

# **AE Order Number Banner**

**Report Description** 

This report shows an AE Order Number in Barcode format for purposes of scanning. The Barcode format is Code 39.



App Number: pWCO0310639219

# 3RP - 392

# **BP AMERICA PRODUCTION COMPANY**

6/22/2018

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

Form C-141 Revised August 8, 2011

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.

			Rele	ease Notifie	catior	and Co	rrective A	ction	1			
						OPERAT	<b>FOR</b>		🗌 Initia	al Report	$\boxtimes$	Final Report
Name of Co	mpany: B	Р				Contact: Ste	ve Moskal					
Address: 20	0 Energy (	Court, Farmi	ngton, N	M 87401		Telephone N	No.: 505-326-94	.97				
Facility Nar	ne: Galleg	os Canyon C	nit Com	H 180E		Facility Typ	e: Natural gas v	ven				
Surface Ow	ner: Feder	al		Mineral (	Owner: ]	Federal			API No	0. 3004524	369	
				LOCA	ATIO	N OF REI	LEASE					
Unit Letter	Section	Township	Range	Feet from the	North/	South Line	Feet from the	East/V	West Line	County: S	an Juan	
N	28	29N	12W	810	South	K.	1,530	West				
		Latitud	le_ <u>36.6</u>	<u>92567°</u>		Longitude	-108.108277	0		_		
				NAT	TURE	OF RELI	EASE					
Type of Rele	ase: Histori	cal				Volume of	Release: Unknov	vn	Volume I	Recovered: r	ione	
Source of Re	lease: Unlin	ed earthen pit	with prod	luction tank		Date and H	our of Occurrenc	e:	Date and 17 2003	Hour of Dis	covery:	February
Was Immedia	ate Notice (	Given?				If YES, To	Whom?		17,2005	OIL CONS	S. DIV	DIST 3
			Yes 🛛	No 🗌 Not R	equired						P 1 1 1 1 1	DIGILO
By Whom?	Dourse Page	had?				Date and H	our:	he Wet		NOV	15	2016
was a water	course Reac		Yes 🛛	No		II 1125, VO	iune impacting i	ne wat	ercourse.			
If a Watercou	irse was Im	pacted. Descri	be Fully.*	¢								
			5									
Describe Cau	se of Proble	em and Remed	lial Action	n Taken.* Soil im	pacts de	rived from an	unlined earthen	pit with	production	tank. Rem	edial ac	tions taken
include excav	vation and g	roundwater m	onitoring.		1			<b>F</b>	F			
Describe Are	a Affected a	and Cleanup A	ction Tak	en * Site remediz	ation inc	luded excavat	ion and groundw	ater mo	nitoring to	confirm gro	undwate	er impacts
Soil sample c	onfirm exca	vation extent	s were rea	ched and impacte	ed soils r	emoved from	the site. Ground	water m	ionitoring is	ndicates imp	pacts to	groundwater
from the relea	ase were rer	nediated throu	igh excava	ation. Constituen	ts above	closure stand	ards include fluo	ride, ch	loride, sulfa	ate, nitrate, i	ron and	total
dissolved sol	ius which ar	e likely the re	suit of bac	ckground concent	trations c	common in th	e San Juan Basin.					
I hereby certi	fy that the i	nformation gi	ven above	is true and comp	lete to th	ne best of my	knowledge and u	nderstar	nd that purs	suant to NM	OCD ru	iles and
regulations al	l operators	are required to	o report an	d/or file certain r	elease no	otifications an	d perform correc	tive action enort" d	ions for rele	eases which	may en	danger liability
should their o	perations h	ave failed to a	dequately	investigate and r	emediate	e contaminatio	on that pose a three	eat to gr	ound water	r, surface wa	iter, hur	nan health
or the environ	iment. In a	ddition, NMO	CD accept	tance of a C-141	report de	oes not relieve	e the operator of r	responsi	ibility for co	ompliance w	ith any	other
ieuerai, state,	of local lav	vs and/or regu	lations.				OIL CONS	SERV	ATION	DIVISIC	M	
Signature:	Mary SM	and					011 0011			7 7	1	$\square$
Signature						Approved by	Environmental S		. / .	z k	/	P
Printed Name	: Steve Mo	skal				Approved by	Environmental S	pecialis		Sa	~	
Title: Field E	nvironment	al Coordinato	r		1	Approval Dat	e: 6/22/1	18	Expiration	Date:		
E-mail Addre	ss: steven.n	noskal@bp.co	m			Conditions of	Approval:			Attached		
Date: Nover	ber 15 201	6	Pho	ne: 505-326-040	7					Anached		
* Attach Addit	tional Shee	ts If Necessa	ary	1)								
			. 11	# NCS 1	617	5400	0 ZR	P-	297			
									Jac.			

## BLAGG ENGINEERING, INC.

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

February 23, 2018

Mr. Steven Moskal BP America Production Company 200 Energy Ct Farmington, New Mexico 87401

#### Re: GCU Com H 180E Addendum Information for June 2016 Closure Report NMOCD Groundwater site: 3RP - 392

Dear Mr. Moskal:

At your request, Blagg Engineering, Inc. (BEI) conducted additional sampling of the monitor wells at the GCU Com H 180E pursuant to NMOCD stipulations for site closure. This sampling was performed on February 23, 2017 and included monitor wells MW-1, MW-2 and MW-4. Samples were delivered to Hall Environmental Laboratories in Albuquerque, New Mexico for general water chemistry testing that included cation/anion balance and total dissolved solids.

Laboratory analytical test results support the original conclusions in the June 2016 closure report, previously submitted to you, stating that the site meets NMOCD standards for closure. Summary information on the test results are as follows:

Monitor Well	pH (special units) (Field Measured)	TDS (ppm)	Sulfate (ppm)	Chloride (ppm)
MW-1 (Side Gradient)	7.04	4,560	2,700	220
MW-2 (Source Area)	6.98	4,920	3,200	110
MW-4 (Up Gradient	7.03	4,490	2,900	78
NMOCD Standard	6 - 9	1,000	600	250

Shallow groundwater in the San Juan Basin commonly has elevated TDS and sulfate and this conditions is present at the GCU Com H 180E well site. Groundwater from the upgradient monitor well MW-4 tested TDS and sulfate above water standards, indicating that the elevated conditions found in monitor wells MW-1 and MW-2 is expected and normal.

Based on the laboratory results from the additional monitor well sampling, the original recommendation for closure at the GCU Com H 180E (3RP-392) remains unchanged. 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: 2018.02.23 09:08:51 -07'00'

Jeffrey C. Blagg, P.E. President

Attachment: Lab Reports Field Sampling Report

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

CLIENT :	BP AME	RICA PR	OD. CO.		CHAIN-OF-C	USTODY # :		N	/ A
GCU COM UNIT N, SI	H #180E - EC. 28, T29N	PROD. TANI I, R12W	K REL.		LABORATOR	RY (S) USED	:	HALL ENVIE	RONMENTAL
Date : Filename :	February 23 GCU Com F	8, 2017 H 180E mw I	og 2017-02-2	3.xls	-	PROJECT	/ SAMPLER : MANAGER :	N .	J V
WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	рН	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1 2	101.83	95.06	6.77 6.68	14.80 16.25	1010 1105	7.04 6.98	3,500 3,800	9.8 9.8	8.00 9.50
4	102.08	95.41	6.67	14.00	910	7.03	3,400	9.6	7.00
NOTES :	<u>Volume_of</u> (i.e. 2" MW Ideally a min	<u>water purge</u> r = (1/12) ft nimum of thr	DATE & TIM ad from well h = 1 ft.) ee (3) wellbo	re volumes:	ons = ampling: V = r = (2/12) ft.	4.01/7.00/10.00 02/23/17 pi X r2 X h h = 1 ft.) 2.00" well d	2,800 0600 X 7.48 gal./ft iameter =	3 <u>) X 3 (wellt</u> 0.49 gal./ft.	oores). of water.
Excellent rec pump , new samples fror	covery in all mo covery in all mo clear vinyl tut n MW #1, #2, o	onitor wells sa bing and with & #4 only	ampled . Murk	y brown in ap	opearance . Pu attachment ad	urged well usi Ided near san	ng 2 inch subr npling end of t	nersible elect ubing . Colle	ric octed

on-site	8:15 AM	temp	36 F
off-site	11:15 AM	temp	40 F
sky cond.		Mostly sunny	
wind speed	5 - 20	direct.	West

## HALL ENVIRONMENTAL ANALYSIS LABORATORY

March 06, 2017 Nelson Velez Blagg Engineering P. O. Box 87 Bloomfield, NM 87413 TEL: (505) 632-1199

FAX (505) 632-3903

RE: GCU COM H 180E

OrderNo.: 1702A91

Hall Environmental Analysis Laboratory

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

4901 Hawkins NE

Albuquerque, NM 87109

Dear Nelson Velez:

Hall Environmental Analysis Laboratory received 3 sample(s) on 2/24/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <u>www.hallenvironmental.com</u> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Analytical Report Lab Order 1702A91

Date Reported: 3/6/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT:	Blagg Engineering			С	lient Sample I	D: MV	V #1	
<b>Project:</b>	GCU COM H 180E				<b>Collection Dat</b>	e: 2/2	3/2017 10:10:00 AM	
Lab ID:	1702A91-001	Matrix:	AQUEOU	S	<b>Received Dat</b>	e: 2/2	4/2017 8:08:00 AM	
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA MET	HOD 300.0: ANIONS						Analyst:	LGT
Fluoride		0.65	0.10		mg/L	1	2/24/2017 1:28:30 PM	R41001
Chloride		220	10		mg/L	20	2/24/2017 1:40:55 PM	R41001
Nitrogen,	Nitrite (As N)	ND	0.10		mg/L	1	2/24/2017 1:28:30 PM	R41001
Bromide		0.38	0.10		mg/L	1	2/24/2017 1:28:30 PM	R41001
Nitrogen,	Nitrate (As N)	ND	0.10		mg/L	1	2/24/2017 1:28:30 PM	R41001
Phospho	rus, Orthophosphate (As P)	ND	10		mg/L	20	2/24/2017 1:40:55 PM	R41001
Sulfate		2700	50		mg/L	100	2/28/2017 11:21:18 PM	A41069
SM2510B	: SPECIFIC CONDUCTANCE						Analyst	JRR
Conducti	vity	5300	1.0		µmhos/cm	1	2/27/2017 7:58:45 PM	R41028
SM2320B	: ALKALINITY						Analyst	JRR
Bicarbon	ate (As CaCO3)	304.8	20.00		mg/L CaCO3	1	2/27/2017 7:58:45 PM	R41028
Carbona	te (As CaCO3)	ND	2.000		mg/L CaCO3	1	2/27/2017 7:58:45 PM	R41028
Total Alk	alinity (as CaCO3)	304.8	20.00		mg/L CaCO3	1	2/27/2017 7:58:45 PM	R41028
SM25400	MOD: TOTAL DISSOLVED	SOLIDS					Analyst	KS
Total Dis	solved Solids	4560	40.0	*D	mg/L	1	3/2/2017 12:42:00 PM	30438
EPA MET	HOD 6010B: DISSOLVED MI	ETALS					Analyst	pmf
Calcium		430	5.0		mg/L	5	2/27/2017 11:35:38 AM	A41005
Magnesi	um	60	1.0		mg/L	1	2/27/2017 11:26:27 AM	A41005
Potassiu	m	9.6	1.0		mg/L	1	2/27/2017 11:26:27 AM	A41005
Sodium		910	10		mg/L	10	2/27/2017 11:43:06 AM	A41005

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method B	lank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	Page 1 of 7
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range	1 ago 1 01 /
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit	as specified

Analytical Report Lab Order 1702A91 Date Reported: 3/6/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT:	Blagg Engineering			C	lient Sample I	D: MV	V #2	
<b>Project:</b>	GCU COM H 180E				<b>Collection Dat</b>	te: 2/2	3/2017 11:05:00 AM	
Lab ID:	1702A91-002	Matrix:	AQUEOU	S	<b>Received Dat</b>	te: 2/2-	4/2017 8:08:00 AM	
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA MET	HOD 300.0: ANIONS						Analyst	LGT
Fluoride		0.63	0.10		mg/L	1	2/24/2017 2:18:10 PM	R41001
Chloride		110	10		mg/L	20	2/24/2017 2:30:35 PM	R41001
Nitrogen	, Nitrite (As N)	ND	0.10		mg/L	1	2/24/2017 2:18:10 PM	R41001
Bromide		0.30	0.10		mg/L	1	2/24/2017 2:18:10 PM	R41001
Nitrogen	, Nitrate (As N)	0.17	0.10		mg/L	1	2/24/2017 2:18:10 PM	R41001
Phospho	orus, Orthophosphate (As P)	ND	10		mg/L	20	2/24/2017 2:30:35 PM	R41001
Sulfate		3200	50		mg/L	100	2/28/2017 11:33:43 PM	A41069
SM2510E	B: SPECIFIC CONDUCTANCE						Analyst	JRR
Conduct	ivity	5400	1.0		µmhos/cm	1	2/27/2017 8:12:45 PM	R41028
SM2320E	B: ALKALINITY						Analyst	JRR
Bicarbon	ate (As CaCO3)	329.8	20.00		mg/L CaCO3	1	2/27/2017 8:12:45 PM	R41028
Carbona	te (As CaCO3)	ND	2.000		mg/L CaCO3	1	2/27/2017 8:12:45 PM	R41028
Total Alk	alinity (as CaCO3)	329.8	20.00		mg/L CaCO3	1	2/27/2017 8:12:45 PM	R41028
SM25400	MOD: TOTAL DISSOLVED	SOLIDS					Analyst	KS
Total Dis	solved Solids	4920	40.0	*D	mg/L	1	3/2/2017 12:42:00 PM	30438
EPA MET	HOD 6010B: DISSOLVED M	ETALS					Analyst	pmf
Calcium		490	10		mg/L	10	2/27/2017 11:36:39 AM	A41005
Magnesi	um	64	10		mg/L	10	2/27/2017 11:36:39 AM	A41005
Potassiu	m	6.1	1.0		mg/L	1	2/27/2017 11:30:54 AM	A41005
Sodium		950	10		mg/L	10	2/27/2017 11:36:39 AM	A41005

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method I	Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range	
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	Page 2 of 7
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range	1 age 2 01 7
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limi	t as specified

Analytical Report Lab Order 1702A91

Date Reported: 3/6/2017

### Hall Environmental Analysis Laboratory, Inc.

Blagg Engineering			C	lient Sample I	D: MV	V #4	
GCU COM H 180E				<b>Collection Dat</b>	e: 2/2	3/2017 9:10:00 AM	
1702A91-003	Matrix:	AQUEOU	S	<b>Received Dat</b>	te: 2/2	4/2017 8:08:00 AM	
	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
HOD 300.0: ANIONS						Analyst:	LGT
	0.84	0.10		mg/L	1	2/24/2017 2:42:59 PM	R41001
	78	10		mg/L	20	2/24/2017 2:55:24 PM	R41001
Nitrite (As N)	ND	0.10		mg/L	1	2/24/2017 2:42:59 PM	R41001
	0.23	0.10		mg/L	1	2/24/2017 2:42:59 PM	R41001
Nitrate (As N)	ND	0.10		mg/L	1	2/24/2017 2:42:59 PM	R41001
rus, Orthophosphate (As P)	ND	10		mg/L	20	2/24/2017 2:55:24 PM	R41001
	2900	50		mg/L	100	2/28/2017 11:46:08 PM	A41069
SPECIFIC CONDUCTANCE						Analyst:	JRR
vity	5100	1.0		µmhos/cm	1	2/27/2017 8:36:29 PM	R41028
: ALKALINITY						Analyst:	JRR
ate (As CaCO3)	329.0	20.00		mg/L CaCO3	1	2/27/2017 8:36:29 PM	R41028
te (As CaCO3)	ND	2.000		mg/L CaCO3	1	2/27/2017 8:36:29 PM	R41028
alinity (as CaCO3)	329.0	20.00		mg/L CaCO3	1	2/27/2017 8:36:29 PM	R41028
MOD: TOTAL DISSOLVED	SOLIDS					Analyst:	KS
solved Solids	4490	40.0	*D	mg/L	1	3/2/2017 12:42:00 PM	30438
HOD 6010B: DISSOLVED M	ETALS					Analyst:	pmf
	460	10		mg/L	10	2/27/2017 11:39:45 AM	A41005
um	70	1.0		mg/L	1	2/27/2017 11:34:27 AM	A41005
m	5.5	1.0		mg/L	1	2/27/2017 11:34:27 AM	A41005
	870	10		mg/L	10	2/27/2017 11:39:45 AM	A41005
	Blagg Engineering GCU COM H 180E 1702A91-003 HOD 300.0: ANIONS Nitrite (As N) Nitrite (As N) rus, Orthophosphate (As P) E SPECIFIC CONDUCTANCE vity E ALKALINITY ate (As CaCO3) te (As CaCO3) alinity (as CaCO3) e MOD: TOTAL DISSOLVED S solved Solids HOD 6010B: DISSOLVED M	Blagg Engineering         GCU COM H 180E         1702A91-003       Matrix:         Result         HOD 300.0: ANIONS         HOD 300.0: ANIONS         NITOR         0.84         78         Nitrite (As N)         NUT         0.23         Nitrate (As N)         ND         2900         SPECIFIC CONDUCTANCE         vity       5100         SPECIFIC CONDUCTANCE         vity       5100         Sepecific CONDUCTANCE         Sepecific CONDUCTANCE         Sepecific CONDUCTANCE         Sepecific CONDUCT	Blagg Engineering         GCU COM H 180E         1702A91-003       Matrix:       AQUEOU         Result       PQL         HOD 300.0: ANIONS       0.84       0.10         HOD 300.0: ANIONS       0.84       0.10         Nitrite (As N)       ND       0.10         Nitrite (As N)       ND       0.10         Nitrate (As N)       ND       0.10         rus, Orthophosphate (As P)       ND       10         2900       50       50         SPECIFIC CONDUCTANCE       U       10         vity       5100       1.0         E ALKALINITY       2000       50         ate (As CaCO3)       329.0       20.00         ate (As CaCO3)       329.0       20.00         ate (As CaCO3)       329.0       20.00         BOD: TOTAL DISSOLVED SOLIDS       3000       3000         Solved Solids       4490       40.0         HOD 6010B: DISSOLVED METALS       460       10         um       70       1.0       10         m       5.5       1.0       870       10	Blagg Engineering       C         GCU COM H 180E       1702A91-003       Matrix:       AQUEOUS         1702A91-003       Matrix:       AQUEOUS         Result       PQL       Qual         Result       0.84       0.10         Result       0.84       0.10         NITRITE (AS N)       ND       0.10         Nitrite (AS N)       ND       0.10         rus, Orthophosphate (AS P)       ND       10         2900       50       10         SPECIFIC CONDUCTANCE       10       10         vity       5100       1.0         state (AS CaCO3)       329.0       20.00         ate (AS CaCO3)       329.0       1.0	Blagg Engineering         Client Sample In           GCU COM H 180E         Collection Date           1702A91-003         Matrix:         AQUEOUS         Received Date           Result         PQL         Qual         Units           Result         PQL         Qual         Units           Result         Natrix:         AQUEOUS         Received Date           Result         PQL         Qual         Units           Natrix:         AQUEOUS         mg/L           Natrix:         0.84         0.10         mg/L           Natrix:         ND         0.10         mg/L           Nitrite (As N)         ND         0.10         mg/L           Nutrate (As N)         ND         0.10         mg/L           rus, Orthophosphate (As P)         ND         10         mg/L           2000         50         mg/L         mg/L           stALKALINITY         mg/L CaCO3         mg/L CaCO3           alinity (as CaCO3)         329.0         20.00         mg/L CaCO3           alinity (as CaCO3)         329.0         wmg/L         mg/L CaCO3           alinity (as CaCO3)         329.0         *D         mg/L           GUO: TOTAL DISSOLVE	Blagg Engineering       Client Sample ID: NUR         GCU COM H 180E       Collection Jat: 2/2         1702A91-003       Matrix       AQUEOU       Received Jat: 2/2         Result       PQL       Qual       Units       DF         Result       PQL       Qual       Units       DF         HOD 300.0: ANIONS       0.84       0.10       mg/L       1         HOD 300.0: ANIONS       0.84       0.10       mg/L       1         Nitrate (As N)       ND       0.10       mg/L       1         Nitrate (As N)       ND       0.10       mg/L       1         Nitrate (As N)       ND       0.10       mg/L       1         vity       5100       1.0       mg/L       1         Result       yuty       5100       1.0       mg/L       1         Result       yuty       5100       1.0       mg/L       1         Result       yuty       5100       1.0       mg/L       1         Result       329.0       20.0       mg/L       1       1         Result       329.0       20.0       mg/L       1       1       1 <th< td=""><td>Blagg Engineering GCU COM H 180E         Collection Date: 2/23/2017 9:10:00 AM           TO2A91-003         Matrix:         AQUEOUS         Received Date: 2/24/2017 8:08:00 AM           Result         PQL         Qual         Units         DF         Date Analyzed           Result         PQL         Qual         Units         DF         Date Analyzed           HOD 300.0: ANIONS        </td></th<>	Blagg Engineering GCU COM H 180E         Collection Date: 2/23/2017 9:10:00 AM           TO2A91-003         Matrix:         AQUEOUS         Received Date: 2/24/2017 8:08:00 AM           Result         PQL         Qual         Units         DF         Date Analyzed           Result         PQL         Qual         Units         DF         Date Analyzed           HOD 300.0: ANIONS

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

Qualifiers:	*
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- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded

Value exceeds Maximum Contaminant Level.

