

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

State of New Mexico  
Energy Minerals and Natural Resources  
Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-141  
Revised August 8, 2011

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

**Release Notification and Corrective Action**

**OPERATOR**

Initial Report  Final Report

Name of Company: BP America Production Co.	Contact: Steve Moskal
Address: 380 Airport Rd., Durango, CO 81303	Telephone No.: 505-330-9179
Facility Name: Gallegos Canyon Unit 042	Facility Type: Water Disposal Well
Surface Owner: Fee	Mineral Owner: Federal
API No. 3004507557	

**LOCATION OF RELEASE**

Unit Letter N	Section 12	Township 28N	Range 13W	Feet from the 990	North/South Line South	Feet from the 1,650	East/West Line West	County: San Juan
------------------	---------------	-----------------	--------------	----------------------	---------------------------	------------------------	------------------------	------------------

Latitude 36.67275° Longitude -108.117408°

**NATURE OF RELEASE**

Type of Release: produced water	Volume of Release: 14 bbl	Volume Recovered: 0 bbls
Source of Release: Packing leak on rod pump	Date and Hour of Occurrence: unknown	Date and Hour of Discovery: 1/16/2018; 11:00 AM
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?	
By Whom? Steve Moskal	Date and Hour:	NMOC D
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	
If a Watercourse was Impacted, Describe Fully.*		
Describe Cause of Problem and Remedial Action Taken.* Packing on rod pump failed allowing produced water to leak for an unknown duration. The area of impacts was measured to determine the discharge volume. The well was shut in and the packing replaced. The impacted soil was raked in and sampled. Sample results indicated further remediation is required.		
Describe Area Affected and Cleanup Action Taken.* The soil samples indicate TPH and chlorides above the site specific spill and release guidelines. Delineation or remediation will be performed at a later date. Laboratory results are attached. BP excavated the upper 1-3' feet of soil to remove the impacts. The excavated area sampled to ensure removal of impacts to comply with the spill and release guidelines. The excavated soil was placed in a lined, bermed, area on the location and a gypsum amendment added with water. The subsequent sampling of the excavated material indicated successful remediation with results below the spill and release guidelines. The soil was thin spread on site and the liner removed for offsite disposal. BP request no further action.		
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOC D rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOC D marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOC D acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.		

JUL 26 2018

DISTRICT III

**OIL CONSERVATION DIVISION**

Signature:	Approved by Environmental Specialist:	
Printed Name: Steve Moskal	Approval Date: 7/30/2018	Expiration Date:
Title: Field Environmental Coordinator	Conditions of Approval:	
E-mail Address: steven.moskal@bpx.com	Attached <input type="checkbox"/>	
Date: July 25, 2018	Phone: 505-330-9179	

\* Attach Additional Sheets If Necessary

NCS 1803732121

# GCU 42

(N) Sec 12 - T28N - R13W  
API: 30-045-07557

April 3, 2018 - Closure Sampling  
Collect 7-pt composite @ 6" - 12" depth along  
remediation footprint, including some 'sidewall' points  
Field OVM = 0.8 ppm  
Laboratory Test Results:  
TPH = ND  
BTEX = ND  
Chloride = 450 ppm



GCU 42  
Remedial Excavation  
Looking West  
April 3, 2018

X = Composite  
Sample Points



GCU 42  
Remedial Excavation  
Looking East  
April 3, 2018

X = Composite  
Sample Points





GCU 42  
Burned Treated Soil Stock Pile

303-341-0000

**BP AMERICA PRODUCTION COMPANY**

**GALLEGOS CANYON UNIT 042**

**API 3004507557 LEASE NMSF078807A**

**990 FSL 1650 FWL (N) SEC 12 T28N R13W**

**San Juan County ELEV 5582**

**LAT 36° 40' 19.632"**

**LONG 108° 10' 23.916"**

Rig Anchors





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

April 05, 2018

Jeff Blagg

Blagg Engineering

P. O. Box 87

Bloomfield, NM 87413

TEL: (505) 632-1199

FAX (505) 632-3903

RE: GCU 42

OrderNo.: 1804128

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory received 1 sample(s) on 4/4/2018 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 [www.hallenvironmental.com](http://www.hallenvironmental.com) 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 qualifiers 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,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a light blue horizontal line.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Analytical Report

