3/2014	S	SeqNo: 6	310421	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Xylenes, Total		ND	2.0								
Surr: 4-Brom	nofluorobenzene	22		20.00		110	82.9	139			
Sample ID	100NG BTEX LCS	SampT	ype: LC	S	Tes	tCode: E	PA Method	8021B: Volati	les		
Client ID:	LCSW	Batch	1D: <b>R2</b>	0970	F	RunNo: 2	20970				
Prep Date:		Analysis D	ate: 9/	3/2014	S	SeqNo: 6	10422	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Xylenes, Total		64	2.0	60.00	0	106	80	120			
Surr: 4-Brom	nofluorobenzene	20		20.00		99.0	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

#### **ENVIRONMENTAL** ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory 4901 Hawkins NE

TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com Sample Log-In Check List

Albuquerque, NM 87109

Client Name: BLAGG	i	Work Order Number:	1408	F61			Rcpt	No: 1
Received by/date:	MG	08/29/14						
Logged By: Celina	Sessa	8/29/2014 8:25:00 AM			Celina Celina	- Sm	-	
Completed By: Celina	Sessa	3/29/2014 1:54:10 PM			Celina	Sm	•	
Reviewed By:		29/02/16	1					
Chain of Custody	,0	1/	'					
1. Custody seals intact	on sample bottles?	•	Yes		No [		Not Present	✓
2. Is Chain of Custody of	complete?		Yes	$\checkmark$	No [		Not Present	
3. How was the sample	delivered?		Cour	ier				
<u>Log In</u>								
4. Was an attempt mad	le to cool the samples?		Yes	<b>V</b>	No [		NA	
5. Were all samples rec	eived at a temperature of	of >0° C to 6.0°C	Yes	<b>✓</b>	No [		NA	
6. Sample(s) in proper of	container(s)?		Yes	<b>✓</b>	No [			
7. Sufficient sample volu	ume for indicated test(s)	?	Yes	<b>✓</b>	No [			
8. Are samples (except	VOA and ONG) properly	preserved?	Yes	<b>V</b>	No			
9. Was preservative add	ded to bottles?		Yes		No N		NA [	
10.VOA vials have zero	headspace?		Yes	<b>✓</b>	No [	□ No	o VOA Vials	
11. Were any sample co	ntainers received broken	?	Yes		No S		of preserved	***************************************
10.5			Yes		No. [	bo	ottles checked r pH:	
12. Does paperwork mate (Note discrepancies of			Yes	<b>V</b>	No L		-	<2 or >12 unless noted)
13. Are matrices correctly		sustody?	Yes	<b>✓</b>	No [		Adjusted?	
14. Is it clear what analys	ses were requested?			$\checkmark$	No			
15. Were all holding times (If no, notify customes			Yes	<b>✓</b>	No		Checked b	y:
(ii no, notily odotomor	Tor addionization.							
Special Handling (if	applicable)							
16. Was client notified of	all discrepancies with th	is order?	Yes		No [		NA S	
Person Notified	:	Date:	HAROTEC STREET, STREET	100				
By Whom:		Via:	_ eMa	il 🗌 F	Phone F	ax 🔲 I	In Person	
Regarding:								*
Client Instructio	ons:				1000			
17. Additional remarks:						F.		
18. Cooler Information Cooler No Tem 1 1.0	p °C   Condition   Sea Good   Yes	ıl Intact   Seal No   S	Seal Da	te	Signed By			

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

CLIENT:	BP AMER	RICA PRO	D. CO.		CHAIN-OF-C		N / A			
GCU # 145 UNIT A, SI	EC. 26, T29N	, R12W			LABORATOR	RY (S) USED	:	HALL ENVIR	RONMENTAL	
Date : Filename :	December GCU 145 m	1, 2014 w log 12-01-	14.xls				/ SAMPLER : MANAGER :		1 V	
Sample ID	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pН	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)	
MW #6			7 72	17.66	1420	7.49	700	17.0	5.00	
IVIVV #6	-	-	7.72 INSTRI	JMENT CALI	BRATIONS = E & TIME =	4.01/7.00/10.00 08/25/14	700 2,800 0600	17.0	5.00	
NOTES:					ampling: $V = r = (2/12)$ ft.		X 7.48 gal./ft	3) X 3 (wellb	ores).	
Comments	Ideally a m		hree (3) we		nes:	2.00 " well	diameter =	0.49 gal. / f	t. of water.	
Excellent re	covery in MW	#6. Collec	cted sample f	or BTEX pe	r US EPA Me	ethod 8021B	from MW #	6 only .		
					ear vinyl tubin	ig, and with	brass adjusta	ble flow		
valve attach	ment added i	near sampling	end of tubi	ng						
Top of casing	g: MW #6 ~ 0.1	13 ft. below gr	ade.							

on-site	1:30 PM	temp	52 F
off-site	2:30 PM	temp	53 F
sky cond.		Sunny	
wind speed	Calm	direct.	NA

#### **Analytical Report**

Lab Order 1412132

Date Reported: 12/5/2014

#### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: MW # 6

Project: GCU # 145

Collection Date: 12/1/2014 2:20:00 PM

**Lab ID:** 1412132-001

Matrix: AQUEOUS

Received Date: 12/3/2014 7:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	7.6	1.0	μg/L	1	12/3/2014 6:23:52 PM	R22896
Toluene	ND	1.0	μg/L	1	12/3/2014 6:23:52 PM	R22896
Ethylbenzene	11	1.0	μg/L	1	12/3/2014 6:23:52 PM	R22896
Xylenes, Total	55	2.0	μg/L	1	12/3/2014 6:23:52 PM	R22896
Surr: 4-Bromofluorobenzene	140	66.6-167	%REC	1	12/3/2014 6:23:52 PM	R22896

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

#### Client: ☐ EDD (Type) Accreditation QA/QC Package email or Fax#: Phone #: □ NELAP Mailing Address: Standard 12/1/14 Date 7 1 してい Time Time: If necessary, Veriples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report 1420 Time BLAGG ENGR. / BP AMERICA Relinquished by. Relinquished by P.O. BOX 87 **BLOOMFIELD, NM 87413** WATER Matrix (505) 632-1199 Other Mustur Mossian Level 4 (Full Validation) Sample Request ID MW # 6 Project #: Project Name: Sample Température On Ices Sampler: Project Manager Standard Received by: Received by 40 ml VOA - 2 Type and # Container NELS NELS Y Yes HC Rush GCU # 145 2007 500 12/14 1231 Time Find Purchase Order in email from BP. Jeff Peace, 200 Energy Court, Farmington, NM 87401 4901 Hawkins NE - Albuquerque, NM 87109 Tel. 505-345-3975 ANALYSIS LABORATORY www.hallenvironmental.com Fax 505-345-4107

# HALL ENVIRON ENTAL

Chain-of-Custody Record

I MIN-MIOUNG THINE

HEAL NO.													& Cool	T	AU .	rvative			ON VELEZ	ON VELEZ		
TPH 8015B (GRO / DRO / MRO)  TPH (Method 418.1)  EDB (Method 504.1)  PAH (8310 or 8270SIMS)  RCRA 8 Metals  Anions (F,CI,NO <sub>3</sub> ,NO <sub>2</sub> ,PO <sub>4</sub> ,SO <sub>4</sub> )  Total Dissolved Solids  Iron, Ferrous (filtered)  Nitrate N / Nitrite N   Grab sample  5 pt. composite sample	2	ate											18	1412132	HEAL No.		6			ELEZ		
TPH 8015B (GRO / DRO / MRO)  TPH (Method 418.1)  EDB (Method 504.1)  PAH (8310 or 8270SIMS)  RCRA 8 Metals  Anions (F,CI,NO <sub>3</sub> ,NO <sub>2</sub> ,PO <sub>4</sub> ,SO <sub>4</sub> )  Total Dissolved Solids  Iron, Ferrous (filtered)  Nitrate N / Nitrite N   Grab sample  5 pt. composite sample	BIII DIRECTIVI	Ren											ح	вте	BTEX + MTBE + TMB's (8021B)							
TPH 8015B (GRO / DRO / MRO)  TPH (Method 418.1)  EDB (Method 504.1)  PAH (8310 or 8270SIMS)  RCRA 8 Metals  Anions (F,CI,NO <sub>3</sub> ,NO <sub>2</sub> ,PO <sub>4</sub> ,SO <sub>4</sub> )  Total Dissolved Solids  Iron, Ferrous (filtered)  Nitrate N / Nitrite N   Grab sample  5 pt. composite sample		arks:		$\perp$										BTE	X +	MT	MTBE + TPH (Gas only)					
PAH (8310 or 8270SIMS)  RCRA 8 Metals  Anions (F,Cl,NO <sub>3</sub> ,NO <sub>2</sub> ,PO <sub>4</sub> ,SO <sub>4</sub> )  Total Dissolved Solids  Iron, Ferrous (filtered)  Nitrate N / Nitrite N  Grab sample  5 pt. composite sample														TPH	80	15B	(GR	(GRO / DRO / MRO)				
PAH (8310 or 8270SIMS)  RCRA 8 Metals  Anions (F,Cl,NO <sub>3</sub> ,NO <sub>2</sub> ,PO <sub>4</sub> ,SO <sub>4</sub> )  Total Dissolved Solids  Iron, Ferrous (filtered)  Nitrate N / Nitrite N  Grab sample  5 pt. composite sample														TPH	1 (1	Лet	nod 504.1) O or 8270SIMS)					
PAH (8310 or 8270SIMS)  RCRA 8 Metals  Anions (F,Cl,NO <sub>3</sub> ,NO <sub>2</sub> ,PO <sub>4</sub> ,SO <sub>4</sub> )  Total Dissolved Solids  Iron, Ferrous (filtered)  Nitrate N / Nitrite N  Grab sample  5 pt. composite sample	ם ממ													EDE	3 (1	Лet						
Anions (F,CI,NO <sub>3</sub> ,NO <sub>2</sub> ,PO <sub>4</sub> ,SO <sub>4</sub> )  Total Dissolved Solids  Iron, Ferrous (filtered)  Nitrate N / Nitrite N  Grab sample  5 pt. composite sample	Ŧ													PAH	1 (8	3310						
Total Dissolved Solids Iron, Ferrous (filtered) Nitrate N / Nitrite N  Grab sample 5 pt. composite sample														RCF	RA i	8 M						
Iron, Ferrous (filtered)  Nitrate N / Nitrite N  Grab sample  5 pt. composite sample														Ani	ons	(F,	CI,N	C1,NO <sub>3</sub> ,NO <sub>2</sub> ,PO <sub>4</sub> ,SO <sub>4</sub> ]				
Nitrate N / Nitrite N  Grab sample  5 pt. composite sample														Tot	al [	Diss	olved Solids ous (filtered)					
Grab sample 5 pt. composite sample														Iror	1, F	erro						
5 pt. composite sample														Nitr	ato	te N / Nitrite N						
5 pt. composite sample				1	1	1	1					_									2	
5 pt. composite sample			_	+	+	+	+	-	_			+	_	_	_							
				+	$\perp$	+	4	_			$\vdash$	- '	<	_	_		·					
				1	$\perp$	4	4	_	_			_	_	5 pt	. C							
				,		,	1				' '	1					***					

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1412132

05-Dec-14

Client:

Blagg Engineering

**Project:** 

GCU # 145

Sample ID 5ML RB	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8021B: Volati	iles		
Client ID: PBW	Batch	ID: <b>R2</b>	2896	F	RunNo: 2	2896				
Prep Date:	Analysis D	ate: 12	2/3/2014	S	SegNo: 6	76694	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	21		20.00		105	66.6	167			

Sample ID 100NG BTEX LC	Samp1	Type: LC	S	TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSW	Batch	h ID: R2	2896	RunNo: 22896							
Prep Date:	Analysis D	Date: 12	2/3/2014	S	SeqNo: 6	76695	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	22	1.0	20.00	0	108	80	120				
Xylenes, Total	65	2.0	60.00	0	109	80	120				
Surr: 4-Bromofluorobenzene	22		20.00		109	66.6	167				

#### Qualifiers:

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



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109

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

Client Name: BLAGG	Work Order Numb	er: 1412132	2	RcptNo:	1
Received by/date:	12/03/4				
Logged By: Lindsay Ma	ngin 12/3/2014 7:30:00 A	M	Junely Harry		
Completed By: Lindsay Ma	ngin 12/3/2014 9:02:03 A	M ,	Junky Horge		
Reviewed By:	2	12/03	liu		
Chain of Custody		1	100		
Custody seals intact on sa	mple bottles?	Yes	No [	Not Present	
2. Is Chain of Custody comple		Yes	No [	Not Present	
3. How was the sample delive	ered?	Courier			
Log In					
4. Was an attempt made to o	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 conta	iner(s)?	Yes 🖢	<b>№</b> No		
7. Sufficient sample volume f	for indicated test(s)?	Yes 🖪	No 🗆		
8. Are samples (except VOA	and ONG) properly preserved?	Yes 🖪	No 🗌		
9. Was preservative added to	bottles?	Yes [	No 🐼	NA 🗆	
10.VOA vials have zero heads	space?	Yes 🗹	No 🗌	No VOA Vials	
11. Were any sample contained		Yes	2		
				# of preserved bottles checked	
12.Does paperwork match bo		Yes 🖪	No 🗀	for pH:	r >12 unless noted)
(Note discrepancies on cha		Yes	No 🗆	Adjusted?	1 - 12 dilless floted)
<ul><li>13. Are matrices correctly iden</li><li>14. Is it clear what analyses w</li></ul>		Yes 🖫	No 🗆		
15. Were all holding times able		Yes 🖟		Checked by:	
(If no, notify customer for a		100 12			
Special Handling (if app	olicable)				
16. Was client notified of all di		Yes	] No []	NA 🗹	
Person Notified:	Date	e: [	in individue and and a party in the little day and an annual and		
By Whom:	Via:	eMail	Phone Fax	In Person	
Regarding:	ite, te stant conservation, in the first water conservation (i), the terminal conservation is the sign of the sign	**************************************	and the state of t		
Client Instructions:			de de la companya de		
17. Additional remarks:					
18. Cooler Information					
Cooler No Temp °C	Condition   Seal Intact   Seal No	Seal Date	Signed By		
1 1.6	Good Yes		-		

CLIENT:	BP AMER	RICA PRO	D. CO.		CHAIN-OF-C		N/A				
GCU # 145	EC. 26, T29N	I D12W			LABORATOR	:	HALL ENVIRONMENTAL				
UNIT A, SE	EG. 26, 129N	I, K12VV									
Date :	February 24				[	DEVELOPER	/ SAMPLER :		JV		
Filename :	GCU 145 m	w log 2015-0	)2-24.xls			PROJECT	MANAGER :	: NJV			
Sample	WELL	WATER	DEPTH TO	TOTAL	SAMPLING	рН	CONDUCT	TEMP.	VOLUME		
ID	ELEV.	ELEV.	WATER	DEPTH	TIME		(umhos)	(celcius)	PURGED		
	(ft)	(ft)	(ft)	(ft)					(gal.)		
MW #6	_		9.64	17.66	1030	7.16	1,000	11.3	3.00		
10100 #0		-				4.01/7.00/10.00	2,800	11.5	3.00		
	INSTRUMENT CALIBRATIONS = 4.01/7.00/10.00 2,800  DATE & TIME = 02/24/15 0900										
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 m	ninimum of t	hree (3) we	llbore volur	nes:	2.00 " well	diameter =	0.49 gal. / f	t. of water.		
Comments	or note we	II diameter i	r not standa	<u>rd 2".</u>							
Excellent red	covery in MV	#6. Collec	ted sample f	or BTEX pe	r US EPA Me	thod 8021B	from MW # 6	6 only.			
					ear vinyl tubin						
	ment added i						,				
		,									
Top of casing	g: MW #6 ~ 0.	13 ft. below gr	ade.								

on-site	9:30 AM	temp	30 F
off-site	10:45 AM	temp	32 F
sky cond.	C	Overcast / S	Snow
wind speed	0 - 5	direct.	E - ESE

## Lab Order 1502A18

Date Reported: 2/26/2015

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering Client Sample ID: MW #6

**Project:** GCU # 145 **Collection Date:** 2/24/2015 10:30:00 AM

**Lab ID:** 1502A18-001 **Matrix:** AQUEOUS **Received Date:** 2/25/2015 7:30:00 AM

Analyses	Result	RL Q	ual Uni	its DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	19	1.0	μg/	/L 1	2/25/2015 1:48:31 PM	R24516
Toluene	1.0	1.0	μg/	/L 1	2/25/2015 1:48:31 PM	R24516
Ethylbenzene	19	1.0	μg/	/L 1	2/25/2015 1:48:31 PM	R24516
Xylenes, Total	65	2.0	μg/	/L 1	2/25/2015 1:48:31 PM	R24516
Surr: 4-Bromofluorobenzene	154	80-120	S %F	REC 1	2/25/2015 1:48:31 PM	R24516

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

С	hain-	of-Cus	tody Record	Turn-Around 1	ime			4	L		AΕ	11	E	Nν	TF	80	NI	МE	NT	ΑΙ	L	
Client:	BLAG	G ENGR.	/ BP AMERICA	Standard	Rush		-												AT(			
				Project Name:					P					viro							•	
Mailing A	ddress:	P.O. BOX	X 87	1	GCU # 14	5		49	01 H	1 Hawkins NE - Albuquerque, NM 87109												
		BLOOM	FIELD, NM 87413	Project #:						. 505-345-3975 Fax 505-345-4107												
Phone #:		(505) 63	2-1199				des	Analysis Request														
email or F	ax#:			Project Manag	er:									-						T	T	-
⊇A/QC Pa	-		Level 4 (Full Validation)		NELSON VE	ELEZ	(80218)	(Ajuo	MRO)			(5)		04,50							۵	
Accreditat				Sampler:	NELSON VE	ELEZ 92V	80		DRO /	1	1	SIM		02,6	5			ce			mp	
□ NELAF	3	□ Other	*	On Ice:	p Yes	□No	1	+ TPH (Gas	~-	418.	504.	3270		N,EO	Solid		(V)	Salan			e sa	r N
□ EDD (	Type)			Sample Temp	erature: ///	2	1	E +	(GR(	pou	pou	or	etals	N,	ved	(A)	i-V	ian		e l	osit	۷.
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 <sub>3</sub> ,NO <sub>2</sub> ,PO <sub>4</sub> ,SO <sub>4</sub> )	Total Dissolved Solids	8260B (VOA)	8270 (Semi-VOA)	Cation / Anion Balance		Grab sample	5 pt. composite sample	Air Bubbles (Y or
2/24/15	1030	WATER	MW # 6	40 ml VOA - 2	HCl & Cool	-001	٧													٧		_
																				$\top$	$\top$	_
																			$\top$	$\forall$	$\top$	_
																			$\top$	$\top$	+	-
																			$\top$	$\top$	$\top$	-
	-												$\vdash$							+	+	-
				-							-	-	-		_				_	$\dashv$	+	_
	-						-	-	-	-	$\vdash$		-				-		$\vdash$	+	+	_
	-			-			-	-		-	-	-	-		_	-			$\vdash$	+	+	_
							-	-	_	-	$\vdash$	-	-			-	-		$\vdash$	+	+	_
	-			-		-	-	-		-	$\vdash$	-	-		-	-			$\vdash$	+	+	_
	-			-			-	-		-	-	-	-	-	-	-	-	-	$\vdash$	$\dashv$	+	_
Date:	Time;	Relinquishe	ed hv:	Received by		Date Time	Ror	nark														_
124/5	1315	71	len UZ	Mr. +	Wast	2/24/15/13/15																
Date:	Time:	Relinquishe	ed by:	Received by:	- Willes	Date Time	1313															
124/15	1714	Main	carotadil oute	1 A	- 172. En	K 1730																