- 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 3 of 7
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

## QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Client:Blagg EngineeringProject:GCU COM H 180E

Sample ID MB	SampT	ype: ME	BLK	Test	Code: EF	PA Method	300.0: Anions	5		
Client ID: PBW	Batch	n ID: R4	1001	R	unNo: 4	1001				
Prep Date:	Analysis D	ate: 2/	24/2017	S	eqNo: 1	284114	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, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sample ID LCS	SampT	ype: LC	S	Tes	Code: El	PA Method	300.0: Anions	;		
Client ID: LCSW	Batch	n ID: <b>R4</b>	1001	F	unNo: 4	1001				
Prep Date:	Analysis D	ate: 2/	24/2017	S	eqNo: 1	284115	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.52	0.10	0.5000	0	103	90	110			
Chloride	4.7	0.50	5.000	0	94.1	90	110			
Nitrogen, Nitrite (As N)	0.94	0.10	1.000	0	94.2	90	110			
Bromide	2.4	0.10	2.500	0	94.9	90	110			
Nitrogen, Nitrate (As N)	2.4	0.10	2.500	0	97.9	90	110			
Phosphorus, Orthophosphate (As P	4.7	0.50	5.000	0	93.7	90	110			
Sample ID MB	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	300.0: Anions	3		
Client ID: PBW	Batcl	n ID: A4	1069	F	lunNo: 4	1069				
Prep Date:	Analysis D	Date: 2/	28/2017	5	eqNo: 1	286559	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	ND	0.50								
Sample ID LCS	SampT	ype: LC	S	Tes	tCode: El	PA Method	300.0: Anions	3		
Client ID: LCSW	Batcl	h ID: A4	1069	F	lunNo: 4	1069				
Prep Date:	Analysis D	Date: 2/	28/2017	S	eqNo: 1	286560	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	9.8	0.50	10.00	0	98.2	90	110			

**Qualifiers:** 

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
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- S % Recovery outside of range due to dilution or matrix
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- 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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WO#: 1702A91

06-Mar-17

## QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Client: Blagg Engineering Project: GCU COM H 180E

Sample ID	MB-A	SampT	vpe: ME	BLK	Test	tCode: El		6010B: Disso	lved Meta	als	
Client ID:	PBW	Batch		1005	F		1005				
Gliotte 1D.	1.011	Dator	10. A4	1005		umito. 4	1005				
Prep Date:		Analysis D	ate: 2/	27/2017	S	SeqNo: 1	284294	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-A	SampT	ype: LC	S	Tes	tCode: El	PA Method	6010B: Disso	lved Meta	als	
Sample ID Client ID:	LCS-A LCSW	SampT Batch	ype: LC	S 1005	Tes F	tCode: El RunNo: 4	PA Method 1005	6010B: Disso	lved Meta	als	
Sample ID Client ID: Prep Date:	LCS-A LCSW	SampT Batch Analysis D	ype: LC ID: A4 ate: 2/	S 1005 27/2017	Tes F S	tCode: El RunNo: 4 SeqNo: 1;	PA Method 1005 284295	6010B: Disso Units: mg/L	lved Meta	als	
Sample ID Client ID: Prep Date: Analyte	LCS-A LCSW	SampT Batch Analysis D Result	ype: LC n ID: A4 ate: 2/ PQL	S 1005 27/2017 SPK value	Tes F S SPK Ref Val	tCode: El RunNo: 4 SeqNo: 12 %REC	PA Method 1005 284295 LowLimit	6010B: Disso Units: mg/L HighLimit	lved Meta %RPD	a <b>ls</b> RPDLimit	Qual
Sample ID Client ID: Prep Date: Analyte Calcium	LCS-A LCSW	SampT Batch Analysis D Result 51	ype: LC n ID: A4 ate: 2/ PQL 1.0	S 1005 27/2017 SPK value 50.00	Tes F S SPK Ref Val 0	tCode: El RunNo: 4 SeqNo: 1: <u>%REC</u> 102	PA Method 1005 284295 LowLimit 80	6010B: Disso Units: mg/L HighLimit 120	lved Meta %RPD	a <b>ls</b> RPDLimit	Qual
Sample ID Client ID: Prep Date: Analyte Calcium Magnesium	LCS-A LCSW	SampT Batch Analysis D Result 51 51	ype: LC a ID: A4 ate: 2/ PQL 1.0 1.0	S 1005 27/2017 SPK value 50.00 50.00	Tes F S SPK Ref Val 0 0	tCode: El RunNo: 4 SeqNo: 12 %REC 102 103	PA Method 1005 284295 LowLimit 80 80	6010B: Disso Units: mg/L HighLimit 120 120	Ned Meta	als RPDLimit	Qual
Sample ID Client ID: Prep Date: Analyte Calcium Magnesium Potassium	LCS-A LCSW	SampT Batch Analysis D Result 51 51 50	ype: LC a ID: A4 ate: 2/ PQL 1.0 1.0 1.0	S 1005 27/2017 SPK value 50.00 50.00 50.00	Tes F S SPK Ref Val 0 0 0	tCode: El RunNo: 4 SeqNo: 1; %REC 102 103 99.7	PA Method 1005 284295 LowLimit 80 80 80	6010B: Disso Units: mg/L HighLimit 120 120 120	Wed Meta	als RPDLimit	Qual

Qualifiers:

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

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Client: Project:	Blagg Engineering GCU COM H 180E								
Sample ID ml	b-1 SampType	mblk	Test	Code: SM	2320B: All	kalinity			
Client ID: PE	BW Batch ID:	R41028	R	unNo: 410	028				
Prep Date:	Analysis Date:	2/27/2017	S	eqNo: 128	84932	Units: mg/L	CaCO3		
Analyte	Result P	QL SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as	CaCO3) ND 20	0.00							
Sample ID Ics	s-1 SampType	: Ics	Test	Code: SM	2320B: All	kalinity			
Client ID: LC	CSW Batch ID:	R41028	R	unNo: 410	028				
Prep Date:	Analysis Date:	2/27/2017	S	eqNo: 12	84936	Units: mg/L	CaCO3		
Analyte	Result P	QL SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as	CaCO3) 79.60 20	0.00 80.00	0	99.5	90	110			
Sample ID ml	b-2 SampType	mblk	Test	Code: SM	2320B: All	kalinity			
Client ID: PE	BW Batch ID:	R41028	R	unNo: 410	028				
Prep Date:	Analysis Date:	2/27/2017	S	eqNo: 12	84959	Units: mg/L	CaCO3		
Analyte	Result P	QL SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as	CaCO3) ND 20	0.00							
Sample ID Ic:	s-2 SampType	: Ics	Test	Code: SM	2320B: Al	kalinity			
Client ID: LC	CSW Batch ID	R41028	R	unNo: 41	028				
Prep Date:	Analysis Date	2/27/2017	S	eqNo: 12	84960	Units: mg/L	CaCO3		
Analyte	Result P	QL SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as	CaCO3) 79.56 20	0.00 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
- 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

## QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Client:Blagg EngineeringProject:GCU COM H 180E

Sample ID MB-30438	D MB-30438     SampType: MBLK     TestCode: SM2540C MOD: Total Dissolved Solids								
Client ID: PBW	Batch ID: 30438	RunNo: 41107							
Prep Date: 2/28/2017	Analysis Date: 3/2/2017	SeqNo: 1287558 Units: mg/L							
Analyte	Result PQL SPK value SPK	Ref Val %REC LowLimit HighLimit	%RPD RPDLimit Qual						
Total Dissolved Solids	ND 20.0								
Sample ID I CS-30438	SampType: LCS	TestCode: SM2540C MOD: Total Dis	solved Solids						
Campie ID LC3-30430	Campiype. Log	Tostobac. Om20400 mob. Total Dist							
Client ID: LCSW	Batch ID: 30438	RunNo: 41107							
Prep Date: 2/28/2017	Prep Date: 2/28/2017 Analysis Date: 3/2/2017 SeqNo: 1287559 Units: mg/L								
Analyte	Result PQL SPK value SPK	Ref Val %REC LowLimit HighLimit	%RPD RPDLimit Qual						

#### Qualifiers:

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

WO#: **1702A91** 06-Mar-17

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HALL ENVIRONMENTAL ANALYSIS LABORATORY	Hall Environmental A Albuq TEL: 505-345-3075 F Website: www.hall	nalysn 4991 i awrgue AX: 50 enviroe	Laborstory Tawkina NE , NAI 87109 5-345-4107 mental.com	Sample Log-In Check List								
Client Namo: BLAGG	Work Order Number.	1702A	91			ReptNo: 1						
Received by/date: Ag	02/24/17											
Logged By: Ashley Gallegos	2/24/2017 8:08:00 AM		Ŧ	4-8								
Completed By: Ashley Gallegos	2/24/2017 8:43:01 AM		9	4-8								
Reviewed By:	02/24/17			ų								
Chain of Custody												
1. Custody seals intact on sample bottles?		Yes		No		Not Present 🗸						
2. Is Chain of Custody complete?		Yes	~	No		Not Present						
3. How was the sample delivered?		Cour	<u>Cí</u>									
Log In												
4. Was an attempt made to cool the sample	s?	Yes	~	No		NA						
5. Were all samples received at a temperatu	ire of ⇒0° C to 6 0°C	Yes	~	No		NA						
6. Sample(s) in proper container(s)?		Yes	~	No								
7. Sufficient sample volume for indicated tes	st(s)?	Yes	× /	No	1							
8. Are samples (except VOA and ONG) prop	perly preserved? UT	Yes-		No	V	-						
9. Was preservative added to bottles?		Yes	$\checkmark$	No	<b>v</b> (	NA NA						
10, VOA vials have zero headspace?		Yes		No		No VOA Vials 🗸						
11. Were any sample containers received bro	oken?	Yes		No	~	# of preserved						
12. Does paperwork match bottle labels?		Yes	~	No		for pH: 3	( >12 unless noted)					
13 Are matrices correctly identified on Chain	of Custody?	Yee	~	No		Adjusted?	eg					
1.3. Are manices concurry identified on cham 1.4. Is it clear what analyses were requested?	on consecutive	Yes	~	No			- I					
15. Were all holding times able to be met?		Yes	~	No		Checked by:	$\omega$					
(If no, notify customer for authorization.)												

### Special Handling (if applicable)

16. Was client notified of all discrepancies with	this order?	Yes	N	þ	NA 🗸	0
Person Netified:	Date					
By Whom:	Via:	eMail	Phone	Fax	In Person	
Regarding:	a an	an a	a an			
Client Instructions:				, toologia, i na na minera		
17. Additional remarks: For metal	samilysis : a	aded.	orume	HNOS	+0 -001->	-0013 For accepte
18. <u>Cooler Information</u> PH. Held Ze Cooler No.   Temp °C   Condition   S	+ HOURS PRICE	HO @	Unat 13	NS.	2/24	a)0927
1 1.0 Good Ye	ŝ		1 olduov		and and a second s	as

Page 1 of 1

С	hain-o	of-Cus	stody Record	I um-Around	lime:														- 8.1-			
Client:	BLAG	G ENGR	. / BP AMERICA	Standard	Rush								V.		51	A	RC				L V	
				Project Name								w h	aller	wire	nm.	enta		m	~ '	J.		
Mailing A	Address:	P.O. BO	X 87	GC	U COM H #	# 180E		49	01 H	awk	ins	NF -	- Alt	ouqu	iera	ue.	NM	8710	09			
		BLOOM	FIELD, NM 87413	Project #:				Te	1.50	5-34	45-3	975	1	Fax	505	-345	-410	07				
Phone #:		(505) 63	32-1199	1								A	Anal	ysis	Re	que	st					
email or	Fax#:			Project Mana	ger:		-							4)								
QAVQC Pa	ackage: tard		Level 4 (Full Validation)		NELSON V	ELEZ	(8021B	(Aluo s	/ MRO)			(5)		PO4,50							ei	
Accredita	ation:			Sampler:	NELSON V	ELEZ	18's	(Ga	SRO,	1)	1)	)SIN		VO2,	nce	lids	red)	z			du	
	P	Other		On Ice:	X Yes	D No	14	HdT	1/0	418.	504.	827(	5	03,0	Balai	d So	filte	rite			e sa	N)
	Type)	I	1	Sample Temp	erature: )	0	LBE.	BE +	(GR	por	pou	) or	etal	CI'N	ion	olve	) sno	Nit		ole	osit	S IV C
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO.	BTEX + MI	BTEX + MT	TPH 80153	TPH (Meth	EDB (Meth	PAH (8310	RCRA 8 M	Anions (F,	Cation / An	Total Diss	Iron, Ferro	Nitrate N		Grab sam	5 pt. comp	Air Bubbles
2/23/17	1010	WATER	MW # 1	500 ml - 1	Cool	- 001									٧	٧				V		
2/23/17	1105	WATER	MW # 2	250 ml-2	Cool	- 002							1		٧	V				V		
2/23/17	0910	WATER	MW # 4	500 ml - 1	Cool	-003									٧	٧				V		
																			· · · · · · · · · · · · · · · · · · ·			_
	-	Deline int	d has a	Descioned but		Data Tima	0															
Date: Z/23/17 Date:	Time:	Refinquishe	la J	Received by:	alte i	Date 11me 2/22/17 1613 Date 24112	BIL 20	L DI	s: RECT ergy	LY T Cour	O BF	P: armir	ngtor	n, NM	VI 87	401	Att	tn.: J	lohn	Ritcł	nie	
2/23/17 Date: 723/17	1611 Time: 1841		d by: Watte (	Received by:	alta 2	2/27/17 1/2 1/ Date 02/24/17 22/24/17 20/12/24 5 This sector as notice	BIL 20 VII	D:	RECT ergy	Cour Cour VDR	O BF rt, Fa INK\	e: armir WJA	ngtoi 1	n, NM	VI 87	401	Att	tn.: J	lohn	TY IN	litch	litchie

If necessary, samples submitted to Hall Environmental may be subcontracted to other socied television of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

# bp



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

November 15, 2016

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

#### Re: Request for Permanent Closure Gallegos Canyon Unit Com H 180E API No. 30-045-24869; Unit letter N, Section 28, T29N, R12W; GPS: 36.692567°, -108.108277°

Dear Mr. Smith:

BP America Production Company has retained Blagg Engineering, Inc. to conduct environmental monitoring of groundwater at the Gallegos Canyon Unit Com H 180E. The land operated by the Bureau of Land Management.

Impacts were discovered in February of 2003 during the closure of unlined production tank pit with a follow up excavation. Groundwater impacts were suspected during the excavation activities. A groundwater sample was collected from the open excavation on February 17, 2003 with the results of elevated BTEX. The NMOCD Santa Fe was notified of the impacts on March 6, 2003, however no remediation number (3R) was found for this site. Three groundwater monitoring wells were installed (MW-1, 2 and 3) in 2011. MW-1 and 3 were below detection limits and sampled per the BP groundwater management plan section 2.3. MW-2 was below detection for 4 consecutive quarters and meets closure requirements detailed in the BP groundwater management plan. The results of the sampling indicate groundwater was remediated via excavation or natural attenuation between 2003 and 2011.

The groundwater was sampled from MW-2 had elevated fluoride, chloride, sulfate, nitrate, iron and total dissolved solids. Produced water from the onsite below grade tank was sampled for comparison. The results of the comparison sample demonstrated that the elevated sample results are likely derived from background concentrations common in the San Juan Basin.

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

Sincerely,

Chan Muy

Steve Moskal Field Environmental Coordinator

**BP AMERICA PRODUCTION CO.** 

**GROUNDWATER REMEDIATION REPORT** 

GCU COM H # 180E (N) SECTION 28, T29N, R12W, NMPM SAN JUAN COUNTY, NEW MEXICO

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

**JUNE 2016** 

PREPARED BY: BLAGG ENGINEERING, INC.

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

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LAB CHAIN-OF-CUSTODY RECORDS	
PIT CLOSURE DOCUMENTATION	
GROUNDWATER IMPACT NOTIFICATION DOCUMENTATION	
LANDFARM CLOSURE DOCUMENTATION	
BELOW-GRADE TANK CLOSURE DOCUMENTATION	
LAB REPORTS QUALITY ASSURANCE/QUALITY CONTROL	

## BP AMERICA PRODUCTION COMPANY GCU COM H # 180E – Production Tank Pit API #: 3004524869 SE<sup>1</sup>/<sub>4</sub> SW<sup>1</sup>/<sub>4</sub>, Sec. 28, T29N, R12W

Pit Closure Date:	02/17/2003
NMOCD Notification Date:	03/06/2003
NMOCD Admin./Order #:	3RP-392-0
Monitor Well Installation Dates:	08/23/2011 (MW#1), 09/12/2011 (MW#3), 02/15/2012 (MW#4), 03/18/2013 (MW#2),
Monitor Well Sampling Dates:	10/29/2011, 4/25/2013, 8/28/2013, 12/11/2013, 2/27/2014, 11/6/2015 - produced water only

#### Pit Closure and Background:

The site's unlined earthen production tank pit was located on-site and on federal lease land. Pit closure of an apparent unlined earthen production tank pit was conducted in **February 2003** by removing impacted soils via excavation (refer to <u>pages 30 through 37</u>). The excavated area encompassed approximately 17 feet by 14 feet in dimension. The soil excavated was estimated at 40 cubic yards and landfarmed on-site. Groundwater was encountered during the soil excavation at approximately five (5) feet below grade. The exposed groundwater within the pit area was sampled and tested by a qualified laboratory in Farmington, New Mexico on **February 27, 2003** for benzene, toluene, ethylbenzene, and total xylenes (**BTEX**) per US EPA method 8020. The BTEX results of the groundwater sampling event is as follows;

Date	02/17/2003	NMWQCC Standards
Sample ID	(5ft.)	
benzene (ppb)	280	10
toluene (ppb)	1,100	750
ethylbenzene (ppb)	320	750
Total xylenes (ppb)	910	620

Note: ppb = parts per billion, NMWQCC = New Mexico Water Quality Control Commission.

Only one (1) soil sample was collected during the initial excavation. The sample was collected and tested by Envirotech, Inc. on **February 19, 2003** for total petroleum hydrocarbon (**TPH**) analysis per US EPA method 8015 and BTEX per US EPA Method 8020. The TPH & BTEX results of the soil sampling event is as follows;

Date Sample ID	02/17/2003 1 @ 3.5'	Regulatory standards		
benzene (ppb)	ND	10.000		
Total BTEX (ppb)	92.6	50,000		
OVM (ppm)	643	100		
Soil TPH (ppm)	ND	100		

Note: ppb = parts per billion, ppm = parts per million, OVM = Organic Vapor Meter, TPH = total petroleum hydrocarbons.

Groundwater impact was identified within the source area during the pit closure activity and was reported to the New Mexico Oil Conservation Division's (**NMOCD**) Santa Fe office on March 6, 2003. Documentation of groundwater impacts had been previously submitted to NMOCD's Santa Fe Office (see <u>pages 38 through 40</u>).

The reporting herein is for site monitoring of three (3) groundwater monitor wells (Bore Logs attached) from October 2011 to November 2015 to address the groundwater quality at the excavated pit area (Figure 1).

#### Groundwater Monitor Well Sampling Procedures:

A two (2) inch dedicated submersible electrical pump with new, clear vinyl tubing was utilized during all ten (10) quarterly sampling events. The groundwater samples were collected following US EPA: SW-846 protocol, were placed into laboratory supplied containers with appropriate preservative, and stored in an ice chest for express delivery to an analytical laboratory for testing under strict chain-of-custody procedures. Analytical testing for BTEX per US EPA Method 8021B was conducted.

Fluids generated during monitor well purging was managed by discarding into the site's separator below-grade tank (**BGT**) or above-grade tank (**AGT**) after March 2013. The BGT and AGT contents are eventually disposed through approved NMOCD operational procedures for removal of produced fluids.

The BGT was removed in March 2013 and the closure report filed with NMOCD adhering to Rule 19.15.17 NMAC (see pages 39 through 42). The complete BGT closure documentation can be located within NMOCD's online well file (filename: 30045248690000\_42\_wf.pdf).

#### Water Quality and Gradient Information:

BP initiated quarterly sampling and testing pursuant to BP's NMOCD approved Groundwater Management Plan (**GMP**) on October 29, 2011. A historical summary of laboratory analytical BTEX results are included within the table on the following page. Field data sheets, laboratory reports, and laboratory quality assurance/quality control information are also included within this report.

Groundwater contour map (Figure 2) reveal the relative elevations from the site wells shows an apparent northwest flow direction toward MW #3.

#### Summary and/or Recommendations:

Hydrocarbon impacted soils and groundwater at the site appear to have been remediated via excavation and possibly from natural attenuation. Monitor well MW #2 (source area) BTEX results tested at non-detectable levels for four (4) consecutive sampling events and met the requirements of section 2.1 of BP's GMP. MW #1 and MW #3 met the GMP requirements pursuant to section 2.3. MW #2 met section 2.2 of the GMP for fluoride, chloride, and nitrates as N. Sulfate and total dissolved solids (**TDS**) from MW #2 exceeded the New Mexico Water Quality Control Commission (**NMWQCC**) groundwater standards. However, produced water collected from the site's AGT on November 6, 2015 had sulfate and TDS levels well below the NMWQCC standards for groundwater.

Permanent closure of the unlined earthen production tank pit is recommended. All site monitor wells will be abandoned pursuant to section 6.2 of the GMP after review and formal approval by NMOCD is granted.

Page 3

## **BP AMERICA PRODUCTION COMPANY**

GROUNDWATER FIELD DATA & LABORATORY RESULTS

#### GCU Com H # 180E - Prod. Tank pit UNIT N, SEC. 28, T29N, R12W

#### REVISED DATE: November 20, 2015 Submitted by Blagg Engineering, Inc.

								BTEX	BTEX US EPA METHOD 8021B o				
SAMPLE	WELL NAME	DEPTH TO	WELL	TDS	CONDUCT.	рН	FREE PHASE	BENZENE	TOLUENE	ETHYL	TOTAL		
DATE	/ NUMBER	WATER	DEPTH				PRODUCT			BENZENE	XYLENES		
		(feet)	(feet)	(mg/L)	(µmhos)		(feet)	(µg/L)	(µg/L)	(µg/L)	(µg/L)		
							,						
10/29/11	MW #1	6.90	15.00	NA	4,600	7.46		ND	ND	ND	ND		
04/25/13	MW #2	7.06	16.40	4,400	3,100	6.83		ND	ND	ND	ND		
08/28/13		7.55			2,200	7.25		ND	ND	ND	ND		
12/11/13		7.18			2,000	7.48		ND	ND	ND	ND		
02/24/14		7.13			3,100	7.33		ND	ND	ND	ND		
10/29/11	MW #3	7.01	15.00	NA	4,400	7.57		ND	ND	ND	ND		
NMWOCC GROUNDWATER STANDARDS									750	750	620		

	SAMPLE DATE	WELL NAME /NUMBER	Fluoride (mg/L)Chloride (mg/L)Sulfate (mg/L)		Nitrate-N (mg/L)	Iron (mg/L)	TDS (mg/L)	
	04/25/13	MW #2	1.3	88	2,700	ND	2.0	4,440
	11/06/15	LP AGT Produced Water	NA	NA	8.6	NA	NA	1,480
NMN	NQCC GROUN	NDWATER STANDARDS	1.60	250	600	10	1.0	1,000

1) NMWQCC - New Mexico Water Quality Control Commission.

2) TDS - Total Dissolved Solids

3) mg/L - Milligrams per liter

4) Conduct. - Conductivity

5) µmhos - Micro-ohms

6) pH NMWQCC standards range between 6 -9

7) µg/L - Micrograms per liter

8) NA - Not available or not applicable

9) ND - Indidcates not detected at the reporting limits (less than regulatory standards of at least a magnitude of 10).

10) LP AGT - Low profile above-grade tank (used for source level purposes).

NOTES :













### **BLAGG ENGINEERING, INC.**

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

#### CLIENT: BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY # : N / A

NJV

NIV

LABORATORY (S) USED : HALL ENVIRONMENTAL

GCU COM H #180E - PROD. TANK PIT UNIT N, SEC. 28, T29N, R12W

DEVELOPER / SAMPLER :

PROJECT MANAGER :

Date : October 29, 2011

*Filename* : **10-29-11.WK4** 

WELL	WELL	WATER	DEPTH TO	TOTAL	SAMPLING	рН	CONDUCT	TEMP.	VOLUME
#	ELEV.	ELEV.	WATER	DEPTH	TIME		(umhos)	(celcius)	PURGED
	(ft)	(ft)	(ft)	(ft)					(gal.)
1	101.81		6.90	15.00	1310	7.39	4,600	17.0	4.00
3	101.68		7.01	15.00	1415	7.57	4,400	16.8	4.00
			INSTRUME	NT CALIB	RATIONS =	4.01/7.00/10.00	2,800		
				DATE	& TIME =	10/28/11	0855		

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

Ideally a minimum of three (3) wellbore volumes:

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

Comments or note well diameter if not standard 2 ".

Monitor wells installed on 8/23/2011 (MW # 1) & 9/12/2011 (MW # 3).

Excellent recovery in both MW's. Both MW's murky gray in appearance. Used submersible pump and vinyl clear tubing for purging and sampling. Collected samples from both MW's for BTEX per US EPA Method 8021B.

Top of casing MW #1 ~ 2.00 ft., MW #3 ~ 2.00 ft. above grade.

on-site	12:40	temp	53 F
off-site	2:30	temp	55 F
sky cond.	Sun	ny	
wind speed	5 - 15	direct.	W

## BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : BP AMERICA PROD. CO.					CHAIN-OF-CUSTODY # :			N / A	
GCU COM H #180E - PROD. TANK REL. UNIT N, SEC. 28, T29N, R12W					LABORATORY (S) USED : HALL ENVIRONMENT				RONMENTAL
Date : Filename :	: April 25, 2013 ame : GCU Com H 180E mw log 04-25-13.xls					DEVELOPER / SAMPLER : N J V PROJECT MANAGER : N J V			J V J V
WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	рН	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1 2 3 4	101.83 - 101.68 102.08		- 7.08 -	15.00 16.40 15.00 15.00	- 0850 -	- 6.83 -	- 3,100 -	- 13.3 -	- 4.50 -
NOTES :	Volume_of	water purge	INSTRUMENT DATE & TIM	CALIBRATIC E = prior to sa	DNS =	4.01/7.00/10.00 04/25/13 pi X r2 X h	2,800 0700 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 minimum of three (3) wellbore volumes: 2.00" well diameter = 0.49 gal./ft. of water.									
Installed MV MW #4 on 3/ 7.16 ft. from	/ #4 on 2/15/20 /7/2013 . MW top of casing.	)12 (gradient p #2 initial deve	ourposes only) elopment comp	) & MW #2 o pleted on 4/1	n 3/18/2013. 2/2013 . Purge	Resurvey mo ed 15 gallons	onitor well tops continuously	s for MW #1, # Depth to wa	#2, & ter =

Excellent recovery in MW #2. Murky brown in appearance. Purged well using 2 inch submersible electric pump , new / clear vinyl tubing and with brass adjustable flow valve attachment added near sampling end of tubing. Collected sample from MW #2 only for BTEX per US EPA Method 8021B & general chemistry constituents.

on-site	7:45 AM	temp	43 F
off-site	9:00 AM	temp	50 F
sky cond.		Mostly sunny	
wind speed	0 - 10	direct.	E

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

CLIENT : BP AMERICA PROD. CO.				CHAIN-OF-CUSTODY # :			N / A			
GCU COM H #180E - PROD. TANK REL. UNIT N, SEC. 28, T29N, R12W					LABORATOR	RY (S) USED	:	HALL ENVIF	HALL ENVIRONMENTAL	
Date : Filename :	August 28, GCU Com H	2013 I 180E mw l	og 08-28-13.>	kls	-	PROJECT	/ SAMPLER : MANAGER :	N .	J V	
WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	рН	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)	
1	101.83	-	-	15.00	-	-	-	-	-	
2	-	-	7.55	16.40	1050	7.25	2,200	22.2	4.25	
3	101.68	-	-	15.00	-	-	-	-	-	
4	102.08	-	-	15.00	-	-	-	-	-	
NOTES :	Volume_of	<u>water_purge</u> r = (1/12) ft	INSTRUMENT DATE & TIME ad from well h = 1 ft.)	CALIBRATIC = prior to sa (i.e. 4" MW	PNS = ampling; V = r = (2/12) ft.	4.01/7.00/10.00 08/28/13 pi X r2 X h h = 1 ft.)	2,800 0700 X 7.48 gal./ft	3) X 3 (wellb	ores).	
	Ideally a mir	nimum of thr	ee (3) wellbor	re volumes:		2.00" well di	iameter =	0.49 gal./ft.	of water.	
Comments	or note wel	I diameter i	f not standa	rd 2".						
Excellent recovery in MW #2. Murky brown in appearance. Purged well using 2 inch submersible electric pump, new / clear vinyl tubing and with brass adjustable flow valve attachment added near sampling end of tubing. Collected sample from MW #2 only for										
BTEX per US	S EPA Method	8021B.								

on-site	10:00 AM	temp	72 F
off-site	11:00 AM	temp	75 F
sky cond.		Sunny	
wind speed	0 - 5	direct.	CALM

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

CLIENT :	BP AME	RICA PR	OD. CO.		CHAIN-OF-CUSTODY # :			N / A	
GCU COM UNIT N, S	H #180E - EC. 28, T29N	PROD. TANI I, R12W	K REL.		LABORATOR	RY (S) USED	:	HALL ENVIE	RONMENTAL
Date : Filename :	December GCU Com H	11, 2013 1 180E mw I	og 12-11-13.>	kls		PROJECT	/ SAMPLER : MANAGER :	N	J V
WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	рН	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1 2 3	101.83 - 101.68	94.52 - 94.24	7.31 7.18 7.44	15.00 16.40 15.00	- 0840	- 7.48 -	- 2,000	- 12.3	- 4.50
4	102.08	94.92	7.16 INSTRUMENT DATE & TIME	15.00 CALIBRATIC	- DNS =	- 4.01/7.00/10.00 12/09/13	- 2,800 0600	-	-
NOTES :	Volume_of (i.e. 2" MW	water purge r = $(1/12)$ ft	ed from well . $h = 1$ ft.)	prior to sa (i.e. 4" MW	<u>ampling; V =</u> / r = (2/12) ft.	$\frac{pi X r2 X h}{h = 1 ft.}$	X 7.48 gal./ft	3) X 3 (wellb	ores).
Ideally a minimum of three (3) wellbore volumes:2.00" well diameter =0.49 gal./ft. of water.Comments or note well diameter if not standard 2 ".									
Excellent red tubing and w BTEX per US	covery in MW # vith brass adjus S EPA Method	2 . Murky bro table flow val 8021B.	own in appeara ve attachment	ince . Purge added near	ed well using 2 sampling end o	inch submers of tubing . Co	ible electric pu bllected sampl	ump , new / clo e from MW #2	ear vinyl 2 only for

on-site	8:00 AM	temp	9 F
off-site	9:00 AM	temp	12 F
sky cond.		Sunny	
wind speed	Calm	direct.	NA

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

CLIENT :	BP AME	RICA PR	OD. CO.		CHAIN-OF-CUSTODY # :			N / A	
GCU COM UNIT N, SI	H #180E - EC. 28, T29N	PROD. TANH I, R12W	K REL.		LABORATORY (S) USED :			HALL ENVIRONMENTAL	
Date : Filename :	February 2 GCU Com H	27, 2014 H 180E mw le	og 02-27-14.;	xls	-	DEVELOPER PROJECT	/ SAMPLER : MANAGER :	N N	J V J V
WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	рН	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
	101.00	04.50	7.04	15.00	1			1	
1	101.83	94.59	7.24	15.00	-	- 7 33	- 3 100	- 11	-
3	101.68	94.30	7.38	15.00	0850	7.55	5,100		4.50
4	102.08	94.97	7.11	15.00	-	_	-	-	-
			INSTRUMENT DATE & TIM	CALIBRATIC E =	DNS =	4.01/7.00/10.00 02/24/14	2,800 0600	]	
NOTES :	<u>Volume of</u> (i.e. 2" MW	water purge r = $(1/12)$ ft	$\frac{d \text{ from well}}{h = 1 \text{ ft.}}$	prior to sa (i.e. 4" MW	ampling; V = r = (2/12) ft.	pi X r2 X h h = 1 ft.)	<u>X 7.48 gal./ft</u>	3) X 3 (wellb	ores).
Ideally a minimum of three (3) wellbore volumes:       2.00° well diameter =       0.49 gal./ft. of water.         Comments or note well diameter if not standard 2 ".         Excellent recovery in MW #2 . Murky brown in appearance . Purged well using 2 inch submersible electric pump , new / clear vinyl         tubica and with brace adjustable flow value attachment added near sampling and of tubica.									
BTEX per US	S EPA Method	8021B.			camping ond				

on-site	8:00 AM	temp	72 F
off-site	9:00 AM	temp	77 F
sky cond.		Sunny	
wind speed	5 - 10	direct.	E

## Hall Environmental Analysis Laboratory, Inc.

Date: 04-Nov-11 Analytical Report

CLIENT:	Blagg Engineering			<b>Client Sample</b>	<b>ID: MW</b> #1			
Lab Order:	1111106			Collection D	ate: 10/29/201	10/29/2011 1:10:00 PM		
Project: Lab ID:	GCU Com H #180E 1111106-01	Date Received: 11/1/2011 Matrix: AQUEOUS						
Analyses		Result	PQL	Qual Units	DF	Date Analyzed		
EPA METHOD	8021B: VOLATILES					Analyst: RAA		
Benzene		ND	1.0	μg/L	1	11/2/2011 3:22:22 AM		
Toluene		ND	1.0	µg/L	1	11/2/2011 3:22:22 AM		
Ethylbenzene		ND	1.0	µg/L	1	11/2/2011 3:22:22 AM		
Xylenes, Total		ND	2.0	µg/L	1	11/2/2011 3:22:22 AM		
Surr: 4-Brom	ofluorobenzene	79.0	76.5-115	%REC	1	11/2/2011 3:22:22 AM		

Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits

NC Non-Chlorinated

PQL Practical Quantitation Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

### Hall Environmental Analysis Laboratory, Inc.

Date: 04-Nov-11 Analytical Report

CLIENT:	Blagg Engineering	Client Sample ID:					MW#3		
Lab Order: 1111106 Collection Date:			te: 10/29/201	10/29/2011 2:15:00 PM					
Project:         GCU Com H #180E         Date Received:           Lab ID:         1111106-02         Matrix:				d: 11/1/2011 ix: AQUEOU	S				
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed		
EPA METHOD	8021B: VOLATILES	a a					Analyst: RAA		
Benzene		ND	1.0		µg/L	1	11/2/2011 3:52:26 AM		
Toluene		ND	1.0		µg/L	1	11/2/2011 3:52:26 AM		
Ethylbenzene		ND	1.0		µg/L	1	11/2/2011 3:52:26 AM		
Xylenes, Total		ND	2.0		µg/L	1	11/2/2011 3:52:26 AM		
Surr: 4-Brom	ofluorobenzene	75.4	76.5-115	S	%REC	1	11/2/2011 3:52:26 AM		

Qualifiers:

- \* Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits

NC Non-Chlorinated

PQL Practical Quantitation Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

## **Analytical Report** Lab Order 1304A87

### Hall Environmental Analysis Laboratory, Inc.

Date Reported: 5/13/2013 Client Sample ID: MW # 2

CLIENT:	Blagg Engineering		Client Sample ID: MW # 2								
Project:	GCU COM H # 180E			Collection I	Date: 4/25/20	013 8:50:00 AM					
Lab ID:	1304A87-001	Matrix:	AQUEOUS	Received I	Date: 4/26/20	013 10:00:00 AM					
Analyses		Result	RL Qual	Units	DF	Date Analyzed					
EPA MET	HOD 8021B: VOLATILES					Analyst: NSB					
Benzene		ND	1.0	µg/L	1	4/30/2013 6:28:26 PM					
Toluene		ND	1.0	µg/L	1	4/30/2013 6:28:26 PM					
Ethylben	zene	ND	1.0	µg/L	1	4/30/2013 6:28:26 PM					
Xylenes,	Total	ND	2.0	µg/L	1	4/30/2013 6:28:26 PM					
Surr: 4	-Bromofluorobenzene	103	69.4-129	%REC	1	4/30/2013 6:28:26 PM					
EPA MET	HOD 300.0: ANIONS					Analyst: JRR					
Fluoride		1.3	0.50	mg/L	5	4/26/2013 9:41:54 PM					
Chloride		88	2.5	mg/L	5	4/26/2013 9:41:54 PM					
Nitrogen,	Nitrite (As N)	ND	0.50	mg/L	5	4/26/2013 9:41:54 PM					
Nitrogen,	Nitrate (As N)	ND	0.50	mg/L	5	4/26/2013 9:41:54 PM					
Sulfate		2700	50 *	mg/L	100	5/3/2013 12:13:09 AM					
EPA MET	HOD 200.7: DISSOLVED M	ETALS				Analyst: JLF					
Iron		2.0	0.10 *	mg/L	5	4/29/2013 1:10:44 PM					
SM2540C	MOD: TOTAL DISSOLVED	SOLIDS				Analyst: KS					
Total Dis	solved Solids	4440	40.0 *	mg/L	1	5/2/2013 5:35:00 PM					