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1502A18

26-Feb-15

Client:

**Blagg Engineering** 

Project:

GCU # 145

Sample ID 5ML RB	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8021B: Volati	iles		
Client ID: PBW	Batch	1D: <b>R2</b>	4516	R	RunNo: 2	4516				
Prep Date:	Analysis D	ate: 2/	25/2015	S	SeqNo: 7	21920	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	80	120			

Sample ID 100NG BTEX LC	S SampT	ype: LC	S	TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSW	Batch	ID: <b>R2</b>	4516	F	RunNo: 2	4516					
Prep Date:	Analysis D	ate: 2/	25/2015	S	SeqNo: 7	21921	Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	22	1.0	20.00	0	112	80	120				
Toluene	22	1.0	20.00	0	110	80	120				
Ethylbenzene	22	1.0	20.00	0	108	80	120				
Xylenes, Total	64	2.0	60.00	0	106	80	120				
Surr: 4-Bromofluorobenzene	23		20.00		115	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 Caboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-1975 pAN: 305-345-4107

Website: www.halfenvironmental.com

				-			
Client Name:	BLAGG	Work Order Number.		18		RoptNe	o: 1
Received by/da	ite:	02/25/1	5				
Logged By.	Ashley Gallegos	2/25/2015 7:30:00 AM			A		
Completed By:	Ashley Gallegos	2/25/2015 8:59:18 AM			Ag		
Reviewed By:	Ca	02/25/15			4		
Chain of Cu	stody	0-101111					
1 Custody se	als intact on sample bottles?		Yes		No _	Not Present i✓	
	Custody complete?		Yes	~	No	Not Present	
3. How was th	ne sample delivered?		Cour	<u>16</u> r			
Log In							
4. Was an att	tempt made to cool the sample	57	Yes	Y	No	NA	]
5. Were all sa	amples received at a temperati	ire of >0° C to 6 0°C	Yes	V	No _	NA _	
6. Sample(s)	in proper container(s)?		Yes	<b>y</b>	No _		
7. Sufficient s	ample volume for indicated te	st(s)?	Yes	<b>✓</b>	No 🗆		
B. Are sample	es (except VOA and ONG) pro	perly preserved?	Yes	~	No		
9. Was prese	rvative added to bottles?		Yes	Ĺ	No 🗸	NA :	
10. VOA vials I	have zero headspace?		Yes	<b>V</b>	No 🗌	No VOA Vials	
11 Were any	sample containers received br	oken?	Yes		No Y	# of preserved	
17 5	number to the laborate		Yes	7	No	bottles checked	
	rwork match bottle labels? epancies on chain of custody)		103	_	,,,,	(<	2 or >12 unless noted)
•	es correctly identified on Chain	of Custody?	Yes	<b>V</b>	No	Adjusted?	
	what analyses were requested?		Yes	V	No		
15. Were all ho	olding times able to be met? y customer for authorization.)		Yes	V	No	Checked by	<i>y</i> :
Special Han	dling (if applicable)						
	notified of all discrepancies wi	th this order?	Yes		No	NA 3	
	on Notified:	Date					
By W	/hom.	Via.	eW	ail	Phone Fax	in Person	
	arding:						
Clien	t Instructions:						-
17. Additional	remarks:						
18 Cooler In	1	Seal Intact   Seal No	Seal D	ato	Signed By	1	
1	12 Good	Yes				1	

CLIENT: BP AMERICA PROD. CO. CHAIN-OF-CUSTODY#:								N/A			
GCU # 145		D40IA/			LABORATOR	RY (S) USED	:	HALL ENVIRONMENTAL			
UNIT A, SI	EC. 26, T29N	, R12W									
Date :	May 28, 201	15			[	DEVELOPER	/ SAMPLER :	Ν.	JV		
Filename:	GCU 145 m	w log 2015-0	)5-28.xls			PROJECT	MANAGER :	N.	JV		
Sample	WELL	WATER	DEPTH TO	TOTAL	SAMPLING	рН	CONDUCT	TEMP.	VOLUME		
ID	ELEV.	ELEV.	WATER	DEPTH	TIME	рп	(umhos)	(celcius)	PURGED		
	(ft)	(ft)	(ft)	(ft)			(	(**************************************	(gal.)		
MW #6	-	-	9.49	17.66	1040	7.15	1,300	14.8	4.00		
	INSTRUMENT CALIBRATIONS = 4.01/7.00/10.00 2,800										
	DATE & TIME = 05/11/15 0600										
NOTES: Volume of water purged from well prior to sampling; $V = pi \times r2 \times h \times 7.48 \text{ gal./ft3} \times 3 \text{ (wellbores)}$ . (i.e. 2" MW $r = (1/12) \text{ ft. } h = 1 \text{ ft.}$ ) (i.e. 4" MW $r = (2/12) \text{ ft. } h = 1 \text{ ft.}$ )											
	Ideally a m	inimum of t	hree (3) we	llbore volur	nes:	2.00 " well	diameter =	0.49 gal. / f	t. of water.		
Comments	or note wel	l diameter i	f not standa	ard 2 ".							
Excellent re	covery in MW	#6. Collec	cted sample f	or BTEX pe	r US EPA Me	ethod 8021B	from MW #	6 only .			
Purged well	using 2 inch	submersible	electrical pun	np, new/cle	ear vinyl tubin	ig, and with	brass adjusta	ble flow			
valve attach	ment added i	near sampling	end of tubi	ng							
Top of casing	g: MW #6 ~ 0.1	13 ft. below gr	ade.								

on-site	9:45 AM	temp	63 F
off-site	11:00 AM	temp	68 F
sky cond.		Sunny	
wind speed	0 - 5	direct.	ESE

## Lab Order 1505C52

Date Reported: 6/2/2015

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: MW # 6

Project: GCU # 145

Collection Date: 5/28/2015 10:40:00 AM

Lab ID: 1505C52-001

Matrix: AQUEOUS

Received Date: 5/29/2015 7:00:00 AM

Analyses	Result	RL (	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst	NSB
Benzene	28	1.0		μg/L	1	5/29/2015 10:52:41 PM	R26505
Toluene	1.0	1.0		μg/L	1	5/29/2015 10:52:41 PM	R26505
Ethylbenzene	59	1.0		μg/L	1	5/29/2015 10:52:41 PM	R26505
Xylenes, Total	350	20		μg/L	10	6/1/2015 8:05:48 PM	R26543
Surr: 4-Bromofluorobenzene	144	80-120	S	%REC	1	5/29/2015 10:52:41 PM	R26505

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

CI	hain-c	of-Cus	tody Record	Turn-Around T	ime:						AL			NIX.	/TE	20	M	ME	· NIT	ГА	í	
Client:	BLAG	G ENGR.	/ BP AMERICA	☑ Standard	Rush _		-											R/				
				Project Name:													.com					
Mailing A	ddress:	P.O. BO	X 87		GCU # 14	5		49	01 F									3710	9			
		BLOOM	FIELD, NM 87413	Project #:				Τe	el. 50	05-3	45-3	975		Fax	505	-345	-410	)7				
Phone #:		(505) 63	2-1199	1											Rec	-						The Parket
email or F	ax#:			Project Manag	er:																	
QA/QC Pad	_		Level 4 (Full Validation)		NELSON VE	LEZ	WB's (8021B)	only)	MRO)			S)		04,50							0	
Accreditat				Sampler:	NELSON VE	LEZ 92V	-8	Gas	-	1	1	SIM		0 <sub>2</sub> ,F	S			e			mple	
□ NELAP		☐ Other			☑ Yes		1	PH (	IQ/	118.	904	270		3,8	olid		(A)	alan			e sai	
□ EDD (1	ype)			Sample Tempe	rature, Za		Ŧ	E+1	GRC	po 7	bo	or 8	tals	N.	ved S	F	i-V0	on B		<u>e</u>	osit	
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO.	BTEX MTBG	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,NO <sub>3</sub> ,NO <sub>2</sub> ,PO <sub>4</sub> ,SO <sub>4</sub> )	Total Dissolved Solids	8260B (VOA)	8270 (Semi-VOA)	Cation / Anion Balance		Grab sample	5 pt. composite sample	
5/28/15	1040	WATER	MW # 6	40 ml VOA - 2	HCl & Cool	-001	٧													٧	T	
																		П		$\neg$	T	-
																					$\top$	-
			A STATE OF THE STA							$\vdash$				_							$\top$	-
							-									-				$\neg$	$\dashv$	-
							-			-	$\vdash$			-							+	-
							-	-			-	-		-	-	-		$\vdash$			$\dashv$	-
							-					-		-	-	-	-				$\dashv$	-
							-	-		-	-		-		-		_			-	$\dashv$	-
							-	_		-	-	-	-	-	-	-	_				$\dashv$	-
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							_		_	_	<u> </u>		_		_		_			_	$\dashv$	-
								L,			L										$\bot$	_
Date: 5/28/15	Time:	Relinquishe	ad by:	Received by:		Date Time	1	nark														
/ /	1535	16	my	/ Mister	Walley	5/28/15 1535	1	LL DI							100							
Date:	Time:	Relinquish	Va	Received by:	<del>_</del>	Date Time							ourt,	Farr	ningt	on, l	8 MV	37401				
5/28/15	1800	1/hr	t Walls	1	05/8	1/15 0700	Pa	ykey	: ZE	VHO	IREN	VIE										-

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1505C52

02-Jun-15

Client:

**Blagg Engineering** 

Project:

GCU # 145

Sample ID	5ML RB	SampT	ype: ME	BLK	Tes	tCode: E	PA Method	8021B: Volat	iles		
Client ID:	PBW	•	1D: <b>R2</b>			RunNo: 2					
Prep Date:		Analysis D				SegNo: 7		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								
Surr: 4-Bron	nofluorobenzene	21		20.00		105	80	120			
Sample ID	100NG BTEX LCS	SampT	ype: LC	S	Tes	tCode: E	PA Method	8021B: Volat	iles		
Client ID:	LCSW	Batch	ID: R2	6505	F	RunNo: 2	6505				
Prep Date:		Analysis D	ate: 5/	29/2015	8	SeqNo: 7	87689	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		23	1.0	20.00	0	116	80	120			
Toluene		23	1.0	20.00	0	117	80	120			
Ethylbenzene		22	1.0	20.00	0	112	80	120			
Surr: 4-Bron	nofluorobenzene	22		20.00		108	80	120			
Sample ID	5ML RB	SampT	ype: ME	BLK	Tes	tCode: E	PA Method	8021B: Volat	iles		
Client ID:	PBW	Batch	1D: <b>R2</b>	6543	F	RunNo: 2	6543				
Prep Date:		Analysis D	ate: 6/	1/2015	S	SeqNo: 7	88822	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Xylenes, Total		ND	2.0								
Surr: 4-Bron	nofluorobenzene	19		20.00		97.0	80	120			
Sample ID	100NG BTEX LCS	SampT	ype: LC	S	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID:	LCSW	Batch	ID: <b>R2</b>	6543	R	RunNo: 2	6543				
Prep Date:		Analysis D	ate: 6/	1/2015	S	SeqNo: 7	88823	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Xylenes, Total		64	2.0	60.00	0	106	80	120			
Surr: 4-Bron	nofluorobenzene	22		20.00		112	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

					West of the same		-			
Client	Name:	BLAGG		Work C	order Numb	er: 1505	C52		RcptNo:	1
Receiv	ed by/dat	e: <b>\</b>	_	05/29	dis					
Logge	d By:	Lindsay Ma	angin	5/29/2015	7:00:00 A	M		James House	)	
Comp	leted By:	Lindsay Ma	angin	5/29/2015	9:12:34 A	M		Simely Hope	)	- And the state of
Review	wed By:	1-A0	1	05/2	sali			000		
Chain	of Cus	tody	Λ	00/	- 111	<u>)</u>				!
			mple bottles?		a.	Yes		No 🗀	Not Present	
		Custody comp				Yes		No 🗌	Not Present	
		e sample deliv				Cour	ier			
Log	In									
			and the name	lee?		Yes		No 🗆	NA 🗆	
4. V	ras an alle	empt made to	cool the samp	les :		res		, 140	14A 🗀	
5. W	ere all sar	mples receive	d at a tempera	ture of >0° C	to 6.0°C	Yes		No 🗌	NA 🗌	
6 0	(- (- ) )		(-)0			Yes		No.		
O. S	ample(s) I	n proper conta	ainer(s)?			Yes		No 🗔		
7. Su	ufficient sa	ample volume	for indicated to	est(s)?		Yes		No 🗀		
8. Ar	e samples	s (except VOA	and ONG) pro	perly preserve	ed?	Yes		No 🗌		
9. W	as presen	vative added t	o bottles?			Yes		No 🐼	NA 🗌	
10 vc	OA vials h	ave zero head	space?			Yes		No 🗌	No VOA Vials	
			ers received b	roken?		Yes		No 🖈	1	
, ,,,									# of preserved bottles checked	
		work match bo				Yes		No 🗌	for pH:	12 unland nated)
			ain of custody			Vaa		No 🗌	Adjusted?	or >12 unless noted)
			ntified on Chai vere requested			Yes Yes		No 🗆		
		ding times ab				Yes		No 🗌	Checked by:	
		-	authorization.)							
0		W //8	-#k-1-\						-6	
		lling (if ap							🖪	
16.W	as client r	notified of all d	iscrepancies v	rith this order?	100	Yes		No L	NA 🗹	1
į		n Notified:			Date	:				
	By WI		***************************************		Via:	eMa	ail	Phone Fax	☐ In Person	
	Regar			THE CONTRACT OF THE PARTY OF TH		MEL-MANDEL MANDEL MANDE				
47		Instructions:				. ***				
17. A	dditional r	emarks:								
18. <u>c</u>	ooler Info		L a	المستحا					1	
r	Cooler N	lo Temp °C 2.0	Condition	Seal Intact Yes	Seal No	Seal Da	ate	Signed By		
l.				1	l	d 4 4 4 4	,		I	

CLIENT:	BP AMER	RICA PRO	D. CO.		CHAIN-OF-C	USTODY # :		N	/ A
GCU # 145 UNIT A. SI	EC. 26, T29N	. R12W			LABORATOR	RY (S) USED	:	HALL ENVIR	RONMENTAL
Date :	August 26, 2	2015	29 26 vla		[		/ SAMPLER : MANAGER :		1 V
Filename :	GCU 145 III	w 10g 2015-0	J0-20.XIS			PROJECT	WANAGER .	IN .	J V
Sample ID	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	рН	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
MW #6	_		6.83	17.66	1100	7.13	800	20.5	4.00
10100 #6	-	_		UMENT CAL	IBRATIONS =	4.01/7.00/10.00 08/19/15	2,800 0900	20.5	4.00
NOTES:					ampling; V = r = (2/12) ft.		X 7.48 gal./ft	3) X 3 (wellb	ores).
	,		three (3) we		mes:	2.00 " well	diameter =	0.49 gal. / f	t. of water.
			if not standa						
					er US EPA Me				
					ear vinyl tubir	ig, and with	brass adjusta	DIE TIOW	
valve attach	ment added i	near sampling	g end of tubin	ng					
		***		H					
Top of casin	g: MW #6 ~ 0.	13 ft. below gr	rade.						

on-site	10:45 AM	temp	63 F
off-site	11:45 AM	temp	65 F
sky cond.		Cloudy	
wind speed	5 - 10	direct.	NE

### Lab Order 1508E37

Date Reported: 9/4/2015

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: MW # 6

Project: GCU # 145

Collection Date: 8/26/2015 11:40:00 AM

Lab ID: 1508E37-001

Matrix: AQUEOUS

Received Date: 8/28/2015 8:25:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SH	IORT LIST				Analys	: DJF
Benzene	5.0	1.0	μg/L	1	9/2/2015 6:18:19 PM	A28626
Toluene	ND	1.0	μg/L	1	9/2/2015 6:18:19 PM	A28626
Ethylbenzene	9.1	1.0	μg/L	1	9/2/2015 6:18:19 PM	A28626
Xylenes, Total	30	1.5	μg/L	1	9/2/2015 6:18:19 PM	A28626
Surr: 1,2-Dichloroethane-d4	99.6	70-130	%REC	1	9/2/2015 6:18:19 PM	A28626
Surr: 4-Bromofluorobenzene	97.7	70-130	%REC	1	9/2/2015 6:18:19 PM	A28626
Surr: Dibromofluoromethane	109	70-130	%REC	1	9/2/2015 6:18:19 PM	A28626
Surr: Toluene-d8	101	70-130	%REC	1	9/2/2015 6:18:19 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
- 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

CI	hain-d	of-Cus	tody Record	Turn-Around T	ime:					ŀ	AL		E	N	/T E	20	NI	ME	N	ΓΑ	ı
Client:	BLAG	G ENGR.	/ BP AMERICA	Standard     Standard	Rush _		-													OR	
				Project Name:													.com				
Mailing Ad	ddress:	P.O. BO	K 87	1	GCU # 14	5		49	01 H								MM 8		9		
******		BLOOM	FIELD, NM 87413	Project #:					el. 50								-410				
Phone #:		(505) 63	2-1199	1								A	Anal	ysis	Red	ques	st				
email or F	ax#:			Project Manag	jer:									4						П	
QA/QC Pad  Standa			Level 4 (Full Validation)		NELSON VI	LEZ	HB'e (8021B)	onfy)	(MRO)			15)		PO4,50							e
Accreditat	ion:			Sampler:	NELSON VE	LEZ GNV	8	TPH (Gas	RO/	1)	£.	OSIN		102,	ş			e J			dui
□ NELAP		□ Other			χ Yes:		1	TPH	0/0	418	504	827	S	03,1	Solic		(A)	Balar			te sa
□ EDD (T	ype)			Sample Tempe	erature: 23	10,3,726	1	BE +	(GR	pou	poq	oc	etal	C,N	lved	8	nj-V(	ion		ble	posi
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO.	BTEX + A4E	BTEX + MTBE	TPH 8015B (GRO / DRO	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,NO <sub>3</sub> ,NO <sub>2</sub> ,PO <sub>4</sub> ,SO <sub>4</sub> )	Total Dissolved Solids	8260B (VOA)	8270 (Semi-VOA)	Cation / Anion Balance		Grab sample	5 pt. composite sample
8/26/15	1140	WATER	MW # 6	40 ml VOA - 2	HCI & Cool	-001	٧													٧	
	-																				
																				$\neg$	
	_																				
																					$\top$
Date: 8/27/15	Time:	Relinquish	larly	Received by:	Walt	Date Time	BI		RECT				ourt,	Farr	ningt	ton,	NM 8	7401			
8/27/15	1916	1/Shlu	A. Takelle	Joe Oc	W 08	3/28/15 0825	Pa	ıykey	: ZE	VH0:	LREN	/E									

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1508E37

04-Sep-15

Client:

Blagg Engineering

Project:

GCU # 145

Troject.										
Sample ID rb	SampT	ype: ME	BLK	Tes	tCode: E	PA Method	8260: Volatil	es Short I	_ist	
Client ID: PBW	Batch	n ID: A2	8626	F	RunNo: 2	28626				
Prep Date:	Analysis D	ate: 9/	2/2015	5	SeqNo: 8	866329	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.6		10.00		95.7	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		105	70	130			
Surr: Dibromofluoromethane	11		10.00		108	70	130			
Surr: Toluene-d8	9.8		10.00		98.1	70	130			
Sample ID 100ng Ics	SampT	ype: LC	s	Tes	tCode: E	PA Method	8260: Volatil	es Short L	ist.	
Client ID: LCSW	Batch	n ID: A2	8626	F	RunNo: 2	28626				
Prep Date:	Analysis D	ate: 9/	2/2015	\$	SeqNo: 8	866330	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	98.9	70	130			
Toluene	19	1.0	20.00	0	97.2	70	130			
Surr: 1,2-Dichloroethane-d4	9.7		10.00		97.1	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		105	70	130			
Surr: Dibromofluoromethane	11		10.00		108	70	130			
Surr: Toluene-d8	9.7		10.00		97.2	70	130			

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- 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
  - ed below quantitation limits Page 2
- 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

Client Name:	BLAGG	Work Order Number:	1508E37		RcptNo:	1
Received by/da	91	08/28/15		Simolal Albania		
Logged By:	Lindsay Mangin	8/28/2015 8:25:00 AM				
Completed By:	Lindsay Mangin	8/31/2015 6:25:06 AM		Timber Hading D		
Reviewed By:	On .	08/31/15				
Chain of Cus	stody /					
1. Custody se	als intact on sample bottles?		Yes	No 🗌	Not Present	
2. Is Chain of	Custody complete?		Yes 🖃	No 🗌	Not Present	
3. How was th	ne sample delivered?		Courier			
Log In						
4. Was an att	tempt made to cool the sample	es?	Yes 🖈	No 🗆	NA 🗀	
5. Were all sa	amples received at a temperat	ure of >0° C to 6.0°C	Yes 🕏	No 🗌	NA 🗆	
6. Sample(s)	in proper container(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 preserved?	Yes	No 🗌		
9. Was prese	rvative added to bottles?		Yes	No 🗹	NA 🗆	
10.VOA vials I	have zero headspace?		Yes 🕏	No 🗌	No VOA Vials	
11. Were any	sample containers received by	roken?	Yes	No 🕏	# of preserved	
			(TA)		bottles checked	
	rwork match bottle labels? epancies on chain of custody)		Yes 🖋	No 🗔	for pH: (<2 c	or >12 unless noted)
	es correctly identified on Chair		Yes 🖈	No 🗌	Adjusted?	
	hat analyses were requested		Yes 🐼	No 🗌		
	olding times able to be met? y customer for authorization.)		Yes 🖈	No 🗌	Checked by:	
Special Han	dling (if applicable)					
16. Was client	notified of all discrepancies w	ith this order?	Yes	No 🗆	NA 🐼	
Perso	on Notified:	Date:				
1	/hom:	Via:	eMail	Phone Fax	☐ In Person	
	arding:					
	t Instructions:			and the second s		
17. Additional	remarks:					i
18. Cooler Int	formation					
Cooler	1	Seal Intact   Seal No	Seal Date	Signed By	]	
1	2.6 Good	Yes			1	

CLIENT:	BP AMER	RICA PRO	D. CO.		CHAIN-OF-C	USTODY#:		N	/ A
GCU # 145 UNIT A, SI	EC. 26, T29N	I, R12W			LABORATOR	RY (S) USED	:	HALL ENVIR	RONMENTAL
Date :	December 9	9, 2015 w log 2015-1	2-09 xls		[		/ SAMPLER : MANAGER :		J V
r lichame .	000 110111	109 2010 1	2 00.210			TROOLOT	W TO TO LITT.		
Sample ID	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	рН	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
MW #6	-	-	7.01	17.66	1120	7.31	900	13.9	5.25
			INSTRU		BRATIONS =   E & TIME =	4.01/7.00/10.00	2,800 0600		
NOTES:					ampling; V = r = (2/12) ft.		X 7.48 gal./ft	3) X 3 (wellb	ores).
	Ideally a m	ninimum of t	hree (3) we	llbore volur	nes:	2.00 " well	diameter =	0.49 gal. / f	t. of water.
Comments	or note wel	ll diameter i	f not standa	ard 2".					
Excellent re	covery in MW	/ #6. Purge	d well using	2 inch subr	mersible electr	ical pump,n	iew / clear vin	yl tubing,	
and with br	ass adjustable	flow valve at	tachment add	ded near sa	mpling end of	tubing. Col	llected sample	e for BTEX	
per US EPA	Method 8021E	3 from MW #6	only.						
			***						
Top of casing	g: <b>MW</b> #6 ~ 0.	13 ft. below gra	ade.						

on-site	10:30 AM	temp	35 F
off-site	11:30 AM	_temp	40 F
sky cond.		Sunny	
wind speed	0 - 5	direct.	E

## Lab Order **1512616**

Date Reported: 12/21/2015

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: MW #6

Project: GCU #145

Collection Date: 12/9/2015 11:20:00 AM

Lab ID: 1512616-001

Matrix: AQUEOUS

Received Date: 12/11/2015 7:00:00 AM

Analyses	Result	RL Q	Qual U	nits	DF Date Analyzed Bat	ch
EPA METHOD 8021B: VOLATILES					Analyst: NS	В
Benzene	4.1	1.0	μ	ıg/L	1 12/17/2015 2:58:42 PM A30	)919
Toluene	ND	1.0	μ	ıg/L	1 12/17/2015 2:58:42 PM A30	)919
Ethylbenzene	7.4	1.0	μ	ıg/L	1 12/17/2015 2:58:42 PM A30	)919
Xylenes, Total	22	2.0	μ	ıg/L	1 12/17/2015 2:58:42 PM A30	0919
Surr: 4-Bromofluorobenzene	133	65-127	S 9	%REC	1 12/17/2015 2:58:42 PM A30	)919

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

Ch	ain-c	of-Cu	tody Record	Turn-Around 1	ime:		1	1 1		Н	AL	L	EN	[V]	[R	0	N	E	NT	[A]	L	
Client:	BLAG	G ENGR.	/ BP AMERICA		Rush _														\T(			
				Project Name						٧	vwv	v.hal	lenv	iron	me	ntal	.com	n				
Mailing Ad	ddress:	P.O. BO	K 87		GCU # 14	5		49	01 H	awkii	ns N	E -	Albu	ıque	rqu	ie, N	IM 8	710	9			
		BLOOM	FIELD, NM 87413	Project #:				Te	1. 50	5-34	5-39	75	Fa	x 50	05-3	345-	410	7		Mineral		
Phone #:		(505) 63	2-1199									Ar	aly	sis F	₹eq	ues	t					
email or F	ax#:			Project Manag	ger:									74)								
QA/QC Pad Standa	-		Level 4 (Full Validation)		NELSON VI	ELEZ	(8021B)	+ TPH (Gas only)	/ MRO}			AS)		PO <sub>4</sub> ,SC							<u>e</u>	
Accreditat	ion:			Sampler:	NELSON VI		-36	1 (Ga	/ DRO	ਜ਼	F	8270SIMS)			spi			nuce			amp	_
□ NELAP		☐ Other			X Yes :		4	TPI	0	418	204	827	S	တို့ ၂	Sol		OA	Balance			te s	or N
□ EDD (T	ype)			Sample Temp	erature: 7.5		4	BTEX + MTBE +	(68	hod	90	Oor	eta	5 .	lvec	8	J-i	ion		ple	posi	s (Y
Date	Time	Matrix	Sample Request ID	Container Type and # Preservative Type HEAL No.   S   D   D    40 ml VOA - 2 HCl & Cool — D					TPH 8015B (GRO	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310	RCRA 8 Metals	Anions (F,CI,NO <sub>3</sub> ,NO <sub>2</sub> ,PO <sub>4</sub> ,SO <sub>4</sub> )	Total Dissolved Solids	8260B (VOA)	8270 (Semi-VOA)	Cation / Anion		Grab sample	5 pt. composite sample	Air Bubbles (Y or N)
2/9/15	1120	WATER	MW # 6																	٧		
																-						
													T									
													1									
													T									
12/10/15	110/5 1258 MmVf			Mistro Work 12/10/15 1258		Remarks:  BILL DIRECTLY TO BP: 200 Energy Court, Farmington, NM 87401 Attn.: S. Moskal																
Date: 12/10/18	Time: 1840	Relinquishe	to Water	Received by: Date Time			VII			lixOI			ngto	on, N	IVI I	6/4	OT A	attn.	. S. I	VIOS	kai	

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1512616

21-Dec-15

Client:

Blagg Engineering

**Project:** 

GCU #145

Sample ID 5ML RB	SampT	ype: ME	BLK	TestCode: EPA Method 8021B: Volatiles						
Client ID: PBW	Batch	ID: <b>A3</b>	0919	R	RunNo: 3	0919				
Prep Date:	Analysis D	ate: 12	2/17/2015	S	SegNo: 9	45783	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	<b>S</b> SampT	ype: LC	s	Tes	tCode: E	PA Method	8021B: Volat	iles		
Client ID: LCSW	Batch	n ID: A3	0919	F	RunNo: 3	0919				
Prep Date:	Analysis D	)ate: 12	2/17/2015	S	SeqNo: 9	45784	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	97.4	80	120			
Toluene	20	1.0	20.00	0	97.8	80	120			
Ethylbenzene	20	1.0	20.00	0	99.3	80	120			
Xylenes, Total	58	2.0	60.00	0	96.3	80	120			
Surr: 4-Bromofluorobenzene	25		20.00		126	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



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 BLAGG Client Name: Work Order Number: 1512616 RcptNo: 1 Received by/date: Logged By: Ashley Gallegos 12/11/2015 7:00:00 AM Completed By: Ashlev Gallegos 12/14/2015 10:11:57 AM Reviewed By: Chain of Custody No 🗌 Yes Not Present ✓ 1. Custody seals intact on sample bottles? Yes 🗸 No 🗌 2. Is Chain of Custody complete? Not Present 3. How was the sample delivered? Courier Log In NA 🗌 No 🗌 4. Was an attempt made to cool the samples? Yes 🗸 NA 5. Were all samples received at a temperature of >0° C to 6.0°C No 🗍 Yes 🗸 No 6. Sample(s) in proper container(s)? 7. Sufficient sample volume for indicated test(s)? Yes 🗸 No 🗌 8. Are samples (except VOA and ONG) properly preserved? No 🗸 NA 9. Was preservative added to bottles? Yes Yes 🗸 No No VOA Vials 10. VOA vials have zero headspace? Yes No V 11. Were any sample containers received broken? # of preserved bottles checked No 🗌 Yes 🗸 for pH: 12. Does paperwork match bottle labels? (<2 or >12 unless noted) (Note discrepancies on chain of custody) Adjusted? No 🗌 Yes 🗸 13. Are matrices correctly identified on Chain of Custody? Yes 🗸 No 🗌 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) 16. Was client notified of all discrepancies with this order? Yes No 🗌 NA 🗸 Person Notified: Date By Whom: Via: eMail Phone Fax In Person Regarding: Client Instructions: 17. Additional remarks: 18. Cooler Information Seal Intact | Seal No Cooler No Temp °C Condition Seal Date Signed By 1.5 Good Yes

CLIENT:	BP AMER	RICA PRO	D. CO.		CHAIN-OF-CUSTODY#: N/A							
GCU # 145	EC. 26, T29N	D12W			LABORATOR	RY(S) USED	:	HALL ENVIR	RONMENTAL			
UNIT A, SI	EC. 26, 129N	, R12VV										
Date :	February 23	3, 2016			[	EVELOPER	/ SAMPLER :	Ν.	JV			
Filename:	GCU 145 m	w log 2016-0	)2-23.xls			PROJECT	MANAGER :	N.	JV			
Sample	WELL	WATER	DEPTH TO	TOTAL	SAMPLING	рН	CONDUCT	TEMP.	VOLUME			
ID	ELEV.	ELEV.	WATER	DEPTH	TIME		(umhos)	(celcius)	PURGED			
	(ft)	(ft)	(ft)	(ft)					(gal.)			
NAVA / 110			0.07	47.00	1450	0.00	4.000	40.0	4.50			
MW #6	-	-	8.67	17.66	1450 BRATIONS =	6.90	1,200 2,800	10.3	4.50			
			INSTRU		E & TIME =	02/23/16	0630					
	DATE & TIME = 02225/10 0000											
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 m	inimum of t	hree (3) we	Ilbore volur	nes:	2.00 " well	diameter =	0.49 gal. / fi	t. of water.			
	,		( )					3				
Comments	or note wel	l diameter i	f not standa	rd 2 ".								
					nersible electr							
				ded near sa	mpling end of	tubing. Col	llected sample	e for BTEX				
per US EPA	Method 8021E	3 from MW #6	only.									
	····											
1												
Top of casing	op of casing: MW #6 ~ 0.13 ft. below grade.											

on-site	2:00 PM	temp	41 F
off-site	3:00 PM	temp	37 F
sky cond.		Cloudy	
wind speed	0 - 10	direct.	N - W

## Lab Order **1602A69**

Date Reported: 3/1/2016

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: MW #6

Project: GCU 145

Collection Date: 2/23/2016 2:50:00 PM

Lab ID: 1602A69-001

Matrix: AQUEOUS

Received Date: 2/25/2016 7:20:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	3.8	1.0	μg/L	1	2/26/2016 1:00:15 PM	R32443
Toluene	ND	1.0	μg/L	1	2/26/2016 1:00:15 PM	R32443
Ethylbenzene	4.2	1.0	μg/L	1	2/26/2016 1:00:15 PM	R32443
Xylenes, Total	9.1	2.0	μg/L	1	2/26/2016 1:00:15 PM	R32443
Surr: 4-Bromofluorobenzene	122	65-127	%Rec	1	2/26/2016 1:00:15 PM	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
- 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

Cł	nain-c	of-Cus	tody Record	Turn-Around	Γime:		١,	ı		Н	IΑ		F	NV	/TE	3O	NI	ИF	N.	ГΔ		
lient:	BLAG	G ENGR.	/ BP AMERICA	☑ Standard	☐ Rush _														AT			
NOTIFICATION OF STREET	-010-100-00-00			Project Name	:												l.cor					
1ailing A	ddress:	P.O. BO	X 87		GCU # 14	5		49	01 H	lawk									9			
		BLOOM	FIELD, NM 87413	Project #:			1	Te	el. 50	)5-34	5-3	975	F	Fax	505-	-345	-410	7				
hone #:	- All Control of the State of t	(505) 63	2-1199			7						Д	nal	ysis	Red	ques	st					
mail or F	ax#:			Project Manaç	ger:									(4)								
A/QC Pa	-		Level 4 (Full Validation)		NELSON VI	ELEZ	MB/s (8021B)	s only)	/ MRO)			15)		PO4,SO							e	
ccredita	tion:			Sampler:	NELSON VI	ELEZ 97V	80 9	(Ga	/ DRO	1)	1)	8270SIMS)		102,	ds			nce			du	
NELAF	>	☐ Other		On Ice:	<b></b> Z∕Yes	□ No	1	TPH	1/0	418.	504	8270		ကိ	Soli		(AC	Balance			e sa	N N
EDD (	Гуре)			Sample Temp	erature: / 2		1	3E +	(GR	pou	pol	or	etals	C,N	ved	8	i-VC	Anion		e	osit	70
Date	Time	Matrix	Sample Request ID	The Container Preservative HEALING THE THE STATE OF STATE							5 pt. composite sample	Air Bubbles (Y or N)										
2/23/16	1450	WATER	MW # 6						Ė													
				70 mil 10 mil 2001																1	$\neg$	
																					$\dashv$	
***************************************							<del> </del>														$\dashv$	
		1	×				$\vdash$				-								$\Box$	-	1	
Processor and the second secon							+				_		_						$\vdash$	$\dashv$	$\dashv$	
							$\vdash$			$\vdash$									$\vdash$	$\dashv$	$\dashv$	
							-			$\dashv$	_					-				$\dashv$	$\dashv$	
				-		-	$\vdash$	-		$\vdash$	_					$\vdash$			$\overline{}$	-	$\dashv$	
				-			$\vdash$												$\vdash$	$\dashv$	$\dashv$	
		-		-			$\vdash$	-		$\vdash$	_	-					-		$\vdash$	$\dashv$	$\dashv$	
							-	-	-					_				_		$\dashv$		
ate:	Time:	Relinquish	ad by	Received by:		Date Time	Por	nark	<u> </u>													
2/24/16	1609	90	lar	Christin World Fre 1409				Remarks:  BILL DIRECTLY TO BP:														
ate:	Time:	Relinquishe	0					00 En	ergy	Cour	t, Fa	rmir	ngto	n, NN	A 87	401	Att	n.: J	ohn I	Ritch	iie	
24/14	1814	mol	5 Wester		02/25/			D: _		VRIT				Magazini .								
į	ii necessary	, camples sub	mitted to Hall Environmental may be su	subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.																		