Qualifiers:

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

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

### Analytical Report Lab Order 1308D52

Date Reported: 9/6/2013

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering	Client Sample ID: MW # 2							
<b>Project:</b> GCU COM H # 180E		Collection Date: 8/28/2013 10:50:00 AM						
Lab ID: 1308D52-001	Matrix:	AQUEOUS	Received	Date: 8/3	0/2013 10:00:00 AM			
Analyses	Result	RL Qual	Units	DF	Date Analyzed	Batch		
EPA METHOD 8260: VOLATILES SH	ORT LIST				Analyst:	cadg		
Benzene	ND	1.0	µg/L	1	9/3/2013 4:42:18 PM	R13040		
Toluene	ND	1.0	µg/L	1	9/3/2013 4:42:18 PM	R13040		
Ethylbenzene	ND	1.0	µg/L	1	9/3/2013 4:42:18 PM	R13040		
Xylenes, Total	ND	2.0	µg/L	1	9/3/2013 4:42:18 PM	R13040		
Surr: 1,2-Dichloroethane-d4	99.7	70-130	%REC	1	9/3/2013 4:42:18 PM	R13040		
Surr: 4-Bromofluorobenzene	99.2	70-130	%REC	1	9/3/2013 4:42:18 PM	R13040		
Surr: Dibromofluoromethane	114	70-130	%REC	1	9/3/2013 4:42:18 PM	R13040		
Surr: Toluene-d8	94.0	70-130	%REC	1	9/3/2013 4:42:18 PM	R13040		

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

Qualifiers:	*	<ul> <li>Value exceeds Maximum Contaminant Level.</li> <li>Value above quantitation range</li> </ul>		Analyte detected in the associated Method Blank		
	Е			Holding times for preparation or analysis exceeded		
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit Page 1 of 2		
	<ul><li>O RSD is greater than RSDlimit</li><li>R RPD outside accepted recovery limits</li></ul>		Р	Sample pH greater than 2 for VOA and TOC only.		
			RL	RL Reporting Detection Limit		
	S	Spike Recovery outside accepted recovery limits				
#### Analytical Report Lab Order 1312584

#### Hall Environmental Analysis Laboratory, Inc.

Date Reported: 12/18/2013

CLIENT:	Blagg Engineering		C	lient San	pple ID: MW #2
Project:	GCU Com H #180E			Collectio	n Date: 12/11/2013 8:40:00 AM
Lab ID:	1312584-001	Matrix:	AQUEOUS	Receive	d Date: 12/13/2013 10:40:00 AM
Analyses		Result	RL Qual	Units	DF Date Analyzed Batch
EPA MET	HOD 8021B: VOLATILES				Analyst: NSB
Benzene		ND	1.0	µg/L	1 12/17/2013 5:07:04 PM R15572
Toluene		ND	1.0	µg/L	1 12/17/2013 5:07:04 PM R15572
Ethylbenz	zene	ND	1.0	µg/L	1 12/17/2013 5:07:04 PM R15572
Xylenes,	Total	ND	2.0	µg/L	1 12/17/2013 5:07:04 PM R15572
Surr: 4	-Bromofluorobenzene	97.6	85-136	%REC	1 12/17/2013 5:07:04 PM R15572

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	Е	Value above quantitation range	Н	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit Page 1 of 2
	Ο	RSD is greater than RSDlimit	Р	Sample pH greater than 2 for VOA and TOC only.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

#### Analytical Report Lab Order 1402B47

Date Reported: 3/5/2014

#### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering Project: GCU COM H #180E			Client Samp Collection	le ID: M Date: 2/2	W #2 27/2014 8:50:00 AM	
Lab ID: 1402B47-001	Matrix:	AQUEOUS	Received	Date: 2/2	28/2014 10:00:00 AM	
Analyses	Result	RL Qua	l Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES					Analyst	JMP
Benzene	ND	1.0	µg/L	1	3/3/2014 12:11:18 PM	R17069
Toluene	ND	1.0	µg/L	1	3/3/2014 12:11:18 PM	R17069
Ethylbenzene	ND	1.0	µg/L	1	3/3/2014 12:11:18 PM	R17069
Xylenes, Total	ND	2.0	µg/L	1	3/3/2014 12:11:18 PM	R17069
Surr: 4-Bromofluorobenzene	108	85-136	%REC	1	3/3/2014 12:11:18 PM	R17069

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Metho	od Blank
	Е	Value above quantitation range	Н	Holding times for preparation or analysis	exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	Page 1 of 2
	Ο	RSD is greater than RSDlimit	Р	Sample pH greater than 2.	1 age 1 01 2
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

#### Analytical Report Lab Order 1511328 Date Reported: 11/20/2015

#### Hall Environmental Analysis Laboratory, Inc.

CLIENT:	Blagg Engineering		(	Client Samp	le ID: LP	AGT PRODUCED	WATER
Project:	GCU COM H #1 180E			Collection	Date: 11/	6/2015 12:10:00 PM	
Lab ID:	1511328-001	Matrix: A	QUEOUS	Received	<b>Date:</b> 11/	7/2015 8:45:00 AM	
Analyses		Result	RL Qual	Units	DF	Date Analyzed	Batch
EPA MET	THOD 300.0: ANIONS					Analys	st: LGT
Sulfate		8.6	5.0	mg/L	10	11/14/2015 3:31:33 AI	M A30251
SM25400	MOD: TOTAL DISSOLVED	SOLIDS				Analys	st: IDC
Total Dis	solved Solids	1480	100 *D	ma/l	1	11/10/2015 4·57·00 PI	1 22255

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method	Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	Page 1 of 3
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range	rage rors
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix			

Cł	nain-c	of-Cus	tody Record	Turn-Around 1	Time:					ŀ	łA	LL	E	NV	IF	20	N	ME	N	<b>FA</b>	L
Client:	BLAG	G ENGR.	/ BP AMERICA	Standard	Rush_					-	N	AL	YS	SIS	5 L	A	30	R/	T	DR	Y
				Project Name:					A.G.		ww	w.ha	llen	viro	nme	ntal	.com	n			
Mailing Ad	dress:	P.O. BO	X 87	GC	U Com H #	‡ 180E		49	01 H	awk	ins N	NE -	Alb	uqu	erqu	ue, N	IM 8	3710	9		
		BLOOM	FIELD, NM 87413	Project #:	-			Te	el. 50	5-34	15-3	975	F	ax	505-	345	-410	7			
Phone #:		(505) 63	2-1199	1								A	nal	ysis	Red	ques	st	6.48			
email or F	ax#:			Project Manag	jer:									04)							
QA/QC Pad	ckage: ard		Level 4 (Full Validation)		NELSON V	ELEZ	021B)	(yluo	/Diesel					PO4, S(	CB's						
Accreditat	ion:			Sampler:	NELSON V	ELEZ GW		(Gas	(Gas					102,	82 P						
	0	D Other		On lce:	⊠⁄Yes	□ No		Hdi	158	18.1)	04.1	(H)		03, N	/ 80		A				r N)
	ype)			Sample Temp	erature: 1.	8		3E +	d 80	d 4	od 5	or P	tals	N, N	ides	1	101-	00.00			(Y o
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX +-MH	BTEX + MTI	TPH Metho	TPH (Metho	EDB (Metho	8310 (PNA	RCRA 8 Me	Anions (F, C	8081 Pestic	8260B (VO/	8270 (Semi	Chloride (3			Air Bubbles
10/29/11	1310	WATER	MW # 1	40 mi VOA - 2	HCI & Cool	1	V														
								1													
10/29/11	1415	WATER	MW # 3	40 ml VOA - 2	HCI & Cool	2	V														
			·····																		
			AL.,																		
																					_
Date:	Time: 1150	Relinquishe	ed by: In VJ	Received by:	Wester	Date Time 10/31/11 /156	Rer	nark Bli Jef	s: L DII f Pea	RECT	LY TO DO Er	O BP	: Cou	irt, Fa	armir	ngtor	n, NM	1874	01		
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If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report. Page 22

С	hain-c	of-Cus	stody Record	I urn-Around I	l ime:				3-44 1	F			F	NV	/ T E	20	NI	MF	N7		
Client:	BLAG	G ENGR.	/ BP AMERICA	Standard	Rush						N		Y	STO	5 1		BO	R			v
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		BLOOM	FIELD, NM 87413	Project #:				Te	1. 50	5-34	15-3	975		Fax	505	-345	-410	)7			
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email or F	ax#:			Project Manag	ger:									4)							
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10/11/2	If necess	and samples s	submitted to Hall Environmental may be	subcontracted to other	accredited laboratoria	es. This serves as notice of	f this r	ossibi	lity. A	ny sub	-cont	racted	data	will be	clear	v nota	ted on	the and	alvtical r	enot

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

Client:       BLAGG ENGR. / BP AMERICA       □ Standard       Rush         Mailing Address:       P.O. BOX 87       GCU COM H # 180E         BLOOMFIELD, NM 87413       Project #:       Project #:         Phone #:       Project #:       Project #:         Mailing Address:       P.O. BOX 87       GCU COM H # 180E         Phone #:       Project #:       Project #:         Phone #:       Project Manager:       OV 000: 90 000 90	C	hain-o	ot-Cus	stody Record					T	I I	F	-1-0		F	N١	/ T E	20	NI	MF	NT	<b>-A</b>	
Mailing Address:         P.O. BOX 87         GCU COM H # 180E           BLOOMTELD, NM 87413         Project Name:         www.hallenvironmental.com           Phone #:         (505) 632-1199         Project Manager.           OACC Package:	Client:	BLAG	G ENGR.	/ BP AMERICA	Standard	Rush							AL	Y	SI	SL	A	BO	R/		DR	iY
Mailing Address:       P.O. BOX 87       GCU COM H # 180E       4901 Hawkins NE - Albuquerque, NM 87109         BLOOMFIELD, NM 87413       Project #:					Project Name:						-	ww	w.ha	aller	viro	nme	ntal	.con	1			
BLOOMFIELD, NM 87413         Project #:           Phone #:         (505) 632-1199           email or Fax#:         Project Manager:           CVACC Package:         NELSON VELEZ           Standard         Level 4 (Full Validation)           Accreditation:         Sampler:           Date         Time           Matrix         Sample remiter:           Other         Sample remiter:           Date         Time           Matrix         Sample Request ID           Container         Type and #           Type         Container           Type         Fax Router           12/11/13         0840           MATER         MW #2           40 mi VOA-2         HCI & Cool           Container         Type and #           Time         Matrix           Sample Request ID         Container           Type and #         Time           Time         Matrix           Sample Request ID         Container           Time         Matrix           Sample Request ID         Container           Time         Matrix           Sample Request ID         Container           Time	Mailing A	ddress:	P.O. BO	X 87	G	CU COM H #	‡ 180E		49	01 -	lawk	cins	NE -	- All	buqu	Jerq	ue, N	MM 8	37109	)		
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OAACC Package:       Image: Source of a standard       Level 4 (Full Validation)         Accreditation:       Sample::       NELSON VELEZ       %U       (%U) veloce       (%U) veloce <td< td=""><td>email or F</td><td>ax#:</td><td></td><td></td><td>Project Manag</td><td>jer:</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>4)</td><td></td><td></td><td></td><td>(1</td><td></td><td></td><td></td></td<>	email or F	ax#:			Project Manag	jer:									4)				(1			
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email or F	ax#:			Project Manag	ger:																	
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Accreditat	tion:			Sampler:	NELSON V	ELEZ	s (80	(Gas	RO/	1)	1)	DIN					(p	ce	s		mple	
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	Гуре)			Sample Temp	érature: /4/	3	H + H	+	(GR(	po	po	or	etal	Nitri	e		is (fi	on l	ved	le	osit	o ∑)
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO.	BTEX + MTB	BTEX + MTB	TPH 8015B	TPH (Meth	EDB (Meth	PAH (8310	RCRA 8 Me	Nitrate N / I	Manganes	Total Iron	Iron, Ferrou	Anion / Cati	Total Dissol	Grab samp	5 pt. comp	Air Bubbles
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1944 Ris Brans Rd., Astor, HM

State of New Mexico Energy, Minerals and Natural Resources Department

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

B1153 SUBMIT I COPY TO APPROPRIATE DISTRUCT OPPICE AND I COPY TO SANTA PE OPPICE

#### PIT REMEDIATION AND CLOSURE REPORT

Operator: BP AMERICA PRODUCTION CO.	Telephone: (505) 326-9200
Address: 200 ENERGY COURT, FARMINGTON	N. NM 87401
Facility or Well Name: GCU Com H +	1802
Location: Unit or Qtr/Qtr Sec Sec	TAGN RIZW County San Juan
Pit Type: Separator Dehydrator Other Prod	uctionTank
Land Type: BLM X_, State, Fee, Othe	er
Pit Location: Pit dimensions: length_	NA_, width_NA_, depth_NA
(Attach diagram) Reference: wellhead X	_, other
Footage from reference:	153 /
Direction from reference:	26 Degrees East North
	14 nv West South
	West Courtin
Depth To Groundwater:	Less than 50 feet (20 points) XAG
contaminants to seasonal	Greater than 100 feet (0 points)
groundwater)	×
(Less than 200 feet from a private	No $(0 \text{ points})$
domestic water source, or; less than 1000 feet from all other water sources)	
Distance To Surface Water:	Less than 100 feet (20 points)
(Horizoata) distance to perenalal lakes, ponds, rivers, streama, creeks,	Greater than 1000 feet (10 points)
] irrigation canals and ditches)	
Y.	RANKING SCORE (TOTAL POINTS): 30 KTV)
revised: 09/11/02	bei1202.wpd

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lata )-17-D?	the second se	(Test ho	le bottom)	- TRENCH	Borro	m.
	2	Same	ale time 11/	20		
Results	2	Oann				
lenzene	(ppm)	ND	Water: Ben	zene	(ppb)	280
'otal BTEX	(ppm)	0.0926	Toh	iene	(ppb)	1,100
ield Headspace	(ppm)	545	Ethy	lbenzene	(ppb)	320
'PH	(ppm)	nD	Totz	al Xylenes	(ppb)	910
Yes 🗙	No	X nu	(If ves. atta	ich sample	results)	
and a standard ball ball ball and the standard ball ball ball ball ball ball ball bal			/ / / with			
'HE INFORMATION	N ABOVI	E IS TRUE .	AND COMPLI	ETE TO T	HE BES	T OF M
זמ	י מיזיאדס	NAME L	ffrey C D	اممر		
Fr	UTUTED 1	TAILE 0	ALLEY C. D	1422		
<u>C Blogg</u> AN	ND TITLI	E P	resident	P.E. #	11607	
/						
	enzene otal BTEX ield Headspace PH Yes X THE INFORMATIO PI	enzene (ppm) otal BTEX (ppm) ield Headspace (ppm) PH (ppm) Yes No HE INFORMATION ABOV PRINTED	enzene (ppm) <u>1115</u> otal BTEX (ppm) <u>0.09</u> b ield Headspace (ppm) <u>545</u> PH (ppm) <u>D</u> Yes <u>No</u> <u>X</u> <sup>nv</sup> THE INFORMATION ABOVE IS TRUE A PRINTED NAME <u>Je</u>	enzene       (ppm)       110       Water: Bent         otal BTEX       (ppm)       0.0926       Toh         ield Headspace       (ppm)       545       Ethy         PH       (ppm)       D       Totz         Yes       No       X       (If yes, atta         HE INFORMATION ABOVE IS TRUE AND COMPLY	enzene (ppm) <u>(115)</u> Water: Benzene otal BTEX (ppm) <u>0.09</u> b Toluene ield Headspace (ppm) <u>545</u> Ethylbenzene PH (ppm) <u>ND</u> Total Xylenes Yes <u>No</u> <u>X</u> <sup>nv</sup> (If yes, attach sample THE INFORMATION ABOVE IS TRUE AND COMPLETE TO T PRINTED NAME <u>Jeffrey C. Blagg</u> <u>Cubleggand TITLE</u> <u>President P.E. #</u>	enzene (ppm) <u>115</u> Water: Benzene (ppb) otal BTEX (ppm) <u>0.09</u> b Toluene (ppb) ield Headspace (ppm) <u>545</u> Ethylbenzene (ppb) PH (ppm) <u>D</u> Total Xylenes (ppb) Yes <u>X</u> No <u>X</u> (If yes, attach sample results) HE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BES PRINTED NAME <u>Jeffrey C. Blagg</u>

VNL 300452486	2
CLIENT:         BP         BLAGG ENGINEERIN           BLAGG ENGINEERIN         P.O. BOX 87, BLOOMFIEI         1000000000000000000000000000000000000	IG, INC. D, NM 87413 LOCATION NO: 8/153 /0502 COCR NO: 12/55
FIELD REPORT: PIT CLOSURE VERI	FICATION PAGE No: of
LOCATION: NAME: Gen com H WELL# 180E T	THE: AROD. TRACK DATE STARTED: 2/17/03 DATE FINISHED:
QUADIUNIT: 10 SEC: 20 TWP: 27N RNG: 72W PM: NIT CNTY: QTR/FOOTAGE: 810'S 1530 W SELSW CONTRACTOR: STE	LRA (CALUIN) ENVIRONMENTAL NV
EXCAVATION APPROX. 17 FT. x 14 FT. x 5	FT. DEEP. CUBIC YARDAGE: 40
DISPOSAL FACILITY:	DIATION METHOD: LANDFARM
LAND USE: KANGE- BUM LEASE: SFC	FORMATION: GPIDE
DEPTH TO GROUNDWATER: <50' NEAREST WATER SOURCE: >1000 NMOCD RANKING SCORE: 30 NMOCD TPH CLOSURE STD: 100	PPM
SOIL AND EXCAVATION DESCRIPTION	OVM CALIB. READ. = 5%. Z ppm
	TIME: $/200$ among DATE: $Z/14/03$
SOIL TYPE: SAND / SILTY SAND / SILT / SILTY CLAY / CLAY / GRAVED / O	THER
COHESION (ALL OTHERS): NON COHESIVE SLIGHTLY COHESIVE / COHESIVE / HIGH	LY COHESIVE
CONSISTENCY (NON COHESIVE SOILS): CODSECTING DENSE / VERY DENSE PLASTICITY (CLAYS): NON PLASTIC / SLIGHTLY PLASTIC / COHESIVE / MEDIUM PLAST	TIC / HIGHLY PLASTIC
DENSITY (COHESIVE CLAYS & SETS): SOFT / FIRM / STIFF / VERY STIFF / HARD MOISTURE: DRY / SLIGHTLY MOIST / MOIST / WET / SATURATED / SUPER SATURATED	
DISCOLORATION/STAINING OBSERVED: VES/ NO EXPLANATION - 1.5-5	BELOW GRADE (LT. GRAY TO BLACK)
SAMPLE TYPE: GRAB/ COMPOSITE - # OF PTS.	
GROUNDWATER SUL. GW EXPUSED & 5 FT. SELON	U GRADE, NO STEED OBSERVED ON
(EUCONNTERED) GW SHRFACE -	
SCALE SAMP. TIME SAMP. ID LAB NO. WEIGHT (	2) mL FREON DILUTION READING CALC. (ppm)
	PIT PROFILE
OVM	RENCH
TREXH READING	ACE A
A 1@3.5 545	- Iq A
3 II 3@	
(P23)	
L (PWD) SEP.	613
	DISCOLORED EXPOSED
	ME SOL
WELL U De35 TPH (80158) ///	2 3 BOTTH ANSSED
P.D. = PIT DEPRESSION; B.G. = BELOW GRADE; B = BELOW T.H. = TEST HOLE: ~ = APPROX. T.B. = TANK BOTTOM	DO Z SENZENE, ETHUL- D GENZENE, & X4LENES HALLEN
TRAVEL NOTES: CALLOUT: 2/17/03-MORN. ONSITE	ZITT/03-MORN.

## ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

#### EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	1 @ 3.5'	Date Reported:	02-19-03
Laboratory Number:	24868	Date Sampled:	02-17-03
Chain of Custody No:	10502	Date Received:	02-18-03
Sample Matrix:	Soil	Date Extracted:	02-19-03
Preservative:	Cool	Date Analyzed:	02-19-03
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: GCU Com H #180E Production Tank Pit Grab Sample.

Analyst

Christini My Watters

5796 U.S. Highway 64 • Farmington, NM 87401 • Tel 505 • 632 • 0615 • Fax 505 • 632 • 1865

## ENVIROTECH LABS

#### PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

#### EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	1 @ 3.5'	Date Reported:	02-19-03
Laboratory Number:	24868	Date Sampled:	02-17-03
Chain of Custody:	10502	Date Received:	02-18-03
Sample Matrix:	Soil	Date Analyzed:	02-19-03
Preservative:	Cool	Date Extracted:	02-19-03
Condition:	Cool & Intact	Analysis Requested:	BTEX
			Det.

Parameter	 Concentration (ug/Kg)	Limit (ug/Kg)	
Benzene	ND	1.8	
Toluene	ND	1.7	
Ethylbenzene	14.6	1.5	
p,m-Xylene	36.3	2.2	
o-Xylene	41.7	1.0	
Total BTEX	92.6		

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	96 %
	1,4-difluorobenzene	96 %
	Bromochlorobenzene	96 %

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Method 8021B, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments:

GCU Com H #180E Production Tank Pit Grab Sample.

Analyst

Review\_ Notion Multers

612 E. Murray Drive Farmington, NM 87401

Off: (505) 327-1072



P.O. Box 2606 Farmington, NM 87499

Fax: (505) 327-1496

#### Date: 28-Feb-03

· · · · · ·					· · · · · · ·					
CLIENT:	Blagg Engineering		(	<b>Client Sample Inf</b>	o: Prodi	ection Tank Pit				
Work Order:	0302019			Client Sample I	ient Sample ID; PW1 @ C					
Project:	BP - GCU Com H #1	80E		<b>Collection Dat</b>	e: 2/17/	2003 11:00:00 AM				
Lab ID:	0302019-001A			Matri	x: AQU	EOUS				
Parameter		Result	PQL Qu	al Units	DF	Date Analyzed				
AROMATIC VOI	LATILES BY GC/PID		SW8021	в		Analyst: JEN				
Benzene		280	5.0	μg/L	10	2/27/2003				
Ethylbenzene		320	5.0	µg/L	10	2/27/2003				
m,p-Xylene		660	10	µg/L	10	2/27/2003				
o-Xylene		250	5.0	µg/L	10	2/27/2003				
Toluene		1100	5.0	µg/L	10	2/27/2003				

#### Qualifiers:

ND - Not Detected at the Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

\* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted procision limits

E - Value above Upper Quantitation Limit - UQL

Page 1 of 1

MAINTAINING HARMONY BETWEEN MAN AND HIS ENVIRONMENT

Page 34

### CHAIN OF CUS ODY RECORD

Client / Project Name	1		Project Location	)											
BLAGG	18P		Ecu cor	M. H #180	DE:				ANALYS	IS / PAR	AMETERS				
Sampler:			Client No.			10				1	F	emarks			
			94034-0	of	TOTAL PH BTOX					Care C-					
Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	Ž	Conta Sonta	;0(B)	B			GRAB	SAM	PLZ	,	
D C 3.5'	\$17/03	1102	24868	5012		1	$\checkmark$	✓			FRODUC	75.07		Pit	
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			s									Y	N	N/A	
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				(505	) 632-061	5					Cool - Ice/Blue Ice	4			

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Page 35							e <sup>rrest</sup> e	ine na			yiye <sup>m</sup> B			· · ·	447		17.15	5
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TECHNOLOGIES, LTD. 612 E. Murray Dr. • P.O. Box 2606 • Farmington. N LAB: (505) 325-5667 • FAX: (505) 327-145							99						Pa	ge:	1	of	1	
Purchase Order No.:	F	roject No				0	Name	, Ua	- 3.000	Ve	LE L		ŀ	Fitle				
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City, State, Zip						<u>۳</u>	Telep	none N	0.					Telefax	No. C	532	-390	3
PROJECT LOCATION: BP - Gen Com H #180E	9 R. 214	SPRICTIONS TANK PIT										YSIS	REC	UES	TED		7	
SAMPLER'S SIGNATURE:						Number	6	AT -								1	/	
SAMPLE IDENTIFICATIO	<b>N</b>	DATE	TIME	MATRIX	PRES.	-	18	/	/	/	/	/	/	/	/	/	LAB ID	
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# 3R - 392

# GENERAL CORRESPONDENCE

YEAR(S): 2003 Page 37

-R392

#### BLAGG ENGINEERING, INC . - (BEI)

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

#### RECEIVED

March 6, 2003

Mr. Roger AndersonMAR 1 9 2003Chief of Environmental BureauState of New Mexico Oil Conservation Division (NMOCD)2040 So. PachecoSanta Fe, New Mexico 87505

#### RE: Groundwater Impact BP America Production Company (BP): GCU Com H # 180E Well site - Production Tank Pit Legal Description: Unit N, Sec. 28, T29N, R12W, San Juan County, New Mexico

Dear Mr. Anderson:

Initial groundwater sample analytical results at the above referenced well site during pit closure activity indicated contamination to be above the State of New Mexico Water Quality Control Commission's regulatory standards for benzene, toluene, and total Xylenes. Sampling of the Production Tank pit was conducted February 17, 2003. Depth to water was estimated at five (5) feet below grade. Listed below is the summary analytical results for Benzene, Toluene, Ethylbenzene, and total Xylenes (BTEX) from the groundwater sample collected within the pit:

Parameter	Separator Pit (II) (parts per billion)
Benzene	280
Toluene	1,100
Ethylbenzene	320
Total Xylenes	910

Telecommunication notification was submitted to Mr. William Olson's voice recorder on March 6, 2003 at approximately 9:45 am. BP will implement its Groundwater Management Plan to address the findings related to this situation.

If you have any questions concerning this information, please do not hesitate to contact us at (505) 632-1199. Thank you for your cooperation.

Respectfully submitted, Blagg Engineering, Inc.

Milion VI

Nelson Velez Staff Geologist

cc: Denny Foust, Environmental Geologist, NMOCD, Aztec, NM Brittany Benko, Environmental Coordinator, BP America Production Company, Farmington, NM

GCU180E.LTR

NV/nv

IMPORTA	ANT MESSAGE
FOR	Q AM
DATE J/G	TIME (
M_ Nelson Vel	102
OF Blue Friend	her si
PHONE 632	-1198'
G FAX	A CLUC DELLENSION
O MOBILE	NUMBER TIME TO CALL
TELEPHONED	PLEASE CALL
CAME TO SEE YOU	WILL CALL AGAIN
WANTS TO SEE YOU	RUSH
RETURNED YOUR CALL	STELAL ATTENTION
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Joch H	-7/00/2
GW-G'	
D- 280	ppb
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SIGNED	

CLIENT: <u>BP</u> Page 39	BLAGG H P.O. BOX 87, (5	ENGI BLO 05)	NEERIN OMFIELD 632-119	IG, IN( , NM 8 9	C. 7413	LDCATIC C.D.		B1153 <u>/1650</u>
FIELD REPORT:	LANDFARM/	COMI	POST PI	LE CLO	SURE	VERI	FICA	TION
QUAD/UNIT: N SEC: 2	TWP: Z9N RNG:	, #: 180 12W	DE PITS: PM:NM CI	PROD. TANA	< T:Nm	DATE STAR DATE FINIS	HED	19/04
SOIL REMEDIATION: REMEDIATION SYS LAND USE:	TEM: LANDFARM	ACTOR:	_ AF	PROX. CI	UBIC Y. H (ft):	ARDAGE	Z	40
FIELD NOTES & REMAN	NEAREST WATER	SDURCE	AY / GRAVEL	NMOCD TPH NEAREST O/DTHER	CLOSURE SURF ACE	STD: _/.	<100	ррм 20 /
COHESION (ALL OTHERS): NON CONSISTENCY (NON COHESIVE PLASTICITY (CLAYS): NON PLA DENSITY (COHESIVE CLAYS & MOISTURE: DRY / SLIGHTLY M DISCOLORATION/STAINING OBSE HC ODOR DETECTED: YES / (N SAMPLING DEPTHS (LANDFARMS SAMPLE TYPE: GRAB / COMP ADDITIONAL COMMENTS.	COHESIVE / SLIGHTLY SOILS), CODSE / CIRM ASTIC / CLIGHILY PLA SILTS): SOFT / CIRM OIST / MOIST / WET / RVED (TER / NO E) C EXPLANATION /Z (INC DSITE - # OF PTS,	COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI COHESI	IVE / COHESI IVE / VERY DE COHESIVE / M )/ VERY STIF ATED / SUPER ION - LT. GR	VE / HIGHLY NSE EDIUM PLAST F / HARD SATURATED A7 A 59	COHESIV	YE HLY PLAST . Ø ¢€	7 7	CLOSED
	FIE	ELD 418	AL CALCULAT			alaua		
SAMP, TIME SA	MPLE I.D. LAB NO:	WEIGHT	(g) ML. FRE		READING	G CALC. p		
SKETCH/SAMPL	E LOCATIONS	40	UVM ( UVM ( TIME:_	CALIB. READ. CALIB. GAS 12:30 am/	<u>54,2</u> = 100 ppr pm DATE:	PPM RF = 0. 1/14/04	52	
BERN T	~ N54W		OVM RI	ESULTS FIELD HEADSPACE PID (PPPT)	SAMPLE ID LF-1	LAB SA ANALYSIS (8015B)	MPL TIME 1415	RESULTS
59' 3 · · ·	D Kom weichen	TO LUCE						
			SCALE 0	] FT				
revised: 07/16/01	<i>N</i> [A		ONSITE:	1/19/0	4		be	ei1006A.skd

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

#### EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	LF-1	Date Reported:	01-20-04
Laboratory Number:	27590	Date Sampled:	01-19-04
Chain of Custody No:	11650	Date Received:	01-20-04
Sample Matrix:	Soil	Date Extracted:	01-20-04
Preservative:	Cool	Date Analyzed:	01-20-04
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: GCU Com H #180E Landfarm 5 Pt. Composite.

Analyst

Mistine of Walters Review

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### CHAIN OF CUSTODY RECORD

Client / Project Name BLAGG / B	38		Project Location	1 H #180E			<u>.</u>	RAMETEI	RS				
Sampler:			Client No. 94034	1-010	o. of ainers	TPH			1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	Rei	marks	2001	
Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	Cont	(80159			<i>9</i> 1V	Cher Comf	0577	- SA	mRE
LF-1	1/19/04	1415	27590	2016	1	$\checkmark$				LANDFA	RM	L	
Relinquished by: (Signati	ure) viel			Date Time	Received by:	(Signatu	ire) MW0	elen			ate 20/04	Tir 10i	me 21
Relinquished by: (Signate Relinquished by: (Signate	ure) (/				Received by: Received by:	(Signatu (Signatu	ure) /			l			
				ENVIRO	TECH		C.			Sample Re	eceipt		
				5796 U.( Farmington, I (505)	S. Highway New Mexico ) 632-0615	64 9 8740 <sup>-</sup>	1		Rec	eived Intact	V		N/A

## ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

#### EPA Method 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

#### **Quality Assurance Report**

Client: Sample ID: Laboratory Number: Sample Matrix: Preservative: Condition:	QA/QC 01-20-TPH Q 27574 Methylene Chlo N/A N/A	A/QC pride	Project #: Date Reported: Date Sampled: Date Received: Date Analyzed: Analysis Reque	N/A 01-20-04 N/A N/A 01-20-04 TPH	
	I-Sal Date	I-Cal RF;	C-Cal RF:	% Difference	Accept, Range
Gasoline Range C5 - C10	04-29-03	1.8591E-002	1.8572E-002	0.10%	0 - 15%
Diesel Range C10 - C28	04-29-03	1.5507E-002	1.5492E-002	0.10%	0 - 15%
Blank Conc. (mg/L - mg/Kg)		Goncentration		Detection Limit	
Gasoline Range C5 - C10		ND		0.2	
Diesel Range C10 - C28		ND		0.1	
Total Petroleum Hydrocarbons		ND		0.2	
			2 (11-T)	1	
Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept, Range	
Gasoline Range C5 - C10	ND	ND	0.0%	0 - 30%	
Diesel Range C10 - C28	ND	ND	0.0%	0 - 30%	
Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	ND	250	250	100.0%	75 - 125%
Diesel Range C10 - C28	ND	250	250	100.0%	75 - 125%

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments:

QA/QC for samples 27574 - 27576, 27578 - 27579, 27590.

Mistine M Walters Review

FIELD REPORT:     (enderone): ESTCONFIRMATION: RELAYS INVESTIGATION / OTHER     PAGE #: 1_ of	Page 43 CLIENT:	BLAGG ENGI P.O. BOX 87, BLO (505) 6	NEERING, INC. OMFIELD, NM 87413	API #:									
SITE INFORMATION:         STENAME         GCU COM H         # 180E         DATE STARTED         03/14/13           GUADUARE N. SEC. 28 TWP. 29N ING. 12W PM. NM         CATY, SJ. ST. NM         DATE STARTED         03/14/13           MALLANDOTAGE MOTOSED         STOL PROMATICIN. DK         SEC.SW         LEASE IT WEIL         STELLITTI         DEFENSION           LEASE IT         MOTOSED         PROD. PORMATICIN. DK         CONTRACTOR         DEFENSION         NJV           REFERENCE POINT:         WEILHEAD (WH, IGPS COORD.         36,69257 X 108,10813         GLELEV.         5,322'           9         95 BGT (DW/DB)         GPS COORD.         DEFENSION MILL         DEFENSION MILL         STENAME FOR WHL           2)         GPS COORD.         DEFENSION MILL         DEFENSION MILL         STENAME FOR MALL         MILL           3)         GPS COORD.         DEFENSION MILL         DEFENSION MILL         MILL         MILL         MILL           4)         GAMELED         GAMELED         SAMELDE         MALL         MILL         MILL         MILL           5)         GAMELED         GAMELED         SAMELDE         MALL         MILL         MILL         MILL         MILL         MILL         MILL         MILL         MILL         MILL	FIELD REPORT:	(circle one): BGT CONFIRMATION / RELE	EASE INVESTIGATION / OTHER:	PAGE #: 1 of 1									
1.4144-COTACE:       STISSW       SEISW:       TEDERATION:       ENAMPORA         1.4144-COTACE:       PROD. FORMATION:       DK       CONTRACTOR       ENAMPORA       ENAMPORA         1.4144-COTACE:       PROD. FORMATION:       DK       CONTRACTOR       MBP - C. ZELLITTI       ENAMPORA         1.9.       95 BGT (DWIDB)       GPS COORD.:       DEMAGORARIAGENDARIAGENDARIA       DEMAGORARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGENDARIAGEN	SITE INFORMATION	SITE NAME: GCU COM 29N RNG: 12W PM: N	H #180E	DATE STARTED: 03/14/13 DATE FINISHED:									
REFERENCE POINT:       WELLIERD (WH) GIS COORD:       36.69287 X 108.10813       GLEEN: 5,322         1)       95 BGT (DW/DB)       GPS COORD:       36.69298 X 108.10841       DDIMACEBERNIE TRANSMER TEXAMULE:       152, NISM         2)       GPS COORD:       DDIMACEBERNIE TRANSMER TEXAMULE:       DDIMACEBERNIE TRANSFERMENTEX       152, NISM         3)       GPS COORD:       DDIMACEBERNIE TRANSFERMENTEX       DDIMACEBERNIE TRANSFERMENTEX       DDIMACEBERNIE TRANSFERMENTEX         4)       GPS COORD:       DDIMACEBERNIE TRANSFERMENTEX       DDIMACEBERNIE TRANSFERMENTEX       DDIMACEBERNIE TRANSFERMENTEX         5)       SAMPLE ID       GPS COORD:       DDIMACEBERNIE TRANSFERMENTEX       DDIMACEBERNIE TRANSFERMENTEX         3)       SAMPLE ID	1/4 - 1/4/FOOTAGE:       0 TO 5/1,300 VV       SE/SVV       LEASE TYPE:       FEDERAL / STATE / FED / INDIAN       ENVIRONMENTAL         LEASE #:       NM073860       PROD. FORMATION:       DK       CONTRACTOR:       MBF - C. ZELLITTI       SPECIALIST(S):       NJV												
SAMPLING DATA: COMMON CONSTRUCTION CONSTRUC	REFERENCE POINT         1)       95 BGT (DW/DB)         2)       3)         4)       4)	WELL HEAD (W.H.) GPS COO GPS COORD.: 36.692 GPS COORD.: GPS COORD.: GPS COORD.:	RD.: 36.69257 X 108.1081 298 X 108.10841 DISTANCE DISTANCE	3         GL ELEV.:         5,322'           /BEARING FROM WH.:         152', N18W           /BEARING FROM WH.:									
1) SAMPLE ID	SAMPLING DATA:	CHAIN OF CUSTODY RECORD(S) # OR LAB	USED: HALL	OVM READING									
Solutions Solut	1) SAMPLE ID: <b>4PC-SW @ 2'-3'</b>	(95) SAMPLE DATE: 03/14/13	SAMPLE TIME: 1525 LAB ANALYSIS: 418.	1/8015B/8021B/300.0 (CI) NA									
4) SAMPLE ID:       SWPETIRE       URANNEYSS         SOIL DESCRIPTION:       SOIL TYPE: SAND [SILTY SAND]       SILT [SILTY CLAY] CLAY [CRAVEL] OTHER         SOIL COLOR       MODERATE BROWN       SOIL TYPE: SAND [SILTY SAND]       SILT [SILTY CLAY] CLAY [CRAVEL] OTHER         SOIL COLOR       MODERATE BROWN       COMESSNE (USAND CONSUME (USANS) FUNCTORESNE CONSISTENCY (NON CONSUME SUBJECT (SUBMITY PLASTIC CONSUME LAYS) SOIL THERE (SUBMITY PLASTIC CONSUME LAYS) SOIL THERE (SUBMITY PLASTIC CONSUME LAYS SOILS) LOOS CONSTRUENT (SUBMITY PLASTIC CONSUMELAND PLASTIC / HIGHY PLASTIC CONSISTENCY (NON CONSUMELAND) SANDELE TYPE (GRAB ELON) STAINATED / USAND SANDELE TYPE (GRAB ELON) STAINATED / USAND SANDELE TYPE (SAND ELON) SANDELE TYPE (SANDELE CONCORT ELON) SANDELE TYPE (SANDELE CONCORT ELON) SANDELE TYPE (SANDELE CONCORT ELEASE OBSERVED AND/ON COCCURRED : YES NO EXPLANATION -         APPARENT EVIDENCE OF A RELEASE OBSERVED AND/OR COCCURRED : YES NO EXPLANATION -         ADDITIONAL COMMENTS.       NA       n. X       NA       n. X       NA       n. X       NA	3) SAMPLE ID:	SAMPLE DATE:	SAMPLE TIME: LAB ANALYSIS:										
SOIL DESCRIPTION:       SOIL TYPE: SAND (SILTY SAND)       SILT (SILTY CLAY)       CLAY (GRAVEL)       OTHER         SOIL COLOR:       MODERATE BROWN         SOIL COLOR:       MODERATE BROWN         COHESION (ALL OTHERS): NON COHESINE (SUBSTIVE COLESSNE): LOSS (SILTY): SOIL TYPE: STURATED (SUBSTIVE CLAYS & SILTS): SOIT (FIRM, USINE): SOIT (F	4) SAMPLE ID:	SAMPLE DATE:	SAMPLE TIME: LAB ANALYSIS:										
SITE SKETCH  PLOT PLAN circle: attached  OWI CALIB. READ = NA por RF = ( OWI CALIB. GAS = NA por DATE NA  IME NA andpm DATE NA  MISCELL. NOTES WO: N15073570 PO #: PK: ZEVH01BGT2 PJ #: Z2-00690-C Permit date(s): 06/14/10 OCD Appr. date(s): 06/14/10 OCD Appr. date(s): 04/02/12 Tank OVM = Organic Vapor Meter D ppm = parts per million A BGT Sidewalls Visible: Y / N BGT Sidewalls Visible: Y / N BGT Sidewalls Visible: Y / N	SOIL COLOR:       NODERATE BROWN         COHESION (ALL OTHERS): NON COHESIVE / SLIGHTLY COHESIVE (CHESIVE HIGHLY COHESIVE       PLASTICITY (CLAYS): NON PLASTIC / SLIGHTLY PLASTIC (CHESIVE MEDIUM PLASTIC / HIGHLY PLASTIC         CONSISTENCY (NON COHESIVE SOILS): LOOSE [FIRM] DENSE / VERY DENSE       PLASTICITY (CLAYS): NON PLASTIC / SLIGHTLY PLASTIC (CHESIVE MEDIUM PLASTIC / HIGHLY PLASTIC         MOISTURE: DRY / SLIGHTLY MOIST [MOIST] WET / SATURATED / SUPER SATURATED       SAMPLE TYPE: GRAB [COMPOSITE] # OF PTS												
T.B. = TANK BOTTOM; PBGTL = PREVIOUS BELOW-GRADE TANK LOCATION; SPD = SAMPLE POINT DESIGNATION; R.W. = RETAINING WALL; NA - NOT Magnetic declination: <b>10°</b> E	SITE SKETCH E.D. TO BGT BOTTO NOTES: BGT = BELOW-GRADE TANK; E.D. = EXCAVATIC T.B. = TANK BOTTOM; PBGTL = PREVIOUS BEL	M TO W.H. N DEPRESSION; B.G. = BELOW GRADE; B = BELOW, T. DW-GRADE TANK LOCATION; SPD = SAMPLE POINT DE SAMPLE POINT DE	PLOT PLAN       circle:       attached         N       T         T       T         X       - S.P.D.         H. = TEST HOLE; ~ = APPROX.; WH. = WELL HEAD;         SIGNATION; R.W. = RETAINING WALL; NA - NOT	VM CALIB. READ. =       NA       ppm         MCALIB. GAS =       NA       ppm         ME:       NA       am/pm       DATE:       NA         MISCELL. NOTES         WO:       N15073570         PO #:       PK:       ZEVH01BGT2         PJ #:       Z2-00690-C         Permit date(s):       06/14/10         OCD Appr. date(s):       04/02/12         Tank       OVM = Organic Vapor Meter         ID       ppm = parts per million         A       BGT Sidewalls Visible: Y / N         BGT Sidewalls Visible: Y / N       Magnetic declination:									
TRAVEL NOTES: CALLOUT:ONSITE:O3/14/13	TRAVEL NOTES: CALLOUT:	, while, dwy - double while, od - oilyole boll 10M, DB	ONSITE: _03/14/13										
T.B. = TANK BOTTOM; PBGTL = PREVIOUS BELOW-GRADE TANK LOCATION; SPD = SAMPLE POINT DESIGNATION; R.W. = RETAINING WALL; NA-NOT Magnetic declination: 10° E	E.D. TO BGT BOTTO NOTES: BGT = BELOW-GRADE TANK; E.D. = EXCAVATIO T.B. = TANK BOTTOM; PBGTL = PREVIOUS BEL	T.B. ~ 5' B.G. X TO W.H. N DEPRESSION; B.G. = BELOW GRADE; B = BELOW, T. DW-GRADE TANK LOCATION; SPD = SAMPLE POINT DE	<b>X - S.P.D.</b> H. = TEST HOLE; ~ = APPROX.; W.H. = WELL HEAD; SIGNATION; R.W. = RETAINING WALL; NA- NOT	PO #: PK: ZEVH01BGT2 PJ #: Z2-00690-C Permit date(s): 06/14/10 OCD Appr. date(s): 04/02/12 Tank OVM = Organic Vapor Meter ID ppm = parts per million A BGT Sidewalls Visible: Y / N BGT Sidewalls Visible: Y / N Magnetic declination: 10° E									

**Project:** 

**CLIENT:** Blagg Engineering

GCU COM H #180E

#### Hall Environmental Analysis Laboratory, Inc.

#### **Analytical Report** Lab Order 1303706 Date Reported: 3/26/2013

#### Client Sample ID: 4PC-SW @ 2'-3' (95) Collection Date: 3/14/2013 3:25:00 PM Received Date: 3/19/2013 9:55:00 AM

Lab ID: 1303706-001	Matrix:	SOIL	Received D	Received Date: 3/19/2013 9:55:00 AM						
Analyses	Result	RL Qu	ual Units	DF	Date Analyzed					
EPA METHOD 8015B: DIESEL RANGE C	RGANICS				Analyst: MMD					
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	3/23/2013 2:24:04 AM					
Surr: DNOP	98.5	72.4-120	%REC	1	3/23/2013 2:24:04 AM					
EPA METHOD 8015B: GASOLINE RANG	E				Analyst: NSB					
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	3/22/2013 5:09:10 PM					
Surr: BFB	92.7	84-116	%REC	1	3/22/2013 5:09:10 PM					
EPA METHOD 8021B: VOLATILES					Analyst: NSB					
Benzene	ND	0.047	mg/Kg	1	3/22/2013 5:09:10 PM					
Toluene	ND	0.047	mg/Kg	1	3/22/2013 5:09:10 PM					
Ethylbenzene	ND	0.047	mg/Kg	1	3/22/2013 5:09:10 PM					
Xylenes, Total	ND	0.095	mg/Kg	1	3/22/2013 5:09:10 PM					
Surr: 4-Bromofluorobenzene	97.2	80-120	%REC	1	3/22/2013 5:09:10 PM					
EPA METHOD 300.0: ANIONS					Analyst: JRR					
Chloride	180	30	mg/Kg	20	3/25/2013 1:16:54 PM					
EPA METHOD 418.1: TPH					Analyst: LRW					
Petroleum Hydrocarbons, TR	ND	20	mg/Kg	1	3/25/2013					

Qualifiers:

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

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

C	nain-o	of-Cus	stody Record	I um-Arouna I	ime:									813	/T E	20	P.I.P.		BI'T		
Client:	BLAG	G ENGR.	/ BP AMERICA	Standard	Rush							AI			5 1			DA	TC	D)	v
			-	Project Name:					A			<b>P</b>		Viro		ntal					
Mailing A	ddress:		¥ 87	G		180F		40	01.1	laud	www	W.He	All	VIIO	inne			7100			
		PLOOM		Project #:		1001		49	ULH		cins i	NE -	AIC	buqu	ierqu	ue, n	8 1010	7109			
		(FOR) CO					C-Section State	Ie	91. 50	15-34	45-3	975		-ax	505	-345	-410	/			
Phone #:		(505) 63	2-1199	DuintMa			1						Anal	ysis	Red	ques	St.				
email or F	ax#:			Project Wanag	jer:				nv					04)	s			0.1)			
QA/QC Participation QA/QC	ckage: ard		Level 4 (Full Validation)		NELSON VE	ELEZ	021B)	only)	ONIM			1S)		04,SI	PCB'			er - 30			e
Accreditat	ion:			Sampler:	NELSON VE	ELEZ 901	18	Gas	RO /	1)	1)	NIS(		02,1	8082			wat			Idm
	1	□ Other		On Ice:	Wes	🖾 No		Hd	0/0	118.	504.	3270		03,N	s / 8		(A)	0.00			e sa
	ype)			Sample Temp	erature: 🤈	2	I	+	GRC	po	po	or	etals	U,N(	cide	A)	i-VC	11 - 3(		e	osit
Date	Time	Matrix	Anosi <sup>22/12</sup> Sample Request ID 4	Container Type and #	Preservative Type	HEAL NO.	BTEX +-MTB	BTEX + MTB	TPH 8015B	TPH (Meth	EDB (Meth	PAH (8310	RCRA 8 Me	Anions (F,C	8081 Pesti	8260B (VO	8270 (Sem	Chloride (so		Grab samp	5 pt. comp
3/14/13	1525	SOIL	/SPC-SW @ 2'-3' (95)	4 oz 2	Cool	-001	V	-	V	V	-	-	-					V	-	1	V
						001	-			-	-							-		+	-
									-					-	-			-	-+-	+	-
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								-			-					-			-+		+
Date: ,	Time:	Relinquishe	ed by:	Received by:		Date Time	Rer	nark	s:	1	L		L			1					
3/18/13	808	M	len Vie	Christian	(Jaelen	3/18/13 808	BI	LL DI	RECT	LYT	OBF	P:				*					
Date:	Time:	Relinquish	ed by:	Received by:	La contraction of the second s	Date Time	Je	ff Pea	ace, i	200	Ener	gy Co	ourt,	Farn	ningt	on, N	VM 8	7401			
3/18/13	1749	Thist	the traction	KA	>, 03	19/13 095	S	ork	Order	r:	N1.	5073	3570	<u> </u>	Pa	iykey	r:Z	EVHC	)1BG	12	-



VIEWING TOWARD WEST DIRECTION



#### **QA/QC SUMMARY REPORT**

Client:	Blagg Engineering	7						XX/ I-	0-1	1111107
Project:		2						WORK	Order:	1111106
Analyte	Resu	lt Units	PQL	SPK Va SPK n	ef %Rec L	owLimit Hi	ghLimit	%RPD	RPDLimi	t Qual
Method: EP.	A Method 8021B: Volatiles									
Sample ID: b	8	MBLK			Batch ID:	R48803	Analys	is Date:	11/1/2011	2:33:42 PM
Benzene	ND	µg/L	1.0							
Toluene	ND	µg/L	1.0							
Ethylbenzene	ND	µg/L	1.0							
Xylenes, Total	ND	µg/L	2.0							
Sample ID: 10	ONG BTEX LCS	LCS			Batch ID:	R48803	Analys	is Date:	11/1/2011	2:03:31 PM
Benzene	20.57	7 µg/L	1.0	20 0	103	80	120			
Toluene	21.02	2 µg/L	1.0	20 0	105	80	120			
Ethylbenzene	21.10	) µg/L	1.0	20 0	106	80	120			
Xylenes, Total	64.79	) µg/L	2.0	60 0	108	80	120			

Qualifiers:

E Estimated value

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded

NC Non-Chlorinated

R RPD outside accepted recovery limits

Page 1

#### Hall Environmental Analysis Laboratory, Inc.

	Sample	Recei	ipt Ch	ecklist				
Client Name BLAGG				Date Received	t:		11/1/2011	
Work Order Number 1111106				Received by	MMG			
	11			Sample ID la	bels checked	by:	TO	
Checklist completed by		1 1	( Date				Initials	*
K		I						
Matrix:	Carrier name:	FedEx	ĸ					
Shipping container/cooler in good condition?		Yes	<b>~</b>	No 🗌	Not Present			
Custody seals intact on shipping container/cool	er?	Yes	$\checkmark$	No	Not Present		Not Shipped	
Custody seals intact on sample bottles?		Yes		No	N/A	$\checkmark$		
Chain of custody present?		Yes	$\checkmark$	No				
Chain of custody signed when relinquished and	received?	Yes	<b>~</b>	No				
Chain of custody agrees with sample labels?		Yes	$\checkmark$	No 🗌				
Samples in proper container/bottle?		Yes	$\checkmark$	No 🗌				
Sample containers intact?		Yes	$\checkmark$	No 🗌				
Sufficient sample volume for indicated test?		Yes	$\checkmark$	No				
All samples received within holding time?		Yes	<b>~</b>	No 🗌			Number of	preserved
Water - VOA vials have zero headspace?	No VOA vials subr	mitted		Yes 🗹	No 🗌		pH:	ecked for
Water - Preservation labels on bottle and cap m	atch?	Yes		No 🗌	N/A 🗹			
Water - pH acceptable upon receipt?		Yes		No	N/A 🔽		<2 >12 unle	ess noted
Container/Temp Blank temperature?		1.8	8°	<6° C Acceptabl	e		Delow.	
COMMENTS:				If given sufficient	time to cool.			
Client contacted	Date contacted:			Pers	on contacted			
Contacted by:	Regarding:							
Comments							The state of	
	2							
Correction Action								
				A. 10. 1				

#### QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

WO#: 1303706

26-Mar-13

Client:Blagg EngineeringProject:GCU COM H #180E

Sample ID MB-6631	SampType: MBLK	TestCode: EPA Method	300.0: Anions				
Client ID: PBS	Batch ID: 6631	RunNo: 9397					
Prep Date: 3/25/2013	Analysis Date: 3/25/2013	SeqNo: 268226	SeqNo: 268226 Units: mg/Kg				
Analyte	Result PQL SPK valu	ue SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual			
Chloride	ND 1.5						
Sample ID LCS-6631	SampType: LCS	TestCode: EPA Method	300.0: Anions				
Sample ID LCS-6631 Client ID: LCSS	SampType: LCS Batch ID: 6631	TestCode: EPA Method RunNo: 9397	300.0: Anions				
Sample ID LCS-6631 Client ID: LCSS Prep Date: 3/25/2013	SampType: LCS Batch ID: 6631 Analysis Date: 3/25/2013	TestCode: EPA Method RunNo: 9397 SeqNo: 268227	300.0: Anions Units: mg/Kg				
Sample ID LCS-6631 Client ID: LCSS Prep Date: 3/25/2013 Analyte	SampType: LCS Batch ID: 6631 Analysis Date: 3/25/2013 Result PQL SPK valu	TestCode: <b>EPA Method</b> RunNo: <b>9397</b> SeqNo: <b>268227</b> Je SPK Ref Val %REC LowLimit	<b>300.0: Anions</b> Units: <b>mg/Kg</b> HighLimit %RPD	RPDLimit Qual			

#### Qualifiers:

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

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

Page 2 of 6

1303706 26-Mar-13

WO#:

Client:	Blagg	Engineering								
Project:	GCU (	COM H #180E								
Sample ID	MB-6618	SampType:	MBLK	Tes	tCode: EP	A Method	418.1: TPH			
Client ID:	PBS	Batch ID:	6618	F	aunNo: 939	91				
Prep Date:	3/22/2013	Analysis Date:	3/25/2013	S	SeqNo: 268	8093	Units: mg/K	g		
Analyte		Result PQ	L SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hyd	Irocarbons, TR	ND 2	20							
Sample ID	LCS-6618	SampType:	LCS	Test	tCode: EP	A Method	418.1: TPH			
Client ID:	LCSS	Batch ID:	6618	R	unNo: 939	91				
Prep Date:	3/22/2013	Analysis Date:	3/25/2013	S	eqNo: 268	8094	Units: mg/K	g		
Analyte		Result PQ	L SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hyd	Irocarbons, TR	93 2	20 100.0	0	93.1	80	120			
Sample ID	LCSD-6618	SampType:	LCSD	Test	Code: EP	A Method	418.1: TPH			
Client ID:	LCSS02	Batch ID:	6618	R	unNo: 939	91				
Prep Date:	3/22/2013	Analysis Date:	3/25/2013	S	eqNo: 268	8095	Units: mg/K	g		
Analyte		Result PQI	L SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hyd	Irocarbons, TR	96 2	20 100.0	0	95.6	80	120	2.69	20	