## Hall Environmental Analysis Laboratory, Inc.

WO#: **1602A69 01-Mar-16** 

Client: Blagg Engineering

**Project:** GCU 145

Sample ID 5ML RB	SampT	ype: ME	BLK	Test	tCode: El	PA Method	8021B: Volati	iles		
Client ID: PBW	Batch	n ID: R3	2443	R	RunNo: 3	2443				
Prep Date:	Analysis D	ate: 2/	26/2016	S	SegNo: 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 LCS	SampT	ype: LC	S	Tes	tCode: El	PA Method	8021B: Volati	iles		
Client ID: LCSW	Batch	ID: R3	2443	R	RunNo: 3	2443				
Prep Date:	Analysis D	ate: 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

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

Clie	nt Name:	BLAGG		Work Order Number	: 1602	A69			RcptNo:	1
Rece	eived by/date	e: [//	702/251	16					х	
Logg	jed By:	Anne Thorr	ne	2/25/2016 7:20:00 AM			ane	Am	_	
Com	pleted By:	Anne Thorr	10	2/25/2016			Anne ,	1		
Revi	ewed By:	. (	2	02/25/1	/-		ame ,	<i>y</i> ,		
Chai	in of Cus	tody	A	0010)11	<i></i>					
		als intact on sa	mple bottles?		Yes		No		Not Present ✓	
		Custody compl			Yes	<b>✓</b>	No		Not Present	
3. H	low was the	sample delive	ered?		Cour	rier				
Log	<u>ı In</u>									
4.	Was an atte	empt made to	cool the samples?	•	Yes	<b>✓</b>	No		NA 🗆	
5. N	Nere all san	nples received	at a temperature	of >0° C to 6.0°C	Yes	<b>✓</b>	No		. NA □	
6. :	Sample(s) ir	n proper conta	iner(s)?		Yes	<b>✓</b>	No			
7. 8	Sufficient sa	mple volume f	or indicated test(s	3)?	Yes	<b>✓</b>	No			
8. 4	Are samples	(except VOA	and ONG) proper	ly preserved?	Yes	<b>✓</b>	No			
9. v	Nas preserv	vative added to	bottles?		Yes		No	<b>V</b>	NA 🗆	
10.\	/OA vials ha	ave zero heads	space?		Yes	<b>✓</b>	No		No VOA Vials	
11.1	Were any sa	ample containe	ers received broke	en?	Yes		No	<b>V</b>	# of preserved	
40.6			ula labata0		V		No	п	bottles checked for pH:	
		work match bot pancies on cha			Yes	V	NO			>12 unless noted)
			tified on Chain of	Custody?	Yes	<b>✓</b>	No		Adjusted?	
14.	s it clear wh	at analyses w	ere requested?		Yes	<b>✓</b>	No			
		ding times able			Yes	<b>✓</b>	No		Checked by:	
(	If no, notify	customer for a	uthorization.)							
Spec	cial Hand	lling (if app	licable)							
			screpancies with	this order?	Yes		No		NA 🗸	
	Person	Notified:		Date						
	By Wh	iom:		Via:	☐ eMa	ail P	hone	Fax	In Person	
	Regard	ding:								14
	Client I	Instructions:	Contraction and Advantage of Contraction of	N. W. C.			- Alberta Com			
17.	Additional re	emarks:		3.24						
18.	Cooler Info	rmation								
	Cooler No	o Temp ºC			Seal Da	ate	Signed E	Ву		
	1	1.2	Good Yes							

CLIENT:	BP AMER	RICA PRO	D. CO.		CHAIN-OF-C		N / A					
GCU # 145 UNIT A, S	EC. 26, T29N	l, R12W			LABORATOR	RY (S) USED	:	HALL ENVIE	RONMENTAL			
Date :	June 22, 20					DEVELOPER	/ SAMPLER :		JV			
Filename:	GCU 145 m	w log 2016-0	06-22.xls			PROJECT	MANAGER :	N	JV			
Sample	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	рН	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)			
MW #6	-	-	7.75	17.66	0700	7.14	1,200	16.1	4.75			
				DAT	E & TIME = [	06/20/16	0530					
NOTES:	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 m	ninimum of t	three (3) we	llbore volui	mes:	2.00 " well	diameter =	0.49 gal. / f	t. of water.			
Comments	or note wel	ll diameter i	f not standa	rd 2".								
Evcellent re	covery in MM	/#6 Purae	ad well using	2 inch suh	nersible electr	rical numn r	new / clear vin	nyl tubing				
					mpling end of							
	Method 8021E			acu ilcai sa	inpling cha of	tubing. 00	ilected Sample	C TOT BTEX				
per oo Li A	Wethor 6021E	5 110111 WW #0	Omy.									
								, , , , , , , , , , , , , , , , , , ,				
Top of casin	g: MW #6 ~ 0.1	13 ft. below ar	ade.									
	J	g.										

on-site	6:10 AM	temp	66 F
off-site	7:15 AM	temp	69 F
sky cond.		Mostly cloud	dy
wind speed	0 5	direct.	E

## Lab Order **1606D66**

Date Reported: 6/30/2016

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: MW #6

Project: GCU #145

**Collection Date:** 6/22/2016 7:00:00 AM

Lab ID: 1606D66-001

Matrix: AQUEOUS

Received Date: 6/24/2016 7:47:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SI	HORT LIST				Analys	: DJF
Benzene	1.5	1.0	μg/L	1	6/27/2016 12:04:24 AN	C35190
Toluene	ND	1.0	μg/L	1	6/27/2016 12:04:24 AM	C35190
Ethylbenzene	2.0	1.0	μg/L	1	6/27/2016 12:04:24 AM	C35190
Xylenes, Total	5.0	1.5	μg/L	1	6/27/2016 12:04:24 AM	C35190
Surr: 1,2-Dichloroethane-d4	106	70-130	%Rec	1	6/27/2016 12:04:24 AM	C35190
Surr: 4-Bromofluorobenzene	110	70-130	%Rec	1	6/27/2016 12:04:24 AM	C35190
Surr: Dibromofluoromethane	97.3	70-130	%Rec	1	6/27/2016 12:04:24 AM	C35190
Surr: Toluene-d8	92.6	70-130	%Rec	1	6/27/2016 12:04:24 AM	C35190

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

Ch	ain-c	of-Cus	tody Record	I um-Around	ıme:			ı	í i	H	IA		FI	NV	TE	10	NI	ИF	1	ΓΔΙ	L	
lient:	BLAG	G ENGR.	/ BP AMERICA	✓ Standard	☐ Rush _														AT(			
				Project Name				(.)			ww	w.ha	llen	viro	nme	ental	.con	n				
/lailing Ad	ddress:	P.O. BOX	X 87		GCU # 14	5		49	01 H	awk	ins I	NE -	Alb	uqu	erq	ıe, N	M 8	37109	9			
		BLOOM	FIELD, NM 87413	Project #:				Te	el. 50	5-34	5-3	975	F	ax 5	505-	345-	410	7				
hone #:		(505) 63	2-1199	]								А	naly	/sis	Rec	ques	ŧ					
mail or F	ax#:			Project Manag	ger:									(4)					$\Box$	T	$\Box$	
≀A/QC Pad ☑ Standa			Level 4 (Full Validation)		NELSON VI	ELEZ	4B4s (8021B)	s only)	/ MRO)			15)		PO₄,SC							e	
ccreditat		☐ Other		Sampler: On Ice:	NELSON VI	ELEZ NV	ABPs (S	эн (Ga	/ DRO	.8.1)	4.1)	8270SIMS)		3,NO <sub>2</sub> ,	olids			Balance			samp	ê
EDD (T	***************************************	- Other		Sample Temp	And the state of t	24	1	+	88	d 41	d 50	or 82	als	S.	ed Sc	_	VOA	n Ba		43	site	Yor
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO.	BTEX + MITE	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 c	RCRA 8 Metals	Anions (F,Cl,NO <sub>3</sub> ,NO <sub>2</sub> ,PO <sub>4</sub> ,SO <sub>4</sub> )	Total Dissolved Solids	8260B (VOA)	8270 (Semi-VOA)	Cation / Anion		Grab sample	5 pt. composite sample	Air Bubbles (Y or N)
6/22/16	0700	WATER	MW # 6	40 ml VOA - 2	HCl & Cool	-201	٧												1	٧	T	
															-							
																					$\Box$	
																					$\neg$	
																			$\Box$			
/23/16	Time: 1537	Relinguishe	by:	Received by:	n Whete	Date Time 1537	ВІ	nark LL DI	RECT													
ate: [73][L	Time: [844	Relinquishe	leto Wale	Received by:	a L	Date Time 04/24/16 0747	VI	D: _	Albert and trade to the	VDR	NKJ	IVA:	1	_					ohn f	A-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1		

## Hall Environmental Analysis Laboratory, Inc.

WO#: **1606D66** 

30-Jun-16

Client:

Blagg Engineering

**Project:** 

GCU #145

Sample ID rb	SampT	ype: ME	BLK	Tes	tCode: E	PA Method	8260: Volatile	es Short L	_ist	
Client ID: PBW	Batcl	h ID: C3	5190	F	RunNo: 3	5190				
Prep Date:	Analysis D	Date: 6/	26/2016	5	SegNo: 1	088895	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	10		10.00		101	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	9.9		10.00		98.6	70	130			
Surr: Toluene-d8	9.1		10.00		91.4	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	h ID: C3	5190	F	RunNo: 3	5190				
Prep Date:	Analysis D	Date: 6/	26/2016	5	SeqNo: 1	089164	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	23	1.0	20.00	0	114	70	130			
Toluene	20	1.0	20.00	0	99.8	70	130			
Surr: 1,2-Dichloroethane-d4	9.8		10.00		98.2	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	9.8		10.00		97.6	70	130			
Surr: Toluene-d8	9.3		10.00		93.3	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

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

Client Name	e: BLAGG	Work Order Number	er: 1606D	66		RcptNo:	1
Received by	date: A 0	6/24/16					
Logged By:	Anne Thome	6/24/2016 7:47:00 A	M	anne	Am		
Completed E	y: Anne Thorne	6/24/2016		Anne.	Am	_	
Reviewed By	. <u>70</u>	06/24/16					
Chain of C	ustody	, ,					
1. Custody	seals intact on sample	bottles?	Yes	☐ No		Not Present 🗹	
2. Is Chain	of Custody complete?		Yes	<b>✓</b> No		Not Present	
3. How was	the sample delivered?		Courie	er			
Log In							
4. Was an	attempt made to cool th	e samples?	Yes	No		NA $\square$	
5. Were all	samples received at a t	emperature of >0° C to 6.0°C	Yes	<b>✓</b> No		NA 🗆	
6. Sample(	s) in proper container(s)	?	Yes	<b>✓</b> No			
7. Sufficien	t sample volume for ind	icated test(s)?	Yes	<b>✓</b> No			
8. Are same	oles (except VOA and C	NG) properly preserved?	Yes	<b>✓</b> No			
9. Was pres	servative added to bottle	es?	Yes	□ No	<b>V</b>	NA 🗆	
10.VOA vial	s have zero headspace	?	Yes	<b>✓</b> No		No VOA Vials	
11. Were an	y sample containers red	ceived broken?	Yes	No.	~	# of preserved	
40 -						bottles checked	
	perwork match bottle lat crepancies on chain of		Yes	<b>V</b> No	Ш	for pH: (<2 or	>12 unless noted)
,	ices correctly identified		Yes	✓ No		Adjusted?	
14. Is it clear	what analyses were re-	quested?	Yes	<b>✓</b> No			
	holding times able to be		Yes	No		Checked by:	
(11 110, 110	tify customer for authori	zation.)					
Special Ha	ndling (if applicat	ole)					
16. Was clie	nt notified of all discrepa	ancies with this order?	Yes	□ No		NA 🗸	
Pe	rson Notified:	Date					
Ву	Whom:	Via:	eMai	Phone	Fax	In Person	
Re	garding:			A			
Clie	ent Instructions:						
17. Addition	al remarks:						
18. Cooler							
Coole	r No Temp °C Cor	dition   Seal Intact   Seal No	Seal Dat	te Signed	Ву		
Ľ	Z.#  G000	1169				I	

CLIENT:	BP AMER	RICA PRO	D. CO.		CHAIN-OF-C	N/A					
GCU # 145	-0 00 T00N	. D4014/			LABORATOR	:	HALL ENVIRONMENTAL				
UNIT A, SI	EC. 26, T29N	I, R12W									
Date :	August 22,	2016				DEVELOPER	/ SAMPLER :		JV		
Filename:	GCU 145 m	w log 2016-0	)8-22.xls			PROJECT	MANAGER:	N.	JV		
Sample	WELL	WATER	DEPTH TO	TOTAL	SAMPLING	рН	CONDUCT	TEMP.	VOLUME		
ID	ELEV.	ELEV.	WATER	DEPTH	TIME	Pii	(umhos)	(celcius)	PURGED		
	(ft)	(ft)	(ft)	(ft)					(gal.)		
MW #6		-	6.28	17.66	1200	7.07	600	22.8	5.50		
			INSTR		BRATIONS =   E & TIME =	4.01/7.00/10.00	2,800 0630				
				DA1	- a min -	00/10/10	0000	Ц			
NOTES:					ampling; V =		X 7.48 gal./ft	3) X 3 (wellb	ores).		
	(i.e. 2" MW	r = (1/12)  ft.	h = 1  ft.	(i.e. 4" MW	r = (2/12)  ft.	h = 1  ft.					
	Ideally a m	ninimum of t	hree (3) we	llbore volur	nes:	2.00 " well	diameter =	0.49 gal. / f	t. of water.		
			(0)					3			
Comments	or note we	ll diameter i	f not standa	ard 2".							
					mersible electr						
and with bra	ass adjustable	flow valve at	ttachment add	ded near sa	mpling end of	f tubing. Co	llected sample	e for BTEX			
per US EPA	Method 8021E	3 from MW #6	only.								
								-			
				Committee of the Commit	Commence of the Commence of th	The second second second					
Top of casing	g: MW #6 ~ 0.	13 ft. below gr	ade.								

on-site	11:10 AM	temp	69 F
off-site	12:10 PM	_temp	71 F
sky cond.		Mostly clou	ıdy
wind speed	0 - 5	direct.	SSE

### Lab Order 1608F05

Date Reported: 8/31/2016

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: MW #6

Project: GCU 145

Collection Date: 8/22/2016 12:00:00 PM

Lab ID: 1608F05-001

Matrix: AOUEOUS

Received Date: 8/25/2016 8:00:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SH	HORT LIST				Analyst	BCN
Benzene	2.2	1.0	μg/L	1	8/29/2016 8:23:00 PM	S36829
Toluene	ND	1.0	μg/L	1	8/29/2016 8:23:00 PM	S36829
Ethylbenzene	6.0	1.0	μg/L	1	8/29/2016 8:23:00 PM	S36829
Xylenes, Total	24	1.5	μg/L	1	8/29/2016 8:23:00 PM	S36829
Surr: 1,2-Dichloroethane-d4	103	70-130	%Rec	1	8/29/2016 8:23:00 PM	S36829
Surr: 4-Bromofluorobenzene	90.3	70-130	%Rec	1	8/29/2016 8:23:00 PM	S36829
Surr: Dibromofluoromethane	97.4	70-130	%Rec	1	8/29/2016 8:23:00 PM	S36829
Surr: Toluene-d8	96.0	70-130	%Rec	1	8/29/2016 8:23:00 PM	S36829

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	nain-c	of-Cus	tody Record	Turn-Around	ıme:		١,	1		H	IΑ	11	F	NV	/T F	5O	NI	ИF	NT	ΓΔΙ		
lient:	BLAG	G ENGR.	/ BP AMERICA	✓ Standard	☐ Rush												30					
				Project Name							ww	w.ha	illen	viro	nme	enta	l.con	n				
1ailing A	ddress:	P.O. BOX	X 87		GCU # 14	5		49	01 H	ławk									9			
		BLOOM	FIELD, NM 87413	Project #:				Te	el. 50	05-34	15-3	975	F	ax !	505-	345	-410	7				
hone #:		(505) 63	2-1199					· E				Д	nal	ysis	Red	ques	st					
mail or F	ax#:			Project Manag	ger:									4)						T		
A/QC Pa			Level 4 (Full Validation)		NELSON V	ELEZ	(021B)	s only)	/ MRO)			(S)		PO4, SO							<b>a</b>	
ccredita		□ Other		Sampler: On Ice:	NELSON V		**************************************	+ MTBE + TPH (Gas only)	/ DRO	18.1)	04.1)	8270SIMS)		3,NO2,	olids		4)	alance			sample	ê
EDD (				Sample Temp		35	1	E + T	GRO	pd 4	od 5		tals	J,NC	ed S	-	-00	on B		a	site	Yor
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO.	BTEX - MATE	BTEX + MTB	TPH 8015B (GRO	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or	RCRA 8 Metals	Anions (F,Cl,NO <sub>3</sub> ,NO <sub>2</sub> ,PO <sub>4</sub> ,SO <sub>4</sub> )	Total Dissolved Solids	8260B (VOA)	8270 (Semi-VOA)	Cation / Anion Balance		Grab sample	5 pt. composite	Air Bubbles (Y or N)
3/22/16	1200	WATER	MW # 6	40 ml VOA - 2	HCI & Cool	-001	٧	_					_		-	- 50				V	-	
											-										$\exists$	
											***************************************									+		
			***************************************																$\neg$	$\neg$	$\neg$	
																				$\dashv$	$\neg$	
			***************************************																7	1	$\neg$	
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Wall-Paradictions																					7	
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			Million construction (1995), and a state of the desired and a state of the desired and the des												-					$\neg$		
enmining political system (see Egil de system peles																				$\dashv$	$\neg$	
			· · · · · · · · · · · · · · · · · · ·																	7		
ate: 24//6	Time:	Relinquishe	d by:	Received by:	Wall	Date Time 8/24/16 1516	ВІ		RECT	TLY T												
ate:	Time: 2031	Relinguishe	d by:  Malk  Thilted to Hall Environmental may be suited.	Received by:		Date   Time	boot	p: _		Cour	INK.	WA:	1	_								

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1608F05 31-Aug-16

Client:

Blagg Engineering

**Project:** 

GCU 145

Sample ID 100ng lcs	SampT	ype: LC	S	Tes	tCode: El	PA Method	8260: Volatile	s Short L	_ist	
Client ID: LCSW	Batch	n ID: \$3	6829	F	RunNo: 3	6829				
Prep Date:	Analysis D	Date: 8/	29/2016	S	SeqNo: 1	141729	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	97.5	70	130			
Toluene	21	1.0	20.00	0	104	70	130			
Surr: 1,2-Dichloroethane-d4	9.7		10.00		96.6	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	9.5		10.00		94.6	70	130			
Surr: Toluene-d8	9.7		10.00		97.5	70	130			
Sample ID rb	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8260: Volatile	s Short L	ist	
Client ID: PBW	Batch	n ID: \$3	6829	F	RunNo: 3	6829				
Prep Date:	Analysis D	)ate: 8/	29/2016	S	SeqNo: 1	141730	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.8		10.00		98.0	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: 4-Bromofluorobenzene Surr: Dibromofluoromethane	10 9.4		10.00 10.00		101 94.4	70 70	130 130			

#### 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

W Sample container temperature is out of limit as specified



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: 1608F05 RcptNo: 1 BLAGG Client Name: Received by/date: Logged By: 8/25/2016 8:00:00 AM **Ashley Gallegos** Completed By: **Ashley Gallegos** 8/29/2016 12:18:59 PM Reviewed By: Chain of Custody No  $\square$ Not Present 1 Custody seals intact on sample bottles? Yes № П 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 NA 🗔 No 🗌 5. Were all samples received at a temperature of >0° C to 6.0°C Yes V No Yes V 6. Sample(s) in proper container(s)? Yes V 7. Sufficient sample volume for indicated test(s)? Yes 🗸 8. Are samples (except VOA and ONG) properly preserved? NA 🗍 No 🗸 Yes 🗌 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? # 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? No 🗌 ~ 14. Is it clear what analyses were requested? No 🗌 Checked by: Yes V 15. Were all holding times able to be met? (If no, notify customer for authorization.) Special Handling (if applicable) 16. Was client notified of all discrepancies with this order? Yes No 🗌 NA V Person Notified: Date eMail Phone Fax In Person By Whom: Via: Regarding: Client Instructions: 17. Additional remarks: 18. Cooler Information Cooler No | Temp °C | Condition | Seal Intact | Seal No Seal Date 3.5 Good

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

CLIENT:	BP AMER	RICA PRO	D. CO.		CHAIN-OF-C	USTODY#:		N	/ A
GCU # 145 UNIT A, SE	EC. 26, T29N	, R12W			LABORATOR	RY(S) USED	:	HALL ENVIR	RONMENTAL
Date :	December 1		12-16.xls		[		/ SAMPLER : MANAGER :	-	1 V
Sample ID	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	рН	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
MW #6	_	-	7.48	17.66	1130	6.96	800	14.5	5.00
			INSTRI	UMENT CALI DAT	BRATIONS = E & TIME =	4.01/7.00/10.00	2,800 0600		
NOTES:					mpling; V = r = (2/12) ft.		X 7.48 gal./ft	3) X 3 (wellb	ores).
	Ideally a m	inimum of t	hree (3) we	llbore volur	nes:	2.00 " well	diameter =	0.49 gal. / f	t. of water.
Comments	or note we	I diameter i	f not standa	ard 2".					
Excellent re-	covery in MV	/ #6. Purge	ed well using	2 inch subr	nersible electr	rical pump,n	new / clear vin	yl tubing,	
and with bra	ass adjustable	flow valve at	ttachment add	ded near sa	mpling end of	tubing. Co	llected sample	e for BTEX	
per US EPA	Method 8021E	3 from MW #6	only.						
Top of casing	g: MW #6 ~ 0.	13 ft. below ar	ade.						
- 55 51 000111	J 0.	201011 gi							

on-site	10:40 AM	temp	42 F
off-site	11:40 AM	temp	44 F
sky cond.		Cloudy	
wind speed	0 - 5	direct.	N