#### Qualifiers:

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

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

Page 3 of 6

#### QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

WO#: 1303706

26-Mar-13

Client:Blagg EngineeringProject:GCU COM H #180E

Sample ID MB-6604	SampType: MBL	.ĸ	Tes	tCode: E	PA Method	8015B: Dies	el Range (	Drganics	
Client ID: PBS	Batch ID: 6604	1	F	RunNo: 9	311				
Prep Date: 3/21/2013	Analysis Date: 3/21	1/2013	S	SeqNo: 2	65889	Units: mg/M	g		
Analyte	Result PQL S	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND 10								
Surr: DNOP	12	10.00		122	72.4	120			S
Sample ID LCS-6604	SampType: LCS		Tes	tCode: El	PA Method	8015B: Dies	el Range C	Organics	
Client ID: LCSS	Batch ID: 6604	1	R	RunNo: 9	311				
Prep Date: 3/21/2013	Analysis Date: 3/21	1/2013	S	SeqNo: 2	65890	Units: mg/M	g		
Analyte	Result PQL S	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49 10	50.00	0	97.2	47.4	122			
Curry DNOD	5.0	5 000		101	72.4	120			
Sull. DNOP	0.0	0.000							
Sample ID MB-6604	SampType: MBL	.K	Test	tCode: El	PA Method	8015B: Dies	el Range C	Organics	
Sample ID MB-6604 Client ID: PBS	SampType: MBL Batch ID: 6604	.К I	Tesi	tCode: El	PA Method 345	8015B: Diese	el Range C	Organics	
Sample ID MB-6604 Client ID: PBS Prep Date: 3/21/2013	SampType: MBL Batch ID: 6604 Analysis Date: 3/22	.K I 2/2013	Tesi R S	tCode: El RunNo: 9 SeqNo: 2	PA Method 345 67512	8015B: Diese Units: mg/K	el Range C	Organics	
Sample ID MB-6604 Client ID: PBS Prep Date: 3/21/2013 Analyte	SampType: MBL Batch ID: 6604 Analysis Date: 3/22 Result PQL S	.K I 2/2013 SPK value	Tesi R SPK Ref Val	tCode: El RunNo: 9 SeqNo: 2 %REC	PA Method 345 67512 LowLimit	8015B: Diese Units: mg/M HighLimit	el Range C Gg %RPD	<b>Drganics</b> RPDLimit	Qual
Sample ID MB-6604 Client ID: PBS Prep Date: 3/21/2013 Analyte Diesel Range Organics (DRO)	SampType: MBL Batch ID: 6604 Analysis Date: 3/22 Result PQL S ND 10	.K 4 2/2013 SPK value	Test R S SPK Ref Val	tCode: El RunNo: 9 SeqNo: 2 %REC	PA Method 345 67512 LowLimit	8015B: Diese Units: mg/K HighLimit	el Range C g %RPD	<b>Drganics</b> RPDLimit	Qual
Sample ID MB-6604 Client ID: PBS Prep Date: 3/21/2013 Analyte Diesel Range Organics (DRO) Surr: DNOP	SampType: MBL Batch ID: 6604 Analysis Date: 3/22 Result PQL S ND 10 9.7	<b>.K</b> <b>1</b> <b>1</b> <b>1</b> <b>1</b> <b>1</b> <b>1</b> <b>1</b> <b>1</b>	Tesi R S SPK Ref Val	tCode: El RunNo: 9 SeqNo: 2 %REC 96.8	PA Method 345 67512 LowLimit 72.4	8015B: Diese Units: mg/K HighLimit 120	el Range C g %RPD	<b>Drganics</b> RPDLimit	Qual
Sample ID MB-6604 Client ID: PBS Prep Date: 3/21/2013 Analyte Diesel Range Organics (DRO) Surr: DNOP	SampType: MBL Batch ID: 6604 Analysis Date: 3/22 Result PQL S ND 10 9.7 SampType: LCS	.K 4 2/2013 SPK value 10.00	Test R SPK Ref Val Test	tCode: EI RunNo: 9: SeqNo: 2 %REC 96.8 tCode: EI	PA Method 345 67512 LowLimit 72.4 PA Method	8015B: Diese Units: mg/K HighLimit 120 8015B: Diese	el Range C Gg %RPD el Range C	Prganics RPDLimit Drganics	Qual
Sample ID MB-6604 Client ID: PBS Prep Date: 3/21/2013 Analyte Diesel Range Organics (DRO) Surr: DNOP Sample ID LCS-6604 Client ID: LCSS	SampType: MBL Batch ID: 6604 Analysis Date: 3/22 Result PQL S ND 10 9.7 SampType: LCS Batch ID: 6604	.K 4 2/2013 SPK value 10.00	Tesi R SPK Ref Val Tesi R	tCode: EI RunNo: 9 SeqNo: 2 %REC 96.8 tCode: EI RunNo: 9	PA Method 345 67512 LowLimit 72.4 PA Method 345	8015B: Diese Units: mg/K HighLimit 120 8015B: Diese	el Range C Sg %RPD el Range C	Organics RPDLimit	Qual
Sample ID MB-6604 Client ID: PBS Prep Date: 3/21/2013 Analyte Diesel Range Organics (DRO) Surr: DNOP Sample ID LCS-6604 Client ID: LCSS Prep Date: 3/21/2013	SampType: MBL Batch ID: 6604 Analysis Date: 3/22 Result PQL S ND 10 9.7 SampType: LCS Batch ID: 6604 Analysis Date: 3/22	LISUS K k 2/2013 SPK value 10.00 k 2/2013	Test R SPK Ref Val Test R S	tCode: El RunNo: 9 SeqNo: 2 %REC 96.8 tCode: El RunNo: 9 SeqNo: 2	PA Method 345 67512 LowLimit 72.4 PA Method 345 67513	8015B: Diese Units: mg/K HighLimit 120 8015B: Diese Units: mg/K	el Range C Gg %RPD el Range C	Prganics RPDLimit	Qual
Sample ID MB-6604 Client ID: PBS Prep Date: 3/21/2013 Analyte Diesel Range Organics (DRO) Surr: DNOP Sample ID LCS-6604 Client ID: LCSS Prep Date: 3/21/2013 Analyte	SampType: MBL Batch ID: 6604 Analysis Date: 3/22 Result PQL S ND 10 9.7 SampType: LCS Batch ID: 6604 Analysis Date: 3/22 Result PQL S	.K 1 2/2013 SPK value 10.00 2/2013 SPK value	Test R SPK Ref Val Test R SPK Ref Val	tCode: El RunNo: 9 SeqNo: 2 %REC 96.8 tCode: El RunNo: 9 SeqNo: 2 %REC	PA Method 345 67512 LowLimit 72.4 PA Method 345 67513 LowLimit	8015B: Diese Units: mg/K HighLimit 120 8015B: Diese Units: mg/K HighLimit	el Range C Sg %RPD el Range C Sg %RPD	Organics RPDLimit Organics	Qual
Sample ID MB-6604 Client ID: PBS Prep Date: 3/21/2013 Analyte Diesel Range Organics (DRO) Surr: DNOP Sample ID LCS-6604 Client ID: LCSS Prep Date: 3/21/2013 Analyte Diesel Range Organics (DRO)	SampType: MBL Batch ID: 6604 Analysis Date: 3/22 Result PQL S ND 10 9.7 SampType: LCS Batch ID: 6604 Analysis Date: 3/22 Result PQL S 54 10	K k 2/2013 SPK value 10.00 k 2/2013 SPK value 50.00	Test SPK Ref Val Test R SPK Ref Val 0	tCode: El RunNo: 9: SeqNo: 2 %REC 96.8 tCode: El RunNo: 9: SeqNo: 2 %REC 107	PA Method 345 67512 LowLimit 72.4 PA Method 345 67513 LowLimit 47.4	8015B: Diese Units: mg/K HighLimit 120 8015B: Diese Units: mg/K HighLimit 122	el Range C Sg %RPD el Range C Sg %RPD	Organics RPDLimit Organics	Qual

#### Qualifiers:

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

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

Page 4 of 6

#### QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Client: Blagg Engineering

Project: GCU COM H #180E

Sample ID MB-6607	SampType: MBLK TestCode: EPA Method 8015B: Gasoline Range									
Client ID: PBS	Batch	h ID: 66	07	F	RunNo: 9	381				
Prep Date: 3/21/2013	Analysis [	Date: 3/	22/2013	S	SeqNo: 2	67718	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO) Surr: BFB	ND 920	5.0	1000		92.2	84	116			
A second s	ID LCS-6607 SampType: LCS TestCode: EPA Method 8015B: Gasoline Range									
Sample ID LCS-6607	SampT	ype: LC	S	Tes	tCode: El	PA Method	8015B: Gaso	line Rang	e	
Sample ID LCS-6607 Client ID: LCSS	Samp1 Batcl	ype: LC	:S 07	Tes	tCode: El RunNo: 9	PA Method 381	8015B: Gaso	line Rang	e	
Sample ID LCS-6607 Client ID: LCSS Prep Date: 3/21/2013	Samp1 Batcl Analysis D	Type: LC n ID: 66 Date: 3/	:S 07 22/2013	Tes R S	tCode: El RunNo: 9 SeqNo: 2	PA Method 381 67719	8015B: Gaso Units: mg/K	oline Rang	e	
Sample ID LCS-6607 Client ID: LCSS Prep Date: 3/21/2013 Analyte	SampT Batcl Analysis D Result	Type: LC n ID: 66 Date: 3/ PQL	:S 07 22/2013 SPK value	Tes R S SPK Ref Val	tCode: El RunNo: 9 SeqNo: 2 %REC	PA Method 381 67719 LowLimit	8015B: Gasc Units: mg/K HighLimit	oline Rang Kg %RPD	e RPDLimit	Qual
Sample ID LCS-6607 Client ID: LCSS Prep Date: 3/21/2013 Analyte Gasoline Range Organics (GRO)	SampT Batcl Analysis D Result 25	Type: LC n ID: 66 Date: 3/ PQL 5.0	<b>S</b> <b>22/2013</b> SPK value 25.00	Tes R S SPK Ref Val 0	tCode: El RunNo: 9: SeqNo: 2 %REC 101	PA Method 381 67719 LowLimit 62.6	8015B: Gaso Units: mg/K HighLimit 136	oline Rang Kg %RPD	e RPDLimit	Qual

#### Qualifiers:

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

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

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26-Mar-13

QC SUMMARY REPORT	
Hall Environmental Analysis Laboratory	, Inc.

WO#: 1303706 26-Mar-13

Client:	Blagg Engineering				
Project:	GCU COM H #180E				

Sample ID MB-6607	Samp	Туре: МВ	BLK	Tes	tCode: E	PA Method	8021B: Vola	tiles		
Client ID: PBS	Batc	h ID: 66	07	F	RunNo: 9	381				
Prep Date: 3/21/2013	Analysis [	Date: 3/	22/2013	5	SeqNo: 2	67746	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.99		1.000		99.4	80	120			
Sample ID LCS-6607	Samp	Type: LC	S	Tes	tCode: El	PA Method	8021B: Vola	tiles		_
Client ID: LCSS	Batc	h ID: 66	07	F	RunNo: 9	381				
Prep Date: 3/21/2013	Analysis [	Date: 3/	22/2013	S	SeqNo: 2	67747	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.89	0.050	1.000	0	89.2	80	120			
Toluene	0.92	0.050	1.000	0	92.2	80	120			
Ethylbenzene	0.94	0.050	1.000	0	94.2	80	120			
Xylenes, Total	2.9	0.10	3.000	0	97.2	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		103	80	120			

Qualifiers:

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

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

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S.	TALL
	ENVIRONMENTAL
	ANALYSIS
	LABORATORY

11411 Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87105
TEL: 505-345-3975 FAX: 505-345-410;
Website: www.hallenvironmental.com

#### Sample Log-In Check List

ALC: NO.					Contractory of		The second second second	No. of Concession, Name of Street, or other	Contraction of the local division of the	
Clie	nt Name: BLAG	G I A. DS	V	Vork Or	der Nu	mb	er: 13	03706		
Rec	eived by/date:	1 <u>4</u> 00	19/15							
Logg	ged By: Mich	elle Garcia	3/19/2013 9:55:00 AM				Mine	6 Ganin		
Corr	npleted By: Miche	elle Garcia	3/19/2013 10:18:18 AN	1		•	Mine	6 Genuin		
Rev	iewed By:	natro	03/21/13							
Cha	in of Custody	0 ľ	· 1·							
1	Were seals intact?			Yes		lo I		Not Present		
2	Is Chain of Custody	/ complete?		Yes	VN	lo		Not Present		
3.	How was the sampl	le delivered?		Cour	er					
Log	In									
4.	Coolers are present	t? (see 19. for cooler s	pecific information)	Yes	<b>V</b> N	10		NA 🗌		
5.	Was an attempt ma	ade to cool the samples	?	Yes	<b>V</b> N	lo (				
6.	Were all samples re	eceived at a temperatu	re of >0° C to 6.0°C	Yes	<b>V</b> N	ło (		NA 🗌		
7.	Sample(s) in proper	r container(s)?		Yes	V N	lo [				
8.	Sufficient sample ve	olume for indicated test	:(s)?	Yes	VN	lo [				
9.	Are samples (excep	ot VOA and ONG) prop	erly preserved?	Yes	<b>V</b> N	lo [				
10.	Was preservative a	dded to bottles?		Yes		lo	$\checkmark$	NA 🗌		
11.	VOA vials have zero	o headspace?		Yes		lo [	N	o VOA Vials 🗹		
12.	Were any sample c	ontainers received brol	ken?	Yes		lo	$\checkmark$			
13.	Does paperwork ma (Note discrepancies	atch bottle labels? s on chain of custody)		Yes	✓ N	lo .	]	# of preserve bottles check for pH:	a ed	
14.	Are matrices correc	tly identified on Chain o	of Custody?	Yes		lo [			(<2 or >1	2 unless noted)
15.	Is it clear what anal	yses were requested?		Yes	V N	lo [		Adjuste	id?	
16.	Were all holding tim (If no, notify custom	nes able to be met? ner for authorization.)		Yes	✓ N	lo [		Checker	d by:	
Spe	cial Handling (i	f applicable)								
17.	Was client notified of	of all discrepancies with	this order?	Yes	□ N	0		NA 🗹		
	Person Notifie	d:	Date:					<u> </u>		
	By Whom:	a service for a given down in giving (p.g. 1944 and 1944	Via:	eMai		Pho	one 🗌	Fax In Pers	on	
	Regarding:									
	Client Instructi	ons:								
18.	Additional remarks:	PURNV SC	ample ID 15	4	PC	- 57	SU	Je 2'-3	1 (9)	5)
19.	Cooler Information	<u>1</u>								
	Cooler No Ten	mp °C Condition S	eal Intact Seal No S	Seal Dat	e	S	igned	Ву		
	1 2.2	Good Ye	IS							
WO#: 1304A87

13-May-13

Client:Blagg EngineeringProject:GCU COM H # 180E

Sample ID: MB	SampType: MBLK	TestCode: EPA Method	200.7: Dissolved Metals
Client ID: PBW	Batch ID: R10183	RunNo: 10183	
Prep Date:	Analysis Date: 4/29/2013	SeqNo: 289964	Units: mg/L
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit Qual
Iron	ND 0.020		
Sample ID: LCS	SampType: LCS	TestCode: EPA Method	200.7: Dissolved Metals
Sample ID: LCS Client ID: LCSW	SampType: LCS Batch ID: R10183	TestCode: EPA Method RunNo: 10183	200.7: Dissolved Metals
Sample ID: LCS Client ID: LCSW Prep Date:	SampType: LCS Batch ID: R10183 Analysis Date: 4/29/2013	TestCode: EPA Method RunNo: 10183 SeqNo: 289965	200.7: Dissolved Metals Units: mg/L
Sample ID: LCS Client ID: LCSW Prep Date: Analyte	SampType: LCS Batch ID: R10183 Analysis Date: 4/29/2013 Result PQL SPK value	TestCode: EPA Method RunNo: 10183 SeqNo: 289965 SPK Ref Val %REC LowLimit	200.7: Dissolved Metals Units: mg/L HighLimit %RPD RPDLimit Qual

#### Qualifiers:

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

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

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Client: Project:	Blagg Engineering GCU COM H # 18	0E								
Sample ID: MB	Samp	Туре: МЕ	BLK	Tes	tCode: EF	PA Method	300.0: Anions	6		
Client ID: PBW	Batc	h ID: <b>R1</b>	0191	RunNo: 10191						
Prep Date:	Analysis I	Date: 4/	26/2013		SeqNo: 29	90383	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, Nitrite (As N)	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Sample ID: LCS	Samp	Type: LC	S	Tes	tCode: EF	A Method	300.0: Anions	6		
Client ID: LCSW	Batc	h ID: <b>R1</b>	0191	F	RunNo: 10	0191				
Prep Date:	Analysis [	Date: 4/	26/2013	5	SeqNo: 29	0384	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.47	0.10	0.5000	0	94.2	90	110			
Chloride	4.7	0.50	5.000	0	93.4	90	110			
Nitrogen, Nitrite (As N)	0.92	0.10	1.000	0	91.8	90	110			
Nitrogen, Nitrate (As N)	2.4	0.10	2.500	0	97.9	90	110			
Sample ID: MB	Samp	Гуре: МЕ	BLK	Tes	tCode: EF	A Method	300.0: Anions	5		
Client ID: PBW	Batc	h ID: <b>R1</b>	0191	F	RunNo: 10	)191				
Prep Date:	Analysis [	Date: 4/	26/2013	5	SeqNo: 29	0438	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, Nitrite (As N)	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Sample ID: LCS	Samp	Гуре: LC	S	Tes	tCode: EF	A Method	300.0: Anions	;		
Client ID: LCSW	Batc	h ID: R1	0191	F	RunNo: 10	191				
Prep Date:	Analysis [	Date: 4/	26/2013	5	SeqNo: 29	0439	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.50	0.10	0.5000	0	99.2	90	110			
Chloride	4.8	0.50	5.000	0	96.3	90	110			
Nitrogen, Nitrite (As N)	0.95	0.10	1.000	0	95.5	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	101	90	110			
Sample ID: MB	Samp	Гуре: МЕ	BLK	Tes	tCode: EP	A Method	300.0: Anions	;		
Client ID: PBW	Batc	h ID: R1	0287	F	RunNo: 10	287				
Prep Date:	Analysis [	Date: 5/	2/2013	5	SeqNo: 29	3290	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	ND	0.50								

#### Qualifiers:

\* Value exceeds Maximum Contaminant Level.

**QC SUMMARY REPORT** 

Hall Environmental Analysis Laboratory, Inc.

Е Value above quantitation range

J Analyte detected below quantitation limits

Р Sample pH greater than 2

RL Reporting Detection Limit

Analyte detected in the associated Method Blank В

Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit Page 3 of 6

R RPD outside accepted recovery limits S

Spike Recovery outside accepted recovery limits

Page 56

WO#: 1304A87 13-May-13

# Client:Blagg EngineeringProject:GCU COM H # 180E

Sample ID: LCS	le ID: LCS SampType: LCS					PA Method	300.0: Anions	5		
Client ID: LCSW	Batch	ID: <b>R1</b>	0287	F	RunNo: 1	0287				
Prep Date:	Analysis Da	ate: 5/2	2/2013	S	SeqNo: 2	93291	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	9.5	0.50	10.00	0	95.4	90	110			

### Qualifiers:

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

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

Page 4 of 6

WO#: 1304A87 13-May-13

QC SUMMARY REPORT	
Hall Environmental Analysis Laboratory, Inc.	

WO#: 1304A87

13-May-13

Client: Blagg Ei	ngineering									
Project: GCU CC	OM H # 180	)E								
Sample ID: 5ML RB	SampT	ype: ME	BLK	Tes	tCode: E	PA Method	8021B: Volat	iles		
Client ID: PBW	Batch	n ID: <b>R1</b>	0219	F	RunNo: 1	0219				
Prep Date:	Analysis D	ate: 4/	30/2013	5	SeqNo: 2	91518	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
oluene	ND	1.0								
thylbenzene	ND	1.0								
ylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	20		20.00		99.0	69.4	129			
Sample ID: 100NG BTEX LC:	S SampT	ype: LC	S	Tes	tCode: El	PA Method	8021B: Volati	iles		
Client ID: LCSW	Batch	1D: <b>R1</b>	0219	F	RunNo: 1	0219				
Prep Date:	Analysis D	ate: 4/	30/2013	S	SeqNo: 2	91519	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
enzene	21	1.0	20.00	0	104	80	120			
oluene	21	1.0	20.00	0	103	80	120			
thylbenzene	21	1.0	20.00	0	103	80	120			
ylenes, Total	64	2.0	60.00	0	106	80	120			
Surr: 4-Bromofluorobenzene	21		20.00		107	69.4	129			

Qualifiers:

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

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

Page 5 of 6

WO#: 1304A87

13-May-13

Client:Blagg EngineeringProject:GCU COM H # 180E

Sample ID: MD 7227	SampTupa: MBLK	TestCode: SM2540C MOD: Tetal Disselved Salida
Sample ID. WIB-7237	Samprype. WIBLK	Testcode. SW2540C MOD: Total Dissolved Solids
Client ID: PBW	Batch ID: 7237	RunNo: 10278
Prep Date: 5/1/2013	Analysis Date: 5/2/2013	SeqNo: 293040 Units: mg/L
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Total Dissolved Solids	ND 20.0	
Sample ID: LCS-7237	SampType: LCS	TestCode: SM2540C MOD: Total Dissolved Solids
Sample ID: LCS-7237 Client ID: LCSW	SampType: LCS Batch ID: 7237	TestCode: SM2540C MOD: Total Dissolved Solids RunNo: 10278
Sample ID: LCS-7237 Client ID: LCSW Prep Date: 5/1/2013	SampType: LCS Batch ID: 7237 Analysis Date: 5/2/2013	TestCode: SM2540C MOD: Total Dissolved Solids RunNo: 10278 SeqNo: 293041 Units: mg/L
Sample ID: LCS-7237 Client ID: LCSW Prep Date: 5/1/2013 Analyte	SampType: <b>LCS</b> Batch ID: <b>7237</b> Analysis Date: <b>5/2/2013</b> Result PQL SPK value	TestCode: SM2540C MOD: Total Dissolved Solids RunNo: 10278 SeqNo: 293041 Units: mg/L SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

### Qualifiers:

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

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

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### HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87105 TEL: 505-345-3975 FAX: 505-345-410; Website: www.hallenvironmental.con