#### Lab Order 1612947

Date Reported: 12/27/2016

#### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: MW # 6

Project: GCU 145

Collection Date: 12/16/2016 11:30:00 AM

Lab ID: 1612947-001

Matrix: AQUEOUS Received Date: 12/17/2016 7:45:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SI	HORT LIST				Analy	st: RAA
Benzene	ND	2.0	μg/L	2	12/22/2016 12:17:00	PM SLW39
Toluene	ND	2.0	μg/L	2	12/22/2016 12:17:00	PM SLW39
Ethylbenzene	2.5	2.0	μg/L	2	12/22/2016 12:17:00	PM SLW39
Xylenes, Total	6.5	3.0	μg/L	2	12/22/2016 12:17:00	PM SLW39
Surr: 1,2-Dichloroethane-d4	94.3	70-130	%Rec	2	12/22/2016 12:17:00	PM SLW39
Surr: 4-Bromofluorobenzene	97.4	70-130	%Rec	2	12/22/2016 12:17:00	PM SLW39
Surr: Dibromofluoromethane	93.0	70-130	%Rec	2	12/22/2016 12:17:00	PM SLW39
Surr: Toluene-d8	97.8	70-130	%Rec	2	12/22/2016 12:17:00	PM SLW39

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

- 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

Ch	nain-c	of-Cus	tody Record	Turn-Around	Time:			3			-	IA	LL	EI	NV	TR	20	NI	1E	N	ГА	L	
Client:	BLAG	G ENGR.	/ BP AMERICA	Standard     Standard	☐ Rush _															AT(			
	***************************************	4477		Project Name	:					1.								l.con					
Mailing A	ddress:	P.O. BO	X 87	1	GCU # 14	15			49	01 H	lawk									9			
Management of the same of the		BLOOM	FIELD, NM 87413	Project #:							)5-34							-410					
Phone #:	<del></del>	(505) 63	2-1199	1									А	naly	/sis	Rec	ques	st				F 15.	
email or F	ax#:			Project Manag	ger:										4								
QA/QC Pa	_		Level 4 (Full Validation)		NELSON V	ELEZ		(8021B)	s only)	/ MRO)			(S)		PO₄,SO							е	
Accreditat	ion:			Sampler:	NELSON V	ELEZ	77 V	8) 9He	MTBE + TPH (Gas	/ DRO	1)	1	8270SIMS)		102,	SS			nce			mp	
□ NELAP		□ Other		On Ice:	Yes			TMBL	TPH	J/C	418.	504.	3270		03,1	Solic		(A)	Balar			e sa	N N
□ EDD (1	ype)			Sample Temp	erature: 7	2.1 + 1		4	3E +	(GR	por	pod	0	etals	CI,N	ved	(A)	i-V	ion		e e	osit	(۲
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO.	31,300,70	BTEX + NAT	BTEX + MT	TPH 8015B (GRO	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310	RCRA 8 Metals	Anions (F,CI,NO <sub>3</sub> ,NO <sub>2</sub> ,PO <sub>4</sub> ,SO <sub>4</sub> )	Total Dissolved Solids	8260B (VOA)	8270 (Semi-VOA)	Cation / Anion Balance		Grab sample	5 pt. composite sample	Air Bubbles (Y or N)
12/16/16	1130	WATER	MW # 6	40 ml VOA - 2	HCl & Cool	-001	(	٧													٧		
**************************************																							
Parameter 1981					<del>                                     </del>							$\neg$									$\neg$		
												-					-						
												$\dashv$	$\dashv$				_	$\vdash$	_	$\vdash$	$\dashv$		_
		-						-	_			$\dashv$			-		-				-	-	_
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Parameter								_	_			$\dashv$					_	_			-		-
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									L,														
Date: 12/16/16	10us	Relinquishe	hely	Received by:	Wall	Date Time	<u> </u>	BI		REC	TLY T			agtor	n NIA	1 97	<i>A</i> O1	Λ++	n · l	ohn	Ritc	hia	
Date:	Time: 1800	Relinquish	ed by:	Received by:		Date Time	749		D: .		VDR				— (NII)	11 0/1	-101	All	1 I J	JIIII	THE	ne.	
	If necessary,	samples sub	mitted to Hall Environmental may be su	bcontracted to other	accredited laboratori	es. This serves as n	otice	of this	possil	oility.	Any su	b-con	tracted	d data	will b	e clea	arly no	tated o	on the	analyt	ical re	port.	

# Hall Environmental Analysis Laboratory, Inc.

WO#: 1612947

27-Dec-16

Client:

Blagg Engineering

Project:

GCU 145

Sample ID 100ng LCS	SampT	ype: LC	s	Tes	tCode: E	PA Method	8260: Volatil	es Short I	ist	
Client ID: LCSW	Batch	ID: SL	.W39559	F	RunNo: 3	89559				
Prep Date:	Analysis D	ate: 12	2/21/2016	S	SegNo: 1	239951	Units: %Re	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	SampT	ype: ME	BLK	Tes	tCode: E	PA Method	8260: Volatil	es Short L	ist	
Client ID: PBW	Batch	ID: SL	.W39559	F	RunNo: 3	9559				
Prep Date:	Analysis D	ate: 12	2/21/2016	S	SeqNo: 1	239952	Units: %Re	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	SampT	ype: LC	s	Tes	tCode: E	PA Method	8260: Volatil	es Short L	ist	
Client ID: LCSW	Batch	ID: SL	.W39586	F	RunNo: 3	9586				
Prep Date:	Analysis D	ate: 12	2/22/2016	S	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	SampT	ype: ME	BLK	Tes	tCode: E	PA Method	8260: Volatil	es Short L	.ist	
Client ID: PBW			.W39586	R	RunNo: 3	9586				
Prep Date:	Analysis D	ate: 12	2/22/2016	S	SeqNo: 1	240943	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0	NAME OF TAXABLE PARTY OF TAXABLE PARTY.							
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.4		10.00		94.2	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	9.2		10.00		92.5	70	130			
Surr: Toluene-d8	10		10.00		100	70	130			

#### Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Holding times for preparation or analysis exceeded H

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

J Analyte detected below quantitation limits Page 2 of 2

P Sample pH Not In Range

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 O	rder Numbe	er: <b>1612</b> 9	947			RcptNo:	1
Received by	/date:	*	12/17/	16						
Logged By:	Lindsay M	angin	12/17/201	6 7:45:00	AM		Freshy	Hango	r.	
Completed E	By: Lindsay M	angin	12/17/201	6 8:46:31,	AM		findy	Alegano		
Reviewed By	. Afr		)	alial	110		0	U		Ì
Chain of C	9101	$\cap$	i e		IW					
		1			Yes		No		Not Present	
	seals intact on s	V			Yes	~	No	F )	Not Present	
							110	13		
3. How was	the sample deli	vereu?			Cour	ICI				
Log In										
4. Was an	attempt made to	cool the samp	les?		Yes	~	No		NA 🗌	
5. Were all	samples receive	d at a tempera	ture of >0° C t	o 6.0°C	Yes	<b>V</b>	No		NA 🗌	
6. Sample	(s) in proper cont	ainer(s)?			Yes	<b>V</b>	No	[_]		
7. Sufficien	t sample volume	for indicated to	est(s)?		Yes	V	No			
8. Are sam	ples (except VOA	and ONG) pro	operly preserve	ed?	Yes	V	No			
9. Was pre	servative added	to bottles?			Yes		No	~	NA [	
10.VOA via	ls have zero head	space?			Yes	<b>V</b>			No VOA Vials	
11. Were ar	ny sample contair	ners received b	roken?		Yes		No	<b>V</b>	# of preserved	
12 Daga aa	aanuark matab b	attle labele?			Yes	V	No	[-]	bottles checked for pH:	
	perwork match be screpancies on cl		)		res	(4)	140	£J	anne moment a	r >12 unless noted)
13. Are mate	ices correctly ide	ntified on Chai	n of Custody?		Yes	<b>V</b>	No		Adjusted?	
14. Is it clea	r what analyses v	vere requested	?		Yes	V	No			
	holding times ab				Yes	~	No		Checked by:	
(II no, no	tify customer for	authorization.)								
Special He	ndling (if ap	nlicable)								
			ith thin andar?		Yes	[]	No		NA 🗸	
1	nt notified of all o	iisciepancies v	nui triis order?		9-20X0-1000		INO		IVA (X.)	1
	rson Notified:			Date:	,	74			577.	
	Whom:			Via:	eMa	ii _	Phone	Fax	In Person	
	garding:									
1	ent Instructions:	1								[
17. Addition	al remarks:									
18. Cooler							L			
Coole			Seal Intact	Seal No	Seal Da	ate	Signed I	Ву		
1	2.1	Good	Yes							

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

CLIENT:	BP AMER	RICA PRO	D. CO.		CHAIN-OF-C	USTODY # :		N	/ A
GCU # 145		D 4 OLAY			LABORATOR	RY(S) USED	:	HALL ENVIR	RONMENTAL
UNIT A, SI	EC. 26, T29N	, R12W							
Date :	March 14, 2				[	DEVELOPER	/ SAMPLER :		JV
Filename :	GCU 145 m	w log 2017-0	)3-14.xls			PROJECT	MANAGER :	Ν.	JV
Sample	WELL	WATER	DEPTH TO	TOTAL	SAMPLING	рН	CONDUCT	TEMP.	VOLUME
ID	ELEV.	ELEV.	WATER	DEPTH	TIME	Pii	(umhos)	(celcius)	PURGED
	(ft)	(ft)	(ft)	(ft)					(gal.)
NAVA / #C			0.07	47.00	0050	7.04	4.000	40.4	4.05
MW #6		-	9.07	17.66	D950 BRATIONS =	7.24	1,200 2,800	10.4	4.25
			INSTRU		E & TIME =	03/14/17	0700		
					ı			ı	
NOTES:					$\frac{\text{ampling; V = }}{\text{r = (2/12) ft.}}$		X 7.48 gal./ft	3) X 3 (wellb	ores).
	(i.e. Z ivivv	1 - (1/12) 11.	. 11 – 1 11.)	(1.6. 4 10100	1 – (2/12) 11.	11 – 1 11.)			
	Ideally a m	inimum of t	hree (3) we	llbore volur	nes:	2.00 " well	diameter =	0.49 gal. / f	t. of water.
Commonto	or note wel	l diameter i	f not standard	and 0 !!					
Comments	or note wel	i diameter i	i not standa	110 2					
Excellent re	covery in MW	/ #6. Purae	ed well using	2 inch subr	nersible electr	rical pump . r	new / clear vin	vI tubina.	
					mpling end of				
	Method 8021E				, , , , , , , , , , , , , , , , , , ,				****
Top of casing	g: MW #6 ~ 0.1	13 ft, below an	ade.						
		3							

on-site	9:00 AM	temp	40 F
off-site	10:00 AM	_temp	46 F
sky cond.		Sunny	
wind speed	0 - 5	direct.	E-W

#### Lab Order 1703790

Date Reported: 3/17/2017

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: MW # 6

Project: GCU 145

Collection Date: 3/14/2017 9:50:00 AM

Lab ID: 1703790-001

Matrix: AQUEOUS

Received Date: 3/15/2017 7:20:00 AM

Analyses	Result	PQL Qu	al Units	DF 1	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	ND	1.0	μg/L	1	3/16/2017 4:50:18 PM	R41422
Toluene	ND	1.0	μg/L	1	3/16/2017 4:50:18 PM	R41422
Ethylbenzene	1.8	1.0	μg/L	1	3/16/2017 4:50:18 PM	R41422
Xylenes, Total	8.7	2.0	μg/L	1	3/16/2017 4:50:18 PM	R41422
Surr: 4-Bromofluorobenzene	117	80-120	%Rec	1	3/16/2017 4:50:18 PM	R41422

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

- 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	Time:					L	A		F	NV	TE	20	NI	ME	NT	CAI	
Client:	BLAC	G ENGR.	/ BP AMERICA	Standard Project Name	Rush_					A	N	AL	Y	SIS	S L	A		RA	AT		
Mailing A	ddress:	P.O. BO	X 87	1	GCU # 14	5		49	01 H								NM 8		9		
		BLOOM	FIELD, NM 87413	Project #:						)5-3							-410				
Phone #:		(505) 63	2-1199	1									9,223	ysis	W 50 10		-				
email or l	Fax#:			Project Manag	ger:			-													
QA/QC Pa			Level 4 (Full Validation)		NELSON VI	ELEZ	(80218)	s only)	/ MRO)			15)		PO4,504)							9
Accredita	tion.			Sampler:	NELSON VI	ELEZ 977	1 3	TPH (Gas	DRO	8.1)	1	SIN		102	ds			1Ce			du
D NELA	P	□ Other		On Ice:	XYes	□ Nc	1	TPH	~	418.	504	3270	10	03.0	Soli		A)	Balance			E Sa
□ EDD (	Type)	-		Sample Temp	erature:  -(		1	₹ +	(GR		po	0r 8	stals	Z	hed	F	i.VC	no.		u	osit (Y o
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO.	BTEX -MATE	BTEX 1 MTBE	TPH 8015B (GRO	TPH (Method	EDB (Method 504.1)	PAH (8310 or 82705IMS)	RCRA 8 Metals	Anions (F,Cl,NO <sub>3</sub> ,NO <sub>2</sub> ,PO <sub>4</sub> ,	<b>Total Dissolved Solids</b>	8250B (VOA)	8270 (Semi-VOA)	Cation / Anion			5 pt. composite sample Air Bubbles (Y or N)
3/14/17	0950	WATER	MW # 6	40 ml VOA - 2	HCI & Cool	-001	٧													V	
																				$\top$	$\top$
																					+
Date: 3/14/17	Time	Relinquishe	In V	Received by:	Jack :	Date Time 3/14/17 (6/6		nark		LY T	ОВ	P;									
Date: 3/14/17	Time:	Relinquishe	itiv. Dasla	Recaived by:	2031	Date Time 15/17/07/24		O En		Cour VDR				n. NA	A 87	401	Att	n.: J	ohn I	litchi	ie
1.11	If necessary	samples suc	mitted to half Environmental may or sol	bcontracted to other a	cered and laborations	s. This serves as notice of	f this	OCASIO	ulity.	Any si	ib-con	tracte	d data	a will b	e cles	ary no	nated (	on the	analyti	cal top	orf.

# Hall Environmental Analysis Laboratory, Inc.

Client: Blagg Engineering

Project: GCU 145

Sample ID RB	SampT	ype: ME	BLK	Tes	Code: El	PA Method	8021B: Volati	iles		
Client ID: PBW	Batch	ID: R4	1422	F	tunNo: 4	1422				
Prep Date:	Analysis D	ate: 3/	16/2017	S	SeqNo: 1	299249	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	22		20.00		109	80	120			

Sample ID 100NG BTEX LCS	SampT	ype: LC	s	Tes	tCode: El	PA Method	8021B: Volati	les		
Client ID: LCSW	Batch	n ID: <b>R4</b>	1422	F	RunNo: 4	1422				
Prep Date:	Analysis D	ate: 3/	16/2017	S	SeqNo: 1	299250	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	95.9	71.7	126			
Toluene	20	1.0	20.00	0	99.1	73.3	119			
Ethylbenzene	20	1.0	20.00	0	102	80	120			
Xylenes, Total	63	2.0	60.00	0	106	80	120			
Surr: 4-Bromofluorobenzene	22		20.00		111	80	120			

#### Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Holding times for preparation or analysis exceeded H

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

P Sample pH Not In Range

Reporting Detection Limit

Sample container temperature is out of limit as specified

Page 2 of 2

WO#:

1703790

17-Mar-17



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 Nur	nber: 1703790		RcptNo:	1
Received by/date:	:A	<	03/15/17				
Logged By:	Lindsay Ma	angin	3/15/2017 7:20:00	AM	Judy Hago		
Completed By:	Lindsay Ma	angin	3/15/2017 12:08:2	7 PM	Stranday Harger		
Reviewed By:	X a	I	03/15/17		0 0		
Chain of Custo	odv						
1. Custody seals		ample bottles?		Yes	No 🗌	Not Present ✓	
2. Is Chain of Cu				Yes 🗸	No 🗆	Not Present	
3. How was the				Courier			
Log In							
4. Was an atten	npt made to	cool the samples	?	Yes 🗸	No 🗆	NA 🗆	
5. Were all samp	ples received	d at a temperature	e of >0° C to 6.0°C	Yes 🗸	No 🗌	NA $\square$	
6. Sample(s) in	proper conta	ainer(s)?		Yes 🗸	No 🗆		
7. Sufficient sam	nple volume	for indicated test(	s)?	Yes 🗸	No 🗌		
8. Are samples (	except VOA	and ONG) prope	rly preserved?	Yes 🗹	No 🗌		
9. Was preserva	ntive added to	o bottles?		Yes	No 🗹	NA 🗌	
10.VOA vials hav	e zero head	space?		Yes 🗸	No 🗆	No VOA Vials	
11. Were any san	mple contain	ers received brok	en?	Yes	No 🗹	# of preserved	
						bottles checked	
12. Does paperwo		ottle labels? ain of custody)		Yes 🗸	No L	for pH:	or >12 unless noted)
13. Are matrices of			f Custody?	Yes 🗸	No 🗆	Adjusted?	
14. Is it clear what			-	Yes 🗹	No 🗌		
15. Were all holding (If no, notify co	•			Yes 🗹	No 🗌	Checked by:	
0		. H L ( - )					
Special Handli				· □		🗖	
16. Was client not	tified of all di	iscrepancies with	this order?	Yes 🗆	No U	NA 🗸	
Person I	,		Da	,			
By Who		-	Via	: eMail _	Phone Fax	In Person	
Regardii	ng: structions:	MARCHARING COOCHAIC	**************************************			N. T. COLOR DE LA	
	'						
17. Additional ren							
18. Cooler Inform		Condition Lo	and Intent   Contint	I contrate I	Cianad D.		
Cooler No	Temp °C	Good Ye	eal Intact   Seal No s	Seal Date	Signed By		

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

CLIENT :	BP AMER	RICA PRO	D. CO.		CHAIN-OF-C	USTODY#:		N	/ A		
GCU # 145 UNIT A, SE	EC. 26, T29N	, R12W			LABORATOR	RY (S) USED	:	HALL ENVIF	RONMENTAL		
Date :	May 26, 201				[	DEVELOPER	/ SAMPLER :		JV		
Filename :	GCU 145 m	w log 2017-0	05-26.xls			PROJECT	MANAGER :	N	J V		
Sample ID	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	рН	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)		
MW #6	_	_	8.25	17.66	0950	6.99	1,400	15.2	4.75		
	MW#6 8.25 17.66 0950 6.99 1,400 15.2 4.75  INSTRUMENT CALIBRATIONS = 4.01/7.00/10.00 2,800 DATE & TIME = 05/26/17 0600										
NOTES:					mpling; V = r = (2/12) ft.		X 7.48 gal./ft	3) X 3 (wellb	ores).		
	Ideally a m	inimum of t	hree (3) we	llbore volur	nes:	2.00 " well	diameter =	0.49 gal. / f	t. of water.		
Comments	or note wel	l diameter i	f not standa	rd 2".							
Excellent red	covery in MW	/ #6. Purge	d well using	2 inch subr	nersible electr	rical pump,n	ew / clear vir	nyl tubing,			
and with bra	ass adjustable	flow valve at	ttachment add	ded near sa	mpling end of	tubing. Co	llected sample	e for BTEX			
per US EPA	Method 8021E	3 from MW #6	only.								
***************************************											
-											
Top of casing	g: MW #6 ~ 0.	13 ft. below gr	ade.								