# Sample Log-In Check List

		the second s			
Client Name: BLAGG	Work Order Numbe	er: 1304A87		RcptNo:	1
Received by/date:	> 04/26/13				
Logged By: Lindsay Man	gin 4/26/2013 10:00:00 A	M	Junking Hongo		
Completed By: Lindsay Man	gin 4/26/2013 12:35:11 F	M	timber Hlongo		
Reviewed By:	2, 14/210/12				
Chain of Custody	J difzofi z	>			
1. Custody seals intact on sam	ple bottles?	Yes	No 🗌	Not Present 🗹	
2. Is Chain of Custody complet	e?	Yes 🖌	No	Not Present	
3. How was the sample deliver	ed?	Courier			
Log In					
4. Was an attempt made to co	ol the samples?	Yes 🖌	No 🗌	NA	
5. Were all samples received a	at a temperature of >0° C to 6.0°C	Yes 🖌	No	NA	
6. Sample(s) in proper contain	er(s)?	Yes 🖌	No		
7. Sufficient sample volume for	indicated test(s)?	Yes 🖌	No 🗌		
8. Are samples (except VOA ar	nd ONG) properly preserved?	Yes 🗸	No 🗌		
9. Was preservative added to b	pottles?	Yes	No 🗹	NA	
10.VOA vials have zero headsp	ace?	Yes 🗹	No	No VOA Vials	
11. Were any sample containers	s received broken?	Yes	No 🗹		1. u
				# of preserved bottles checked	4
12. Does paperwork match bottle	e labels?	Yes 🖌	No	for pH:	>12 unless noted)
12 Are matrices correctly identif	fied on Chain of Custody?	Ves	No 🗍	Adjusted?	NO .
14. Is it clear what analyses were	e requested?	Yes V			6
15. Were all holding times able t	o be met?	Yes 🗸	No 🗌	Checked by:	-
(If no, notify customer for au	thorization.)				
Special Handling (if appli	cable)				
16. Was client notified of all disc	repancies with this order?	Yes	No 🗌	NA 🗹	
Person Notified:	Date:				
By Whom:	Via:	eMail I	Phone Fax	In Person	
Regarding:			an and an Property and an an and an		
Client Instructions:			e to e anatomic	· · · · · · · · · · · · · · · · · · ·	
17. Additional remarks:					
18. Cooler Information					
Cooler No Temp °C	Condition Seal Intact Seal No	Seal Date	Signed By		
1 1.0 0	Good Yes				
Page 1 of 1			1899 8999 8000 0000 0000		

Blagg Engineering

Project: GCU COM H # 180E

**Client:** 

Sample ID 5mL rb	SampT	ype: M	BLK	Tes	tCode: E	PA Method	8260: Volatile	es Short I	_ist	
Client ID: PBW	Batch	n ID: R1	3040	F	RunNo: 1	3040				
Prep Date:	Analysis D	ate: 9/	3/2013	S	SeqNo: 3	72717	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 1,2-Dichloroethane-d4	9.8		10.00		98.1	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		105	70	130			
Surr: Dibromofluoromethane	11		10.00		114	70	130			
Surr: Toluene-d8	10		10.00		99.7	70	130			
Sample ID 100ng lcs2	SampT	ype: LC	S	Tes	tCode: E	PA Method	8260: Volatile	es Short L	_ist	
Client ID: LCSW	Batch	n ID: <b>R1</b>	3040	F	RunNo: 1	3040				
Prep Date:	Analysis D	ate: 9/	3/2013	S	SeqNo: 3	72718	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	94.8	70	130			
Toluene	18	1.0	20.00	0	90.8	82.2	124			
Surr: 1,2-Dichloroethane-d4	9.8		10.00		98.4	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		97.8	70	130			
Surr: Dibromofluoromethane	11		10.00		107	70	130			
Surr: Toluene-d8	9.8		10.00		98.2	70	130			

#### Qualifiers:

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

Page 2 of 2

1308D52 06-Sep-13

WO#:



4901 Hawkins NE Albuquerque, NM 87105 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name:	BLAGG	Work Order Number:	1308D52		RcptNo: 1
Received by/dat	e: / /	08 30 13			
Logged By:	Lindsay Mangin	8/30/2013 10:00:00 AN	1	Andyther	
Completed By:	Lindsay Mangin	8/30/2013 1:09:10 PM		Junky Hango	
Reviewed By:	Ma	08/30/13	3	0	
Chain of Cus	tody	00/0/10	,		
1. Custody sea	als intact on sample bottles'	?	Yes	No	Not Present
2. Is Chain of C	Custody complete?		Yes 🖌	No	Not Present
3. How was the	e sample delivered?		Courier		
<u>Log In</u>					
4. Was an atte	empt made to cool the samp	oles?	Yes 🗹	No 🗌	NA
5. Were all sar	mples received at a tempera	ature of >0° C to 6.0°C	Yes 🗹	No 🗌	
6. Sample(s) in	n proper container(s)?		Yes 🖌	No 🗌	
7. Sufficient sa	mple volume for indicated t	test(s)?	Yes 🔽	No	
8. Are samples	s (except VOA and ONG) pr	operly preserved?	Yes 🗸	No	
9. Was presen	vative added to bottles?		Yes	No 🗹	NA 🗌
10.VOA vials h	ave zero headspace?		Yes 🗹	No	No VOA Vials
11. Were any s	ample containers received l	broken?	Yes	No 🗹	# of preserved
12.Does papen (Note discre	work match bottle labels? pancies on chain of custod	y)	Yes 🗸	No 🗌	bottles checked for pH: (<2 or >12 unless noted)
13. Are matrices	s correctly identified on Cha	in of Custody?	Yes 🗸	No	Adjusted?
14. Is it clear wh	nat analyses were requested	d?	Yes 🖌	No 🗌	
15. Were all hol (If no, notify	ding times able to be met? customer for authorization.	)	Yes 🗸	No 🗌	Checked by:

### Special Handling (if applicable)

16. Was client notified of all discrepancies with this order?	Yes	No 🗌	NA 🗹
Person Notified:	Date:		
By Whom:	Via: eMail F	hone 🗌 Fax 🗌 Ir	Person
Regarding:			
Client Instructions:			

17. Additional remarks:

### 18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.9	Good	Yes			

QC SUMMARY REPORT	
Hall Environmental Analysis Laboratory,	Inc.

WO#: 1312584 18-Dec-13

Client: B Project: G	lagg Engineering CU Com H #180E									
Sample ID 5ML RB	SampTy	be: MI	BLK	Tes	tCode: E	PA Method	8021B: Volat	iles		
Client ID: PBW	Batch I	D: <b>R1</b>	5572	F	RunNo: 1	5572				
Prep Date:	Analysis Da	te: 1	2/17/2013	0	SeqNo: 4	48255	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenze	ene 20		20.00		97.8	85	136			
Sample ID 100NG BT	TEX LCS SampTy	be: LC	s	Tes	tCode: E	PA Method	8021B: Volat	iles		
Client ID: LCSW	Batch I	D: R1	5572	F	RunNo: 1	5572				
Prep Date:	Analysis Dat	te: 1	2/17/2013	S	SeqNo: 4	48256	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	105	80	120			
Toluene	21	1.0	20.00	0	105	80	120			
Ethylbenzene	21	1.0	20.00	0	103	80	120			
Xylenes, Total	63	2.0	60.00	0	105	80	120			
Surr: 4-Bromofluorobenze	20		20.00		102	85	136			

Qualifiers:

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

Page 2 of 2

HALL Hall Environment ENVIRONMENTAL ANALYSIS LABORATORY TEL: 505-345 Website: www	ntal Analysi 4901 Albuquerqu 3975 FAX: 5 w.hallenviro	s Laboraton Hawkins N e, NM 8710 05-345-410 nmental.com	79 72 09 <b>Sam</b> 07 m	ple Log-In Check Li	st
Client Name: BLAGE Work Order Nurr	ber: 13125	584		RcptNo: 1	
Becalived by/date ( M 12/13/13					
	~~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~		AZ		
Logged By: Ashley Gallegos 12/13/2013 10:40:	DO AM		N-		
Completed By: Ashley Gallegos 12/13/2013 11:13:	DO AM		Stof		
Reviewed By: CON					
Chain of Custody					
1. Custody seals intact on sample bottles?	Yes		No	Not Present	
2. Is Chain of Custody complete?	Yes	$\checkmark$	No	Not Present	
3. How was the sample delivered?	Cour	ier			
logh					
			No. 1		
4. Was an attempt made to cool the samples?	Yes	V	NO	NA L.	
5. Were all samples received at a temperature of $>0^{\circ}$ C to 6.0°C	Yes	$\checkmark$	No	NA	
6. Sample(s) in proper container(s)?	Yes	$\checkmark$	No		
7. Sufficient sample volume for indicated test(s)?	Yes	$\checkmark$	No 🛄		
8. Are samples (except VOA and ONG) properly preserved?	Yes	$\checkmark$	No		
9. Was preservative added to bottles?	Yes	[1]	No 🗸	NA	
10.VOA vials have zero headspace?	Yes	~	No	No VOA Vials	
11. Were any sample containers received broken?	Yes	i]	No 🔽	# of preserved	
12.Does paperwork match bottle labels?	Yes	$\checkmark$	No 🗌	bottles checked for pH:	
(Note discrepancies on chain of custody)				(<2 or >12 unless Adjusted?	noted)
13. Are matrices correctly identified on Chain of Custody?	Yes		No L		
14. Is it clear what analyses were requested 7	Yes		No	Checked by:	
(If no, notify customer for authorization.)	103	1			
Special Handling (if applicable)					
16. Was client notified of all discrepancies with this order?	Yes		No 🔄	NA 🗹	
Person Notified: Dat	te:				
By Whom: Via	: 🗌 eMa	il 📋 Pho	one 🗌 Fax	In Person	
Regarding:					
Client Instructions:				an a	
17. Additional remarks:					

### 18. Cooler Information

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

WO#: 1402B47

05-Mar-14

Client: Project:	Blagg En GCU CO	gineering M H #180I									
Sample ID	5ML RB	SampTy	vpe: MI	BLK	Tes	tCode: E	PA Method	8021B: Volat	iles		
Client ID:	PRW	Batch		7037	F	RunNo	17037				
Drop Data:	1 DW		nto: 1	120/2014	,	ConNo:	100141		-		
Fiep Date.		Analysis Da		20/2014		sequo. 4	+50141	Units. /orev	5		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bron	nofluorobenzene	20		20.00		102	85	136			
Sample ID	100NG BTEX LCS	SampTy	/pe: LC	s	Tes	tCode: E	PA Method	8021B: Volat	iles		
Client ID:	LCSW	Batch	ID: <b>R1</b>	7037	F	RunNo: 1	17037				
Prep Date:		Analysis Da	ate: 2/	/28/2014	S	SeqNo: 4	190142	Units: %REC	C		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Brom	nofluorobenzene	23		20.00		114	85	136			
Sample ID	5ML RB	SamnTy	ne. M	BLK	Tes	tCode: E	PA Method	8021B. Volat	iles		
Client ID:	PRW	Batch		7069	F		17069				
Drop Date:			nto: 2	212044	, c		100052	Lipite: ug/l			
Fiep Date.		Analysis Da	ale. 3/	3/2014	,	equo	+90933	onna. µy/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		ND	1.0								
loluene		ND	1.0								
Etnyidenzene			1.0								
Sur: A Brom	ofluorobonzono	21	2.0	20.00		104	85	136			
Sull. 4-DIOII	Iolidolobenzene	21		20.00		104	00	150			
Sample ID	100NG BTEX LCS	SampTy	pe: LC	s	Tes	tCode: E	PA Method	8021B: Volat	iles		
Client ID:	LCSW	Batch	ID: R1	7069	F	RunNo: 1	7069				
Prep Date:		Analysis Da	ate: 3/	3/2014	S	SeqNo: 4	190954	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		20	1.0	20.00	0	97.7	80	120			
Toluene		19	1.0	20.00	0	97.2	80	120			
Ethylbenzene		20	1.0	20.00	0	98.9	80	120			
Xylenes, Total		59	2.0	60.00	0	98.9	80	120			
Surr: 4-Brom	nofluorobenzene	22		20.00		111	85	136			

Qualifiers:

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

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	HALL ENVIRONMENTAL
	ANALYSIS
	LABORATORY

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

# Sample Log-In Check List

Client Name: BLAGG	Work Order Numbe	er: 1402B47		RcptNo:	1
Received by/date: AG	02/28/14		34) a (4)		
Logged By: Michelle Garcia	2/28/2014 10:00:00	AM	Mirall Gon	ua	
Completed By: Michelle Garcia	2/28/2014 2:22:19 PI	м	Michell Gar	ua)	
Reviewed By:	02/28/20	014			
Chain of Custody	-1-01		······································		
1. Custody seals intact on sample bottles'	?	Yes	No	Not Present 🗸	
2. Is Chain of Custody complete?		Yes 🗸	No	Not Present	
3. How was the sample delivered?		Courier			
Log In					
4. Was an attempt made to cool the same	oles?	Yes 🗸	No	NA	
5. Were all samples received at a temper	ature of >0° C to 6.0°C	Yes 🗸	No 🗌	NA	
6. Sample(s) in proper container(s)?		Yes 🗸	No		
7. Sufficient sample volume for indicated	test(s)?	Yes 🗸	No		
8. Are samples (except VOA and ONG) p	roperly preserved?	Yes 🖌	No		
9. Was preservative added to bottles?		Yes	No 🗸	NA	
10.VOA vials have zero headspace?		Yes	No	No VOA Vials 🗹	
11. Were any sample containers received	broken?	Yes	No 🗹	# of preserved	
12.Does paperwork match bottle labels?		Yes 🖌	No	for pH:	
(Note discrepancies on chain of custod	у)			(<2) Adjusted?	or >12 unless note
13. Are matrices correctly identified on Cha	in of Custody?	Yes V	NO	, lejuerou ,	energy of the last of a second
<ul> <li>14. Is it clear what analyses were requeste</li> <li>15. Were all holding times able to be met? (If no, notify customer for authorization)</li> </ul>	)	Yes V	No	Checked by:	
Special Handling (if applicable)					
16 Was client notified of all discrepancies	with this order?	Yes	No	NA 🗸	
		r			
Person Notified:	Date:	Mail	Phone Fax	In Person	) 5
By Whon.	via.		none rax	in reison	í,
Client Instructions:	n an ann an ann ann an ann a' far 1914 a' 1914	en an an analan da dalam dalam dalam dalam da ang ang ang ang ang ang ang ang ang an		VAVARANAN TANAN TANA TANA TANA T	
17 A LIT				i	а. е
11. Additional remarks:					
18. Cooler Information					

 Cooler No
 Temp %
 Condition
 Seal Intact
 Seal No
 Seal Date
 Signed By

 1
 1.0
 Good
 Yes
 Image: Signed By
 Image: Signe: Signe: Signed By
 Image: Signed By

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WO#: 1511328

20-Nov-15

Client:Blagg EngineeringProject:GCU COM H #1 180E

Sample ID MB	SampType: MBLK	TestCoo	TestCode: EPA Method 300.0: Anions				
Client ID: PBW	Batch ID: A30251 RunNo: 30251						
Prep Date:	Analysis Date: 11/14/2	2015 SeqN	No: 922191	Units: mg/L			
Analyte	Result PQL SPI	K value SPK Ref Val %	REC LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	ND 0.50						
	110 0.00						
Sample ID LCS	SampType: LCS	TestCoo	de: EPA Method 3	300.0: Anions			
Sample ID LCS Client ID: LCSW	SampType: LCS Batch ID: A30251	TestCoc RunN	de: EPA Method 3	300.0: Anions			
Sample ID LCS Client ID: LCSW Prep Date:	SampType: LCS Batch ID: A30251 Analysis Date: 11/14/2	TestCoc RunN 2015 SeqN	de: EPA Method 3 No: 30251 No: 922192	300.0: Anions Units: mg/L			
Sample ID LCS Client ID: LCSW Prep Date: Analyte	SampType: LCS Batch ID: A30251 Analysis Date: 11/14/2 Result PQL SP	TestCoc RunN 2015 SeqN < value SPK Ref Val %F	de: EPA Method 3 No: 30251 No: 922192 REC LowLimit	300.0: Anions Units: mg/L HighLimit	%RPD	RPDLimit	Qual

#### Qualifiers:

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

WO#: 1511328 20-Nov-15

Client:Blagg EngineeringProject:GCU COM H #1 180E

Sample ID MB-22255	SampType: MBLK	TestCode: SM2540C MOD	): Total Dissolved Solids
Client ID: PBW	Batch ID: 22255	RunNo: 30139	
Prep Date: 11/9/2015	Analysis Date: 11/10/2015	SeqNo: 918270	Jnits: mg/L
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit Qual
Total Dissolved Solids	ND 20.0		
Sample ID LCS-22255	SampType: LCS	TestCode: SM2540C MOD	): Total Dissolved Solids
Sample ID LCS-22255 Client ID: LCSW	SampType: LCS Batch ID: 22255	TestCode: SM2540C MOD RunNo: 30139	9: Total Dissolved Solids
Sample ID LCS-22255 Client ID: LCSW Prep Date: 11/9/2015	SampType: LCS Batch ID: 22255 Analysis Date: 11/10/2015	TestCode: SM2540C MOD RunNo: 30139 SeqNo: 918271 U	9: Total Dissolved Solids
Sample ID LCS-22255 Client ID: LCSW Prep Date: 11/9/2015 Analyte	SampType: LCS Batch ID: 22255 Analysis Date: 11/10/2015 Result PQL SPK value	TestCode: SM2540C MOD RunNo: 30139 SeqNo: 918271 U SPK Ref Val %REC LowLimit	<b>9: Total Dissolved Solids</b> Jnits: <b>mg/L</b> HighLimit %RPD RPDLimit Qual

#### Qualifiers:

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

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HALL ENVIRONMENTAL ANALYSIS LABORATORY	Hall Environmenta All TEL: 505-345-397 Website: www.h	l Analysis Labord 4901 Hawkin buquerque, NM 8 5 FAX: 505-345 allenvironmental	atory s NE 7109 <b>Sam</b> 4107 .com	ple Log-In Check List			
Client Name: BLAGG	Work Order Numbe	r: 1511328		RcptNo:	1		
Received by/date:	11/09/15						
Logged By: Anne Thorne	11/7/2015 8:45:00 AM	1	arme Arm	-			
Completed By: Anne Thorne	11/9/2015		anne Am	_			
Reviewed By:							
Chain of Custody							
1. Custody seals intact on sample bottles?	,	Yes	No 🗌	Not Present			
2. Is Chain of Custody complete?		Yes 🖌	No 🗌	Not Present			
3. How was the sample delivered?		Courier					
Log In							
4. Was an attempt made to cool the same	les?	Yes 🔽	No 🗌	NA 🗌			
5. Were all samples received at a tempera	ture of >0° C to 6.0°C	Yes 🔽	No	NA 🗌			
6. Sample(s) in proper container(s)?		Yes 🗹	No				
7. Sufficient sample volume for indicated t	est(s)?	Yes 🗸	No 🗌				
8. Are samples (except VOA and ONG) pr	operly preserved?	Yes 🗹	No 🗌				
9. Was preservative added to bottles?		Yes	No 🔽	NA			
10.VOA vials have zero headspace?		Yes	No 🗌	No VOA Vials 🗹			
11, Were any sample containers received b	oroken?	Yes	No 🗹	# of preserved			
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody	)	Yes 🔽	No 🗔	bottles checked for pH:	r >12 unless noted)		
13. Are matrices correctly identified on Chai	n of Custody?	Yes 🗸	No 🗌	Adjusted?			
14. Is it clear what analyses were requested	?	Yes 🗹	No 🗌				
15. Were all holding times able to be met? (If no, notify customer for authorization.)		Yes 🗹	No 🗌	Checked by:			

### Special Handling (if applicable)

5. 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 Inform	nation					
	Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
	1	1.3	Good	Yes	1		