on-site	9:00 AM	temp	63 F
off-site	10:00 AM	temp	68 F
sky cond.		Sunny	
wind speed	0 - 10	direct.	E

#### Lab Order 1705E90

Date Reported: 6/2/2017

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: MW #6

Project: GCU #145

Collection Date: 5/26/2017 9:50:00 AM

Lab ID: 1705E90-001

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	ORT LIST				Analys	t: DJF
Benzene	1.2	1.0	μg/L	1	6/1/2017 1:01:47 AM	SL43178
Toluene	ND	1.0	μg/L	1	6/1/2017 1:01:47 AM	SL43178
Ethylbenzene	9.4	1.0	μg/L	1	6/1/2017 1:01:47 AM	SL43178
Xylenes, Total	12	1.5	μg/L	1	6/1/2017 1:01:47 AM	SL43178
Surr: 1,2-Dichloroethane-d4	92.8	70-130	%Rec	1	6/1/2017 1:01:47 AM	SL43178
Surr: 4-Bromofluorobenzene	105	70-130	%Rec	1	6/1/2017 1:01:47 AM	SL43178
Surr: Dibromofluoromethane	94.9	70-130	%Rec	1	6/1/2017 1:01:47 AM	SL43178
Surr: Toluene-d8	102	70-130	%Rec	1	6/1/2017 1:01:47 AM	SL43178

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

- 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	nain-c	of-Cus	stody Record	Turn-Around	illie.					Н	ΔΙ		FN	VT	RO	N	ME	NT	ΔΙ		
Client:	BLAG	G ENGR.	/ BP AMERICA		☐ Rush _													ATC			
				Project Name	:					٧	vww	/.hall	envii	onm	enta	l.cor	n				
Mailing A	ddress:	P.O. BO	X 87		GCU # 14	5		49	01 H	awkir	ns N	E - /	Albud	uero	Įue, Ι	NM 8	3710	9			
		BLOOM	FIELD, NM 87413	Project #:				Te	1. 50	5-345	5-39	75	Fax	505	-345	-410	7				
Phone #:		(505) 63	2-1199									An	alysi	s Re	que	st					
email or F	ax#:		and the second s	Project Manaç	ger:					T			13	F							
QA/QC Pa			Level 4 (Full Validation)	at .	NELSON VE	ELEZ	(8021B)	s only)	/ MRO)			AS)	PO. 50							e	
Accredita	tion:			Sampler:	<b>NELSON VE</b>	111	94	(Ga	DRO	17	न	8270SIMS)	ģ	sp			nce			dme	
□ NELAF		□ Other		On Ice:	☑ Yes	□ No ·	1	TPF	10	418	204	827	ے ای	Soli		OA)	Bala			te s	or N)
□ EDD (	Type)			Sample Temp	erature. /	3 3 4 4	1	BE +	(GR	bor .	9	oc :	etal CIN	lved	Æ	y-ic	ion		ble	osi	2
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEALNO. MOSEAO	BTEX MAT	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or	Anions (F CI NO, NO, PO, 50.)	Total Dissolved Solids	8260B (VOA)	8270 (Semi-VOA)	Cation / Anion Balance		Grab sample	5 pt. composite sample	Air Bubbles (Y
5/26/17	0950	WATER	MW # 6	40 ml VOA - 2	HCl & Cool	-001	٧								T				٧		
											T								1		
-											$\top$			T					$\top$	$\forall$	
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Date: 5/30/17	1200		Mr J		mm-	Date Time 05/3//7	ВІ		RECT	LY TC			ton l	JR# Q	7401	۸++	n · C1	tovo I	Mock	el.	
Date:	Time:	Relinquishe	ed by:	Received by:		Date Time	l .			CJWF											

# Hall Environmental Analysis Laboratory, Inc.

02-Jun-17

1705E90

WO#:

Client:

Blagg Engineering

Project:

GCU #145

Sample ID rb	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8260: Volatile	s Short L	ist	
Client ID: PBW	Batch	n ID: SL	43178	F	RunNo: 4	3178				
Prep Date:	Analysis D	ate: 5/	31/2017	S	SeqNo: 1	359057	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	9.7		10.00		97.3	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		99.6	70	130			
Surr: Dibromofluoromethane	9.8		10.00		97.7	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			
Sample ID 100ng Ics	SampType: LCS TestCode: EPA Method 8260: Volatiles Short List									

Sample ID 100ng Ics	SampT	ype: LC	S	Tes	tCode: El	PA Method	8260: Volatile	s Short L	ist	
Client ID: LCSW	Batch	ID: SL	43178	F	RunNo: 4	3178				
Prep Date:	Analysis D	ate: 5/	31/2017	8	SeqNo: 1	359058	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	70	130			
Toluene	20	1.0	20.00	0	102	70	130			
Surr: 1,2-Dichloroethane-d4	9.4		10.00		93.7	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		96.4	70	130			
Surr: Dibromofluoromethane	9.5		10.00		95.1	70	130			
Surr: Toluene-d8	9.9		10.00		99.3	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

Page 2 of 2

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 Nurr	nber: 1705E90		RcptNo: 1
Received By: Anne Tho	me 5/31/2017 7:15:00	AM	anne Am	_
Completed By: Andy Jans	sson 5/31/2017 8:08:07	AM	an Vacar	
Reviewed By: SPL	05/31/17		(a.y.)	
Chain of Custody				
1. Custody seals intact on s	ample bottles?	Yes	No 🗌	Not Present 🗹
2. Is Chain of Custody comp	plete?	Yes 🗸	No 🗀	Not Present
3. How was the sample deliv	vered?	Courier		
<u>Log In</u>				
4. Was an attempt made to	cool the samples?	Yes 🗹	No 🗌	NA 🗆
5. Were all samples receive	d at a temperature of >0° C to 6.0°C	Yes 🗹	No 🗆	NA 🗆
6. Sample(s) in proper conta	ainer(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	to bottles?	Yes	No 🗹	NA 🗆
10.VOA vials have zero head	dspace?	Yes 🗌	No 🗆	No VOA Vials
11. Were any sample contain	ners received broken?	Yes	No 🗹	# of preserved
12.Does paperwork match bo		Yes 🗸	No 🗆	bottles checked for pH:
(Note discrepancies on ch		· -	N- 🗆	(<2 or >12 unless noted) Adjusted?
13. Are matrices correctly ide	The state of the s	Yes ✓	No □	
14. Is it clear what analyses w 15. Were all holding times ab		Yes ✓	No 🗆	Checked by:
(If no, notify customer for		res 🖭	140 🗖	
Special Handling (if ap)	olicable)			
16. Was client notified of all d		Yes	No 🗆	NA 🗹
Person Notified:	Dat	e	AMBRIGATE ET LA SERVICIO EN ESTA ESTA ESTA ESTA ESTA ESTA ESTA ESTA	
By Whom:	Via	: eMail P	hone 🗌 Fax	In Person
Regarding:				
Client Instructions:	AND ANALOS ANALOS AND ANALOS ANALOS AND ANALOS ANALOS AND ANALOS AND ANALOS ANALOS AND ANALOS AND ANALOS AND ANALOS AND ANALOS AND ANALOS			
17. Additional remarks:				
18. Cooler Information Cooler No Temp °C 1 1.3	Condition   Seal Intact   Seal No Good   Yes	Seal Date	Signed By	

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

CLIENT:	BP AMER	RICA PRO	D. CO.		CHAIN-OF-C	USTODY #:		N	/ A
GCU#145 UNIT A, SI	EC. 26, T29N	l, R12W			LABORATOR	RY (S) USED	:	HALL ENVIR	RONMENTAL
Date :	June 18, 20 GCU 145 m	18 w log 2018-0	06-18.xls		Γ		/ SAMPLER : MANAGER :		J V OSKAL
, nonamo									
Sample	WELL	WATER	DEPTH TO	TOTAL	SAMPLING	рН	CONDUCT	TEMP.	VOLUME
ID	ELEV.	ELEV.	WATER	DEPTH	TIME		(umhos)	(celcius)	PURGED
	(ft)	(ft)	(ft)	(ft)					(gal.)
MW #6	-	_	-	17.66	_	-	-	-	-
MW #7	-	-	5.22	14.00	1130	6.94	1,100	17.8	4.25
MW #8	-	-	6.99	15.00	1230	7.05	1,000	18.2	4.00
			INSTRI	UMENT CALI	BRATIONS =	4.01/7.00/10.00	2,800		
				DAT	E & TIME =	06/14/18	0600		
NOTES:					ampling; V = r = (2/12) ft.		X 7.48 gal./ft	3) X 3 (wellb	ores).
	Ideally a m	inimum of t	three (3) we	llbore volur	mes:	2.00 " well	diameter =	0.49 gal. / f	t. of water.
Comments	or note wel	I diameter i	f not standa	ard 2 ".					
MW #7 & #8	installed on 5/	15/2018. Dev	veloped/purged	d on 5/31/201	18 (light brown	ish tint in app	earance, no a	pparent	
hydrocarbon	odor detected	physically in	purged water.	Purged well	using 2 inch s	ubmersible el	ectric pump, n	iew / clear	
vinyl tubing a	and with brass	adjustable flo	w valve attach	ment added	near sampling	end of tubing	. Collected s	amples for	
BTEX per US	S EPA Method	8260 & gene	ral chemistry p	arameters.					
Top of casing	g: <b>MW #</b> 7 ~ 2.2	20 ft. , <b>MW</b> #8	~ 2.20 ft. belo	w grade.					

on-site	10:45 AM	temp	74F
off-site	12:45 PM	temp	78 F
sky cond.		Sunny	
wind speed	0-5	direct.	SSE - E

#### Lab Order 1806B90

Date Reported: 7/6/2018

#### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: MW#7

GCU 145 **Project:** 

Collection Date: 6/18/2018 11:30:00 AM

Lab ID: 1806B90-001 Matrix: AQUEOUS

Received Date: 6/20/2018 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	MRA
Fluoride	1.1	0.10		mg/L	1	7/3/2018 11:54:46 AM	R52476
Chloride	21	2.5		mg/L	5	6/20/2018 11:31:03 AM	R52134
Nitrogen, Nitrite (As N)	ND	0.50	Н	mg/L	5	6/20/2018 11:31:03 AM	R52134
Bromide	ND	0.50		mg/L	5	6/20/2018 11:31:03 AM	R52134
Nitrogen, Nitrate (As N)	ND	0.50	Н	mg/L	5	6/20/2018 11:31:03 AM	R52134
Phosphorus, Orthophosphate (As P)	ND	2.5	Н	mg/L	5	6/20/2018 11:31:03 AM	R52134
Sulfate	530	10		mg/L	20	6/20/2018 11:43:28 AM	R52134
SM2510B: SPECIFIC CONDUCTANCE						Analyst:	JRR
Conductivity	1500	5.0		µmhos/c	1	6/21/2018 6:54:31 PM	R52161
SM2320B: ALKALINITY						Analyst:	JRR
Bicarbonate (As CaCO3)	217.9	20.00		mg/L Ca	1	6/21/2018 6:54:31 PM	R52161
Carbonate (As CaCO3)	ND	2.000		mg/L Ca		6/21/2018 6:54:31 PM	R52161
Total Alkalinity (as CaCO3)	217.9	20.00		mg/L Ca	1	6/21/2018 6:54:31 PM	R52161
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst:	KS
Total Dissolved Solids	1170	40.0	*D	mg/L	1	6/25/2018 4:16:00 PM	38842
EPA METHOD 6010B: DISSOLVED METALS						Analyst:	MED
Calcium	210	5.0		mg/L	5	6/25/2018 2:11:46 PM	A52214
Magnesium	29	1.0		mg/L	1	6/22/2018 3:50:53 PM	A52172
Potassium	1.9	1.0		mg/L	1	6/22/2018 3:50:53 PM	A52172
Sodium	75	1.0		mg/L	1	6/22/2018 3:50:53 PM	A52172
EPA METHOD 8260B: VOLATILES						Analyst:	RAA
Benzene	ND	1.0		μg/L	1	6/22/2018 10:20:00 AM	B52236
Toluene	ND	1.0		μg/L	1	6/22/2018 10:20:00 AM	B52236
Ethylbenzene	ND	1.0		μg/L	1	6/22/2018 10:20:00 AM	B52236
Methyl tert-butyl ether (MTBE)	ND	1.0		μg/L	1	6/22/2018 10:20:00 AM	B52236
1,2,4-Trimethylbenzene	ND	1.0		μg/L	1	6/22/2018 10:20:00 AM	B52236
1,3,5-Trimethylbenzene	ND	1.0		μg/L	1	6/22/2018 10:20:00 AM	B52236
1,2-Dichloroethane (EDC)	ND	1.0		μg/L	1	6/22/2018 10:20:00 AM	B52236
1,2-Dibromoethane (EDB)	ND	1.0		μg/L	1	6/22/2018 10:20:00 AM	B52236
Naphthalene	ND	2.0		μg/L	1	6/22/2018 10:20:00 AM	B52236
1-Methylnaphthalene	ND	4.0		μg/L	1	6/22/2018 10:20:00 AM	B52236
2-Methylnaphthalene	ND	4.0		μg/L	1	6/22/2018 10:20:00 AM	
Acetone	ND	10		μg/L	1	6/22/2018 10:20:00 AM	
Bromobenzene	ND	1.0		μg/L	1	6/22/2018 10:20:00 AM	
Bromodichloromethane	ND	1.0		μg/L	1	6/22/2018 10:20:00 AM	B52236
Bromoform	ND	1.0		μg/L	1	6/22/2018 10:20:00 AM	B52236
Bromomethane	ND	3.0		μg/L	1	6/22/2018 10:20:00 AM	B52236

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

- 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
- E Value above quantitation range
- Analyte detected below quantitation limits Page 1 of 17 J
- P Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

#### Lab Order 1806B90

Date Reported: 7/6/2018

#### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering Client Sample ID: MW#7

 Project:
 GCU 145
 Collection Date: 6/18/2018 11:30:00 AM

 Lab ID:
 1806B90-001
 Matrix: AQUEOUS
 Received Date: 6/20/2018 7:15:00 AM

Analyses	Result	PQL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analyst:	RAA
2-Butanone	ND	10	μg/L	1	6/22/2018 10:20:00 AM	B52236
Carbon disulfide	ND	10	μg/L	1	6/22/2018 10:20:00 AM	B52236
Carbon Tetrachloride	ND	1.0	μg/L	1	6/22/2018 10:20:00 AM	B52236
Chlorobenzene	ND	1.0	μg/L	1	6/22/2018 10:20:00 AM	B52236
Chloroethane	ND	2.0	μg/L	1	6/22/2018 10:20:00 AM	B5223
Chloroform	ND	1.0	μg/L	1	6/22/2018 10:20:00 AM	B5223
Chloromethane	ND	3.0	μg/L	1	6/22/2018 10:20:00 AM	B5223
2-Chlorotoluene	ND	1.0	μg/L	1	6/22/2018 10:20:00 AM	B5223
4-Chlorotoluene	ND	1.0	µg/L	1	6/22/2018 10:20:00 AM	B5223
cis-1,2-DCE	ND	1.0	μg/L	1	6/22/2018 10:20:00 AM	B5223
cis-1,3-Dichloropropene	ND	1.0	μg/L	1	6/22/2018 10:20:00 AM	B5223
1,2-Dibromo-3-chloropropane	ND	2.0	μg/L	1	6/22/2018 10:20:00 AM	B5223
Dibromochloromethane	ND	1.0	μg/L	1	6/22/2018 10:20:00 AM	B5223
Dibromomethane	ND	1.0	μg/L	1	6/22/2018 10:20:00 AM	B5223
1,2-Dichlorobenzene	ND	1.0	μg/L	1	6/22/2018 10:20:00 AM	B5223
1,3-Dichlorobenzene	ND	1.0	μg/L	1	6/22/2018 10:20:00 AM	B5223
1,4-Dichlorobenzene	ND	1.0	μg/L	1	6/22/2018 10:20:00 AM	B5223
Dichlorodifluoromethane	ND	1.0	μg/L	1	6/22/2018 10:20:00 AM	B5223
1,1-Dichloroethane	ND	1.0	μg/L	1	6/22/2018 10:20:00 AM	B5223
1,1-Dichloroethene	ND	1.0	μg/L	1	6/22/2018 10:20:00 AM	B5223
1,2-Dichloropropane	ND	1.0	μg/L	1	6/22/2018 10:20:00 AM	B5223
1,3-Dichloropropane	ND	1.0	μg/L	1	6/22/2018 10:20:00 AM	B5223
2,2-Dichloropropane	ND	2.0	μg/L	1	6/22/2018 10:20:00 AM	B5223
1,1-Dichloropropene	ND	1.0	μg/L	1	6/22/2018 10:20:00 AM	B5223
Hexachlorobutadiene	ND	1.0	μg/L	1	6/22/2018 10:20:00 AM	B5223
2-Hexanone	ND	10	μg/L	1	6/22/2018 10:20:00 AM	B5223
Isopropylbenzene	ND	1.0	μg/L	1	6/22/2018 10:20:00 AM	B5223
4-Isopropyltoluene	ND	1.0	μg/L	1	6/22/2018 10:20:00 AM	B5223
4-Methyl-2-pentanone	ND	10	μg/L	1	6/22/2018 10:20:00 AM	B5223
Methylene Chloride	ND	3.0	μg/L	1	6/22/2018 10:20:00 AM	B5223
n-Butylbenzene	ND	3.0	μg/L	1	6/22/2018 10:20:00 AM	B52236
n-Propylbenzene	ND	1.0	μg/L	1	6/22/2018 10:20:00 AM	B52236
sec-Butylbenzene	ND	1.0	μg/L	1	6/22/2018 10:20:00 AM	B52236
Styrene	ND	1.0	μg/L	1	6/22/2018 10:20:00 AM	B52236
tert-Butylbenzene	ND	1.0	μg/L	1	6/22/2018 10:20:00 AM	B52236
1,1,1,2-Tetrachloroethane	ND	1.0	μg/L	1	6/22/2018 10:20:00 AM	B52236
1,1,2,2-Tetrachloroethane	ND	2.0	μg/L	1	6/22/2018 10:20:00 AM	B52236
Tetrachloroethene (PCE)	ND	1.0	μg/L	1	6/22/2018 10:20:00 AM	B52236
trans-1,2-DCE	ND	1.0	μg/L	1	6/22/2018 10:20:00 AM	B52236

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

- \* 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 17
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

#### Lab Order 1806B90

Date Reported: 7/6/2018

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering Client Sample ID: MW#7

 Project:
 GCU 145
 Collection Date: 6/18/2018 11:30:00 AM

 Lab ID:
 1806B90-001
 Matrix: AQUEOUS
 Received Date: 6/20/2018 7:15:00 AM

Analyses	Result	PQL (	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analyst	RAA
trans-1,3-Dichloropropene	ND	1.0	μg/L	1	6/22/2018 10:20:00 AM	B52236
1,2,3-Trichlorobenzene	ND	1.0	μg/L	1	6/22/2018 10:20:00 AM	B52236
1,2,4-Trichlorobenzene	ND	1.0	μg/L	1	6/22/2018 10:20:00 AM	B52236
1,1,1-Trichloroethane	ND	1.0	μg/L	1	6/22/2018 10:20:00 AM	B52236
1,1,2-Trichloroethane	ND	1.0	μg/L	1	6/22/2018 10:20:00 AM	B52236
Trichloroethene (TCE)	ND	1.0	μg/L	1	6/22/2018 10:20:00 AM	B52236
Trichlorofluoromethane	ND	1.0	μg/L	1	6/22/2018 10:20:00 AM	B52236
1,2,3-Trichloropropane	ND	2.0	μg/L	1	6/22/2018 10:20:00 AM	B52236
Vinyl chloride	ND	1.0	μg/L	1	6/22/2018 10:20:00 AM	B52236
Xylenes, Total	ND	1.5	μg/L	1	6/22/2018 10:20:00 AM	B52236
Surr: 1,2-Dichloroethane-d4	100	70-130	%Rec	1	6/22/2018 10:20:00 AM	B52236
Surr: 4-Bromofluorobenzene	114	70-130	%Rec	1	6/22/2018 10:20:00 AM	B52236
Surr: Dibromofluoromethane	89.4	70-130	%Rec	1	6/22/2018 10:20:00 AM	B52236
Surr: Toluene-d8	110	70-130	%Rec	1	6/22/2018 10:20:00 AM	B52236

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

- 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 3 of 17
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

#### Lab Order 1806B90

Date Reported: 7/6/2018

#### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering Client Sample ID: MW#8

 Project:
 GCU 145
 Collection Date: 6/18/2018 12:30:00 PM

 Lab ID:
 1806B90-002
 Matrix: AQUEOUS
 Received Date: 6/20/2018 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	MRA
Fluoride	1.1	0.10		mg/L	1	7/3/2018 12:07:39 PM	R52476
Chloride	19	10		mg/L	20	6/20/2018 12:14:12 PM	R52126
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	6/20/2018 12:01:21 PM	R52126
Bromide	0.13	0.10		mg/L	1	6/20/2018 12:01:21 PM	R52126
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	6/20/2018 12:01:21 PM	R52126
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	6/20/2018 12:01:21 PM	R52126
Sulfate	390	10		mg/L	20	6/20/2018 12:14:12 PM	R52126
SM2510B: SPECIFIC CONDUCTANCE						Analyst:	JRR
Conductivity	1100	5.0		µmhos/c	1	6/21/2018 7:06:12 PM	R52161
SM2320B: ALKALINITY						Analyst:	JRR
Bicarbonate (As CaCO3)	203.8	20.00		mg/L Ca	1	6/21/2018 7:06:12 PM	R52161
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	6/21/2018 7:06:12 PM	R52161
Total Alkalinity (as CaCO3)	203.8	20.00		mg/L Ca	1	6/21/2018 7:06:12 PM	R52161
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst:	KS
Total Dissolved Solids	868	20.0	*	mg/L	1	6/25/2018 4:16:00 PM	38842
EPA METHOD 6010B: DISSOLVED METALS						Analyst:	JLF
Calcium	180	5.0		mg/L	5	6/22/2018 4:23:42 PM	A52172
Magnesium	20	1.0		mg/L	1	6/22/2018 3:52:33 PM	A52172
Potassium	ND	1.0		mg/L	1	6/22/2018 3:52:33 PM	A52172
Sodium	46	1.0		mg/L	1	6/22/2018 3:52:33 PM	A52172
EPA METHOD 8260B: VOLATILES						Analyst:	RAA
Benzene	2.4	1.0		μg/L	1	6/22/2018 10:44:00 AM	B52236
Toluene	ND	1.0		μg/L	1	6/22/2018 10:44:00 AM	B52236
Ethylbenzene	ND	1.0		μg/L	1	6/22/2018 10:44:00 AM	B52236
Methyl tert-butyl ether (MTBE)	ND	1.0		μg/L	1	6/22/2018 10:44:00 AM	B52236
1,2,4-Trimethylbenzene	4.2	1.0		μg/L	1	6/22/2018 10:44:00 AM	B52236
1,3,5-Trimethylbenzene	1.1	1.0		μg/L	1	6/22/2018 10:44:00 AM	B52236
1,2-Dichloroethane (EDC)	ND	1.0		μg/L	1	6/22/2018 10:44:00 AM	B52236
1,2-Dibromoethane (EDB)	ND	1.0		μg/L	1	6/22/2018 10:44:00 AM	B52236
Naphthalene	ND	2.0		μg/L	1	6/22/2018 10:44:00 AM	B52236
1-Methylnaphthalene	ND	4.0		μg/L	1	6/22/2018 10:44:00 AM	B52236
2-Methylnaphthalene	ND	4.0		μg/L	1	6/22/2018 10:44:00 AM	B52236
Acetone	ND	10		μg/L	1	6/22/2018 10:44:00 AM	B52236
Bromobenzene	ND	1.0		μg/L	1	6/22/2018 10:44:00 AM	B52236
Bromodichloromethane	ND	1.0		μg/L	1	6/22/2018 10:44:00 AM	B52236
Bromoform	ND	1.0		μg/L	1	6/22/2018 10:44:00 AM	B52236
Bromomethane	ND	3.0		μg/L	1	6/22/2018 10:44:00 AM	B52236

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 4 of 17
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

#### **Analytical Report** Lab Order 1806B90

Date Reported: 7/6/2018

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering Client Sample ID: MW#8

Project: GCU 145 Collection Date: 6/18/2018 12:30:00 PM Lab ID: 1806B90-002 Matrix: AQUEOUS Received Date: 6/20/2018 7:15:00 AM

Analyses	Result	PQL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analyst	RAA
2-Butanone	ND	10	μg/L	1	6/22/2018 10:44:00 AM	B52236
Carbon disulfide	ND	10	μg/L	1	6/22/2018 10:44:00 AM	B52236
Carbon Tetrachloride	ND	1.0	μg/L	1	6/22/2018 10:44:00 AM	B52236
Chlorobenzene	ND	1.0	μg/L	1	6/22/2018 10:44:00 AM	B52236
Chloroethane	ND	2.0	μg/L	1	6/22/2018 10:44:00 AM	B52236
Chloroform	ND	1.0	μg/L	1	6/22/2018 10:44:00 AM	B52236
Chloromethane	ND	3.0	μg/L	1	6/22/2018 10:44:00 AM	B52236
2-Chlorotoluene	ND	1.0	μg/L	1	6/22/2018 10:44:00 AM	B52236
4-Chlorotoluene	ND	1.0	μg/L	1	6/22/2018 10:44:00 AM	B52236
cis-1,2-DCE	ND	1.0	μg/L	1	6/22/2018 10:44:00 AM	B52236
cis-1,3-Dichloropropene	ND	1.0	μg/L	1	6/22/2018 10:44:00 AM	B52236
1,2-Dibromo-3-chloropropane	ND	2.0	μg/L	1	6/22/2018 10:44:00 AM	B52236
Dibromochloromethane	ND	1.0	μg/L	1	6/22/2018 10:44:00 AM	B52236
Dibromomethane	ND	1.0	μg/L	1	6/22/2018 10:44:00 AM	B52236
1,2-Dichlorobenzene	ND	1.0	μg/L	1	6/22/2018 10:44:00 AM	B52236
1,3-Dichlorobenzene	ND	1.0	μg/L	1	6/22/2018 10:44:00 AM	B52236
1,4-Dichlorobenzene	ND	1.0	μg/L	1	6/22/2018 10:44:00 AM	B52236
Dichlorodifluoromethane	ND	1.0	μg/L	1	6/22/2018 10:44:00 AM	B52236
1,1-Dichloroethane	ND	1.0	μg/L	1	6/22/2018 10:44:00 AM	B52236
1,1-Dichloroethene	ND	1.0	μg/L	1	6/22/2018 10:44:00 AM	B52236
1,2-Dichloropropane	ND	1.0	μg/L	1	6/22/2018 10:44:00 AM	B52236
1,3-Dichloropropane	ND	1.0	μg/L	1	6/22/2018 10:44:00 AM	B52236
2,2-Dichloropropane	ND	2.0	μg/L	1	6/22/2018 10:44:00 AM	B52236
1,1-Dichloropropene	ND	1.0	μg/L	1	6/22/2018 10:44:00 AM	B52236
Hexachlorobutadiene	ND	1.0	μg/L	1	6/22/2018 10:44:00 AM	B52236
2-Hexanone	ND	10	μg/L	1	6/22/2018 10:44:00 AM	B52236
Isopropylbenzene	ND	1.0	μg/L	1	6/22/2018 10:44:00 AM	B52236
4-Isopropyltoluene	ND	1.0	μg/L	1	6/22/2018 10:44:00 AM	B52236
4-Methyl-2-pentanone	ND	10	μg/L	1	6/22/2018 10:44:00 AM	B52236
Methylene Chloride	ND	3.0	μg/L	1	6/22/2018 10:44:00 AM	B52236
n-Butylbenzene	ND	3.0	μg/L	1	6/22/2018 10:44:00 AM	B52236
n-Propylbenzene	ND	1.0	μg/L	1	6/22/2018 10:44:00 AM	B52236
sec-Butylbenzene	ND	1.0	μg/L	1	6/22/2018 10:44:00 AM	B52236
Styrene	ND	1.0	μg/L	1	6/22/2018 10:44:00 AM	B52236
tert-Butylbenzene	ND	1.0	μg/L	1	6/22/2018 10:44:00 AM	B52236
1,1,1,2-Tetrachloroethane	ND	1.0	μg/L	1	6/22/2018 10:44:00 AM	B52236
1,1,2,2-Tetrachloroethane	ND	2.0	μg/L	1	6/22/2018 10:44:00 AM	B52236
Tetrachloroethene (PCE)	ND	1.0	μg/L	1	6/22/2018 10:44:00 AM	B52236
trans-1,2-DCE	ND	1.0	μg/L	1	6/22/2018 10:44:00 AM	B52236

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- 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
- E Value above quantitation range
- Analyte detected below quantitation limits Page 5 of 17 J
- P Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

#### Lab Order 1806B90

Date Reported: 7/6/2018

#### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: MW#8 GCU 145

**Project:** Collection Date: 6/18/2018 12:30:00 PM Lab ID: 1806B90-002 Matrix: AQUEOUS Received Date: 6/20/2018 7:15:00 AM

Analyses	Result	PQL Qu	ual Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analyst	RAA
trans-1,3-Dichloropropene	ND	1.0	μg/L	1	6/22/2018 10:44:00 AM	B52236
1,2,3-Trichlorobenzene	ND	1.0	μg/L	1	6/22/2018 10:44:00 AM	B52236
1,2,4-Trichlorobenzene	ND	1.0	μg/L	1	6/22/2018 10:44:00 AM	B52236
1,1,1-Trichloroethane	ND	1.0	μg/L	1	6/22/2018 10:44:00 AM	B52236
1,1,2-Trichloroethane	ND	1.0	μg/L	1	6/22/2018 10:44:00 AM	B52236
Trichloroethene (TCE)	ND	1.0	μg/L	1	6/22/2018 10:44:00 AM	B52236
Trichlorofluoromethane	ND	1.0	μg/L	1	6/22/2018 10:44:00 AM	B52236
1,2,3-Trichloropropane	ND	2.0	μg/L	1	6/22/2018 10:44:00 AM	B52236
Vinyl chloride	ND	1.0	μg/L	1	6/22/2018 10:44:00 AM	B52236
Xylenes, Total	3.2	1.5	μg/L	1	6/22/2018 10:44:00 AM	B52236
Surr: 1,2-Dichloroethane-d4	96.2	70-130	%Rec	1	6/22/2018 10:44:00 AM	B52236
Surr: 4-Bromofluorobenzene	105	70-130	%Rec	1	6/22/2018 10:44:00 AM	B52236
Surr: Dibromofluoromethane	93.1	70-130	%Rec	1	6/22/2018 10:44:00 AM	B52236
Surr: Toluene-d8	96.0	70-130	%Rec	1	6/22/2018 10:44:00 AM	B52236

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

- 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
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- % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 6 of 17 J
- P Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

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Accredita	tion:			Sampler:	NELSON VE	ELEZ	2 (8(	Gas	DRO /	1)	1)	8270SIMS)		0,5	8082		ance	lids			mp	
□ NELAF	>	□ Other		On ice:	S-Yes	□ No	MB	ГРН	-	418.1)	504.	8270		N,CO	-		Bal	1 50			E S	Ē
□ EDD (	Type)	-		Sample Temp	erature: 1.4				(GRO	pou	pou		etals	Z,	cide	(A)	nion	lve		e e	osit	ν)
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO.	BTEX + MTBE	BTEX + MTRE	TPH 8015B	TPH (Method	EDB (Method 504.1)	PAH (8310 or	RCRA 8 Metals	Anions (F,Cl,NO <sub>3</sub> ,NO <sub>2</sub> ,PO <sub>4</sub> ,SO <sub>4</sub> )	8081 Pesticides	8260B (VDA)	Cation / Anion Balance	Total Dissolved Solids		Grab sample	5 pt. composite sample	Air Bubbles (Y or N)
6/18/18	1130	WATER	MW # 7	40 ml VOA - 2	HCI & Cool	aul										٧				٧	T	
6/18/18	1130	WATER	MW # 7	500 ml - 1	Cool												٧	٧		٧		
6/18/18	1230	WATER	MW#8	40 ml VOA - 2	HCI & Cool	002	-	_			_	-	-	-		٧			H	V	$\dashv$	
5/18/18	1230	WATER	MW#8	500 ml - 1	Cool	000											V	٧		٧		
							_													_		
-							-						-			_	_	-	$\vdash$	+	$\dashv$	
							$\vdash$												$\forall$	+	$\dashv$	
Date Of	1569	Relinquish	any	Fecurved by	Walt	Date Time	BI		REC				rigto	n, Nr	vi 87-	401	Att	n,: St	eve N	vlosk:	a.i	
119/18	Time.	AM	at Walt	Received by:	Courier	Daté Time 6 20/18 0715	SI	0#:	1900 LEM	0400	0768	35										
	If necessa	ar samples s	ubmitted to Hall Environmental may be	subcontracted to other	accrecited laboratorie	This serves as notice of		cssibi	lity. A	riy sub	-cortr	racted	data	will be	clear	y nota:	red on	the ar	allytica	i report	1.	

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1806B90

06-Jul-18

Client:

Blagg Engineering

Project:

GCU 145

Sample ID MB	Samp	Гуре: М	BLK	Tes	tCode: El	PA Method	300.0: Anion	s		
Client ID: PBW	Batc	h ID: R5	2126	F	RunNo: 5	2126				
Prep Date:	Analysis [	Date: 6/	20/2018	5	SegNo: 1	706575	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								
Sample ID LCS	Samp	Type: LC	s	Tes	tCode: El	PA Method	300.0: Anion	s		
Client ID: LCSW	Batc	h ID: R5	2126	F	RunNo: 5	2126				
Prep Date:	Analysis [	Date: 6/	20/2018	5	SeqNo: 1	706576	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.8	0.50	5.000	0	96.8	90	110			
Nitrogen, Nitrite (As N)	0.98	0.10	1.000	0	98.0	90	110			
Bromide	2.5	0.10	2.500	0	99.3	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	101	90	110			
Phosphorus, Orthophosphate (As P	4.9	0.50	5.000	0	98.2	90	110			
Sulfate	9.5	0.50	10.00	0	95.2	90	110			
Sample ID MB	Samp	уре: М	BLK	Tes	tCode: El	PA Method	300.0: Anion	s		
Client ID: PBW	Batc	h ID: R5	2126	F	RunNo: 5	2126				
Prep Date:	Analysis E	Date: 6/	20/2018	5	SeqNo: 1	706628	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								
Sample ID LCS	Samp	ype: LC	S	Tes	tCode: EF	PA Method	300.0: Anion	s		
Client ID: LCSW	Batcl	n ID: R5	2126	F	RunNo: 5	2126				
Prep Date:	Analysis [	Date: 6/	20/2018	5	SeqNo: 1	706629	Units: mg/L			
Analyta	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Analyte	5.0	0.50	5.000	0	101	90	110			
		0.10	1.000	0	101	90	110			
Chloride	1.0	0.10								
Analyte Chloride Nitrogen, Nitrite (As N) Bromide	1.0 2.6	0.10	2.500	0	102	90	110			

\* 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 7 of 17

P Sample pH Not In Range

RL Reporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

WO#: **1806B90** 

06-Jul-18

Client:

**Blagg Engineering** 

Project:

GCU 145

Sample ID LCS	SampT	Type: LC	S	Tes	tCode: El	PA Method	300.0: Anion	S		
Client ID: LCSW	Batch	h ID: R5	2126	F	RunNo: 5	2126				
Prep Date:	Analysis D	)ate: 6/	20/2018	S	SegNo: 1	706629	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Phosphorus, Orthophosphate (As P	5.1	0.50	5.000	0	101	90	110			
Sulfate	9.8	0.50	10.00	0	98.0	90	110			
Sample ID MB	SampT	уре: МЕ	BLK	Tes	tCode: El	PA Method	300.0: Anions	3		
Client ID: PBW	Batch	h ID: <b>R5</b>	2134	R	RunNo: 5	2134				
Prep Date:	Analysis D	)ate: 6/	20/2018	S	SeqNo: 1	707308	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								
Sample ID LCS	SampT	ype: LC	S	Test	Code: El	PA Method	300.0: Anions	6		
Client ID: LCSW	Batch	n ID: R5	2134	R	RunNo: 52	2134				
Prep Date:	Analysis D	)ate: 6/	20/2018	S	SeqNo: 1	707309	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.8	0.50	5.000	0	96.8	90	110			
Nitrogen, Nitrite (As N)	0.98	0.10	1.000	0	98.5	90	110			
Bromide	2.6	0.10	2.500	0	105	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	102	90	110			
Phosphorus, Orthophosphate (As P	5.1	0.50	5.000	0	101	90	110			
Sulfate	9.5	0.50	10.00	0	95.4	90	110			
Sample ID MB	SampT	ype: ME	BLK	Test	Code: El	PA Method	300.0: Anions	3		
Client ID: PBW	Batch	n ID: R5	2134	R	RunNo: 52	2134				
Prep Date:	Analysis D	ate: 6/	20/2018	S	eqNo: 17	707362	Units: mg/L			
1										

SPK value SPK Ref Val %REC LowLimit

#### Qualifiers:

Analyte

Nitrogen, Nitrite (As N)

Nitrogen, Nitrate (As N)

Phosphorus, Orthophosphate (As P

Chloride

Bromide

Sulfate

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

Result

ND

ND

ND

ND

ND

ND

PQL

0.50

0.10

0.10

0.10

0.50

0.50

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

HighLimit

%RPD

**RPDLimit** 

Qual

E Value above quantitation range

J Analyte detected below quantitation limits

Page 8 of 17

P Sample pH Not In Range

RL Reporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1806B90

06-Jul-18

Client:

Blagg Engineering

**Project:** 

GCU 145

Sample ID LCS	SampT	ype: LC	S	Tes	tCode: El	PA Method	300.0: Anions	3	·	·
Client ID: LCSW	Batch	ID: R5	2134	R	RunNo: 5	2134				
Prep Date:	Analysis D	ate: 6/	20/2018	S	SegNo: 1	707363	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.7	0.50	5.000	0	93.8	90	110			
Nitrogen, Nitrite (As N)	0.96	0.10	1.000	0	96.1	90	110			
Bromide	2.5	0.10	2.500	0	102	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	98.5	90	110			
Phosphorus, Orthophosphate (As P	4.9	0.50	5.000	0	98.2	90	110			
Sulfate	9.2	0.50	10.00	0	92.3	90	110			

Sample ID MB	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	300.0: Anions	3		
Client ID: PBW	Batch	ID: R5	2134	F	RunNo: 5	2134				
Prep Date:	Analysis D	ate: 6/	21/2018	8	SeqNo: 1	707395	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								

Sample ID LCS	SampT	ype: LC	S	Tes	Code: EF	PA Method	300.0: Anions	;		
Client ID: LCSW	Batch	1D: <b>R5</b>	2134	F	tunNo: 5	2134				
Prep Date:	Analysis D	ate: 6/	21/2018	S	eqNo: 1	707396	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.7	0.50	5.000	0	94.4	90	110			
Nitrogen, Nitrite (As N)	0.97	0.10	1.000	0	96.8	90	110			
Bromide	2.6	0.10	2.500	0	103	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	99.3	90	110			
Phosphorus, Orthophosphate (As P	5.0	0.50	5.000	0	99.5	90	110			
Sulfate	9.3	0.50	10.00	0	93.0	90	110			

Sample ID MB	SampType: mblk	TestCode: EPA Method 300.	.0: Anions
Client ID: PBW	Batch ID: R52476	RunNo: <b>52476</b>	
Prep Date:	Analysis Date: 7/3/2018	SeqNo: <b>1720725</b> Uni	its: mg/L
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit Hig	ghLimit %RPD RPDLimit Qual

Fluoride ND 0.10

#### 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 9 of 17

P Sample pH Not In Range

RL Reporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

WO#: 1806B90

06-Jul-18

Client:

Blagg Engineering

Project:

GCU 145

Sample ID LCS-b

SampType: Ics

TestCode: EPA Method 300.0: Anions

Client ID: LCSW

Batch ID: R52476

0.10

RunNo: 52476

Units: mg/L

Prep Date: Analyte

**PQL** 

Analysis Date: 7/3/2018

SeqNo: 1720731

HighLimit

%RPD

**RPDLimit** 

Fluoride

0.48

SPK value SPK Ref Val %REC 0.5000

96.9

90

110

Qual

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Holding times for preparation or analysis exceeded H

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

% 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

Page 10 of 17

P Sample pH Not In Range

RLReporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1806B90

06-Jul-18

Client:

Blagg Engineering

Project:

GCU 145

Sample ID 100ng lcs2	SampT	ype: LC	S	Test	Code: El	PA Method	8260B: VOL	ATILES		
Client ID: LCSW	Batch	1D: <b>B5</b>	2236	R	tunNo: 5	2236				
Prep Date:	Analysis D	ate: 6/	22/2018	S	eqNo: 1	711792	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	19	1.0	20.00	0	95.3	70	130			
Chlorobenzene	18	1.0	20.00	0	91.7	70	130			
1,1-Dichloroethene	20	1.0	20.00	0	99.4	70	130			
Trichloroethene (TCE)	18	1.0	20.00	0	92.4	70	130			
Surr: 1,2-Dichloroethane-d4	9.6		10.00		95.6	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		103	70	130			
Surr: Dibromofluoromethane	9.2		10.00		91.5	70	130			
Surr: Toluene-d8	9.4		10.00		94.3	70	130			
Sample ID rb3	SampT	ype: ME	BLK	Test	Code: El	PA Method	8260B: VOL	ATILES		
Client ID: PBW	Batch	ID: <b>B5</b>	2236	R	unNo: 5	2236				
Prep Date:	Analysis D	ate: 6/	22/2018	S	eqNo: 1	711793	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
	rtcourt	1 0(L		Of It Itel var		LOTTEITING	riigiiEiiiii	701 ti D	THE DENTILL	
Benzene	ND	1.0		OF TYTO VAL		2011211111	T HIGHTEN	70111 15	THE DELITIE	
		_		OF ICHOI Val		LOWLINK	- ngrizimik	70111 13	THE DELIMINE	
Benzene	ND	1.0		or Kitor var				70111 2	TW DEIMIN	
Benzene Toluene	ND ND	1.0 1.0		or who var			T II GITTER IN THE	70111 2	THE DELIMIN	
Benzene Toluene Ethylbenzene	ND ND ND	1.0 1.0 1.0		or tritor var			T ng nemic	70111 2	THE DELIMIN	
Benzene Toluene Ethylbenzene Methyl tert-butyl ether (MTBE)	ND ND ND ND	1.0 1.0 1.0 1.0		O TOTAL			· · · · · · · · · · · · · · · · · · ·	76111 2	THE SEMINIC	
Benzene Toluene Ethylbenzene Methyl tert-butyl ether (MTBE) 1,2,4-Trimethylbenzene	ND ND ND ND	1.0 1.0 1.0 1.0		O T T T T T T T T T T T T T T T T T T T			· · · · · · · · · · · · · · · · · · ·	70111 2	THE SEMINIC	
Benzene Toluene Ethylbenzene Methyl tert-butyl ether (MTBE) 1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene	ND ND ND ND ND	1.0 1.0 1.0 1.0 1.0		OT TOTAL			· · · · · · · · · · · · · · · · · · ·	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	THE SEMINIC	
Benzene Toluene Ethylbenzene Methyl tert-butyl ether (MTBE) 1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene 1,2-Dichloroethane (EDC)	ND ND ND ND ND ND	1.0 1.0 1.0 1.0 1.0 1.0		OT TOTAL			· · · · · · · · · · · · · · · · · · ·	<i>M</i> . 8	THE SEMINIC	
Benzene Toluene Ethylbenzene Methyl tert-butyl ether (MTBE) 1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene 1,2-Dichloroethane (EDC) 1,2-Dibromoethane (EDB)	ND ND ND ND ND ND ND	1.0 1.0 1.0 1.0 1.0 1.0 1.0		O. W. Hou Val			· · · · · · · · · · · · · · · · · · ·	<i>M S</i>	THE SEMINIC	
Benzene Toluene Ethylbenzene Methyl tert-butyl ether (MTBE) 1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene 1,2-Dichloroethane (EDC) 1,2-Dibromoethane (EDB) Naphthalene	ND ND ND ND ND ND ND	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0		O. W. Hou Val				<i>M S</i>	THE SEMINIC	
Benzene Toluene Ethylbenzene Methyl tert-butyl ether (MTBE) 1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene 1,2-Dichloroethane (EDC) 1,2-Dibromoethane (EDB) Naphthalene 1-Methylnaphthalene	ND	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 2.0		O. W. Hou Val				<i>M S</i>	THE SEMINIC	
Benzene Toluene Ethylbenzene Methyl tert-butyl ether (MTBE) 1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene 1,2-Dichloroethane (EDC) 1,2-Dibromoethane (EDB) Naphthalene 1-Methylnaphthalene 2-Methylnaphthalene	ND N	1.0 1.0 1.0 1.0 1.0 1.0 1.0 2.0 4.0		O. W. Hou Val				<i>,</i> ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	THE SEMINI	
Benzene Toluene Ethylbenzene Methyl tert-butyl ether (MTBE) 1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene 1,2-Dichloroethane (EDC) 1,2-Dibromoethane (EDB) Naphthalene 1-Methylnaphthalene 2-Methylnaphthalene Acetone	ND N	1.0 1.0 1.0 1.0 1.0 1.0 1.0 2.0 4.0		O. W. Hou Val				, , , , , , , , , , , , , , , , , , ,		
Benzene Toluene Ethylbenzene Methyl tert-butyl ether (MTBE) 1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene 1,2-Dichloroethane (EDC) 1,2-Dibromoethane (EDB) Naphthalene 1-Methylnaphthalene 2-Methylnaphthalene Acetone Bromobenzene	ND N	1.0 1.0 1.0 1.0 1.0 1.0 1.0 2.0 4.0 4.0 1.0		O. W. Hou Val				<i>,</i> ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
Benzene Toluene Ethylbenzene Methyl tert-butyl ether (MTBE) 1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene 1,2-Dichloroethane (EDC) 1,2-Dibromoethane (EDB) Naphthalene 1-Methylnaphthalene 2-Methylnaphthalene Acetone Bromobenzene Bromodichloromethane	ND N	1.0 1.0 1.0 1.0 1.0 1.0 1.0 2.0 4.0 4.0 10 1.0								
Benzene Toluene Ethylbenzene Methyl tert-butyl ether (MTBE) 1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene 1,2-Dichloroethane (EDC) 1,2-Dibromoethane (EDB) Naphthalene 1-Methylnaphthalene 2-Methylnaphthalene Acetone Bromobenzene Bromodichloromethane Bromoform	ND N	1.0 1.0 1.0 1.0 1.0 1.0 1.0 2.0 4.0 4.0 1.0 1.0								

#### Qualifiers:

Carbon Tetrachloride Chlorobenzene

Chloroethane

Chloromethane

2-Chlorotoluene

Chloroform

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND

ND

ND

ND

ND

ND

1.0

1.0

2.0

1.0

3.0

1.0

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 11 of 17

P Sample pH Not In Range

RL Reporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

WO#: **1806B90** 

06-Jul-18

Client:

**Blagg Engineering** 

**Project:** 

GCU 145

Sample ID rb3	SampT	ype: ME	BLK	TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW	Batch	Batch ID: <b>B52236</b>			RunNo: <b>52236</b>					
Prep Date:	Analysis D	ate: 6/	22/2018	S	SegNo: 1	711793	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
,_,_,	.,,									

#### 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
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

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# Hall Environmental Analysis Laboratory, Inc.

06-Jul-18

1806B90

WO#:

Client: Blagg Engineering

Project: GCU 145

Sample ID rb3	SampT	ype: ME	BLK	Test	tCode: El	PA Method	8260B: VOL	ATILES		
Client ID: PBW	Batch	1D: <b>B5</b>	2236	R	RunNo: 5	2236				
Prep Date:	Analysis D	ate: 6/	22/2018	S	SegNo: 1	711793	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.6		10.00		96.0	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		104	70	130			
Surr: Dibromofluoromethane	9.1		10.00		90.7	70	130			
Surr: Toluene-d8	9.4		10.00		93.5	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

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

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

Page 13 of 17

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1806B90

06-Jul-18

Client:

Blagg Engineering

**Project:** 

GCU 145

Sample ID Ics-1 ~20uS eC

SampType: Ics

TestCode: SM2510B: Specific Conductance

Client ID: LCSW

Batch ID: R52161

RunNo: 52161

^

Analysis Date: 6/21/2018

**PQL** 

5.0

SegNo: 1708753

Units: µmhos/cm

Prep Date: Analyte

Result

SPK value SPK Ref Val %REC

112

HighLimit

RPDLimit Qual

Conductivity

Result 22

19.98

112

0

80

120

#### 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
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Analyte detected in the associated Wethod Blank

v quantitation limits Page 14 of 17

# Hall Environmental Analysis Laboratory, Inc.

WO#: **1806B90** 

06-Jul-18

Client:

**Blagg Engineering** 

Project:

GCU 145

Project:	GCU 143										
Sample ID	MB	SampT	ype: ME	BLK	Tes	tCode: E	PA Method	6010B: Disso	lved Met	als	
Client ID:	PBW	Batch	ID: A5	2172	F	RunNo: 5	2172				
Prep Date:		Analysis D	ate: 6/	22/2018	5	SegNo: 1	709121	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium		ND	1.0								
Magnesium		ND	1.0								
Potassium		ND	1.0								
Sodium		ND	1.0								
Sample ID	LCS	SampT	ype: LC	s	Tes	tCode: E	PA Method	6010B: Disso	lved Meta	als	
Client ID:	LCSW	Batch	ID: <b>A5</b>	2172	F	RunNo: 5	2172				
Prep Date:		Analysis D	ate: 6/	22/2018	5	SeqNo: 1	709123	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium		50	1.0	50.00	0	101	80	120			
Magnesium		51	1.0	50.00	0	101	80	120			
Potassium		49	1.0	50.00	0	98.6	80	120			
Sodium		51	1.0	50.00	0	102	80	120			
Sample ID	LCSD	SampT	ype: LC	SD	Tes	tCode: E	PA Method	6010B: Disso	lved Meta	als	
Client ID:	LCSS02	Batch	ID: <b>A5</b>	2172	F	RunNo: 5	2172				
Prep Date:		Analysis D	ate: 6/	22/2018	5	SeqNo: 1	709124	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium		49	1.0	50.00	0	97.4	80	120	3.54	20	
Magnesium		49	1.0	50.00	0	97.7	80	120	3.53	20	
Potassium		48	1.0	50.00	0	95.2	80	120	3.55	20	
Sodium		50	1.0	50.00	0	101	80	120	1.24	20	
Sample ID	MB-A	SampT	ype: ME	BLK	Tes	tCode: E	PA Method	6010B: Disso	lved Meta	als	
Client ID:	PBW	Batch	ID: <b>A5</b>	2214	F	RunNo: 5	2214				
Prep Date:		Analysis D	ate: 6/	25/2018	5	SeqNo: 1	710618	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium		ND	1.0								
Sample ID	LCS-A	SampT	ype: LC	S	Tes	tCode: El	PA Method	6010B: Disso	lved Meta	als	
Client ID:	LCSW	Batch	ID: <b>A5</b>	2214	F	RunNo: 5	2214				
Prep Date:		Analysis Da	ate: 6/	25/2018	8	SeqNo: 1	710619	Units: mg/L			
Analyte		Result	PQL		SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium		50	1.0	50.00	0	101	80	120			

#### 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

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P Sample pH Not In Range

RL Reporting Detection Limit

#### Hall Environmental Analysis Laboratory, Inc.

06-Jul-18

1806B90

WO#:

Client: Blagg Engineering

**Project:** GCU 145

Sample ID mb-1 alk SampType: mblk TestCode: SM2320B: Alkalinity

Client ID: PBW Batch ID: R52161 RunNo: 52161

Prep Date: Analysis Date: 6/21/2018 SeqNo: 1708707 Units: mg/L CaCO3

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

Total Alkalinity (as CaCO3) ND 20.00

Sample ID Ics-1 alk SampType: Ics TestCode: SM2320B: Alkalinity

Client ID: LCSW Batch ID: R52161 RunNo: 52161

Prep Date: Analysis Date: 6/21/2018 SeqNo: 1708708 Units: mg/L CaCO3

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

Total Alkalinity (as CaCO3) 79.16 20.00 80.00 0 99.0 90 110

Sample ID mb-2 alk SampType: mblk TestCode: SM2320B: Alkalinity

Client ID: PBW Batch ID: R52161 RunNo: 52161

Prep Date: Analysis Date: 6/21/2018 SeqNo: 1708730 Units: mg/L CaCO3

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

Total Alkalinity (as CaCO3) ND 20.00

Sample ID Ics-2 alk SampType: Ics TestCode: SM2320B: Alkalinity

Client ID: LCSW Batch ID: R52161 RunNo: 52161

Prep Date: Analysis Date: 6/21/2018 SeqNo: 1708731 Units: mg/L CaCO3

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

Total Alkalinity (as CaCO3) 79.52 20.00 80.00 0 99.4 90 110

#### 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

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P Sample pH Not In Range

RL Reporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

WO#: 1806B90

06-Jul-18

Client:

Blagg Engineering

**Project:** 

GCU 145

Sample ID MB-38842

SampType: MBLK

TestCode: SM2540C MOD: Total Dissolved Solids

Client ID: **PBW**  Batch ID: 38842

RunNo: 52218

6/22/2018

Units: mg/L

Prep Date: Analyte

Analysis Date: 6/25/2018

Result

SegNo: 1710741

HighLimit

**RPDLimit** 

Qual

**Total Dissolved Solids** 

ND 20.0

PQL

TestCode: SM2540C MOD: Total Dissolved Solids

Client ID: LCSW

SampType: LCS Batch ID: 38842

RunNo: 52218

Prep Date: 6/22/2018

Sample ID LCS-38842

Analysis Date: 6/25/2018

SeqNo: 1710742

Units: mg/L HighLimit

**RPDLimit** 

Analyte

Result

**PQL** 

1000

SPK value SPK Ref Val %REC LowLimit

%RPD

%RPD

Qual

Total Dissolved Solids

1020

SPK value SPK Ref Val %REC

102

LowLimit

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Practical Quanitative Limit POL

% 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

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P Sample pH Not In Range

RL Reporting Detection Limit



Hall Environmental Analysis Laboratory 1901 Hawkins NE Muspergue NM 87109

1EL; 505-345-3975 FAX: 505-345-4107 Website: www.hailenvironmental.com

# Sample Log-In Check List

Client Name: BLAGG	Work Order Number	180	6890			ReptNo: 1
Received By Isaiah Ortiz	6/20/2018 7 15:00 AM			エ		-
Completed By: Michelle Garcia	6/20/2018 9:09:57 AM			m	1.11. (	prince
	4			11 120	/III) (	(V)
Reviewed By: My Colo	0/18					Leibeled by: rel
Chain of Custody						
Is Chain of Custody complete?		Yes	~	No	1	Not Present
2. How was the sample delivered?		Cou	rier			
Log In						
3. Was an attempt made to cool the samples?		Yes	~	No		NA .
4. Were all samples received at a temperature	of >0° C to 6.0°C	Yes	<b>V</b>	No	Ц	NA L
Sample(s) in proper container(s)?		Yes	<b>V</b>	No		
<ol><li>Sulficient sample volume for indicated test(s)</li></ol>	)?	Yes	~	Νo		
7, Are samples (except VOA and ONG) propert	y preserved?	Yes	Arm		1	
8. Was preservative added to bottles?		Yes	bernand	No	4	NA L
9. VOA vials have zero headspace?		Yes	<b>V</b>	No		No VOA Vials
Were any sample containers received broke.	n?	Yes		No	V	
						# of preserved octiles checked
1.Does paperwork match bottle labels?		Yes	~	No		or pl !
(Note discrepancies on chain of custody)			ra			(SZ or >12 unless noted) Adjusted?
2. Are matrices correctly identified on Chain of t	Custody?	Yes	1 -	No	-	No state of the st
3 Is it clear what analyses were requested?		Vea	1.00	No		Checked by:
4. Were all holding times able to be met?  (If no, notify customer for authorization.)		Yes	•	Nυ		Caledica by:
pecial Handling (if applicable)						
15. Was clien; notified of all discrepancies with ;	h-s order?	Yes	П	No		NA 🔀
Person Notified	Date					
By Whom:		l eM	all Pho	nna [	Fax	In Person
Regarding:	110	1		-110	,	
Client Instructions:						
,	analiste : Am	cod	,EG 1	-days	. 0	Blance Sta my HIDDE int
16. Additional remarks: For Metals Bom! 7 Cooler Information WM HDPE and	added apport	īν	D. UPL	HNU	TLE	Plati at Hall Co.
					-	locar but utla for Sel 1
	eaf Intact   Seal No   S. Present	eal D	are S	igned	БУ	Prior lo analysis
, is good Ma	1.14294111					mu toloche
						mu le/20/18
						C 1100