Lab Order 1804128

Date Reported: 4/5/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Client Sample ID: EXCAVATION 7-pt COMP (6"-

Project: GCU 42

Collection Date: 4/3/2018 9:23:00 AM

Lab ID: 1804128-001

Matrix: SOIL

Received Date: 4/4/2018 7:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	450	30		mg/Kg	20	4/4/2018 11:31:53 AM	37423
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>AG</b>
Gasoline Range Organics (GRO)	ND	18		mg/Kg	5	4/4/2018 10:15:40 AM	37399
Surr: BFB	108	70-130		%Rec	5	4/4/2018 10:15:40 AM	37399
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/4/2018 10:14:47 AM	37415
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/4/2018 10:14:47 AM	37415
Surr: DNOP	93.9	70-130		%Rec	1	4/4/2018 10:14:47 AM	37415
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>AG</b>
Benzene	ND	0.092		mg/Kg	5	4/4/2018 10:15:40 AM	37399
Toluene	ND	0.18		mg/Kg	5	4/4/2018 10:15:40 AM	37399
Ethylbenzene	ND	0.18		mg/Kg	5	4/4/2018 10:15:40 AM	37399
Xylenes, Total	ND	0.37		mg/Kg	5	4/4/2018 10:15:40 AM	37399
Surr: 4-Bromofluorobenzene	109	70-130		%Rec	5	4/4/2018 10:15:40 AM	37399
Surr: Toluene-d8	92.5	70-130		%Rec	5	4/4/2018 10:15:40 AM	37399

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

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1804128  
05-Apr-18

Client: Blagg Engineering  
Project: GCU 42

Sample ID	<b>MB-37423</b>	SampType:	<b>mbk</b>	TestCode:	<b>EPA Method 300.0: Anions</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>37423</b>	RunNo:	<b>50311</b>					
Prep Date:	<b>4/4/2018</b>	Analysis Date:	<b>4/4/2018</b>	SeqNo:	<b>1630654</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	<b>LCS-37423</b>	SampType:	<b>ics</b>	TestCode:	<b>EPA Method 300.0: Anions</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>37423</b>	RunNo:	<b>50311</b>					
Prep Date:	<b>4/4/2018</b>	Analysis Date:	<b>4/4/2018</b>	SeqNo:	<b>1630655</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	97.3	90	110			

### Qualifiers:

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

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1804128

05-Apr-18

Client: Blagg Engineering

Project: GCU 42

Sample ID	<b>LCS-37362</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015M/D: Diesel Range Organics</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>37362</b>	RunNo:	<b>50269</b>					
Prep Date:	<b>4/2/2018</b>	Analysis Date:	<b>4/3/2018</b>	SeqNo:	<b>1628774</b>	Units:	<b>%Rec</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	3.8		5.000		75.4	70	130			

Sample ID	<b>MB-37362</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015M/D: Diesel Range Organics</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>37362</b>	RunNo:	<b>50269</b>					
Prep Date:	<b>4/2/2018</b>	Analysis Date:	<b>4/3/2018</b>	SeqNo:	<b>1628775</b>	Units:	<b>%Rec</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.9		10.00		89.2	70	130			

Sample ID	<b>LCS-37415</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015M/D: Diesel Range Organics</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>37415</b>	RunNo:	<b>50301</b>					
Prep Date:	<b>4/4/2018</b>	Analysis Date:	<b>4/4/2018</b>	SeqNo:	<b>1629965</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	10	50.00	0	102	70	130			
Surr: DNOP	3.7		5.000		74.0	70	130			

Sample ID	<b>MB-37415</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015M/D: Diesel Range Organics</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>37415</b>	RunNo:	<b>50301</b>					
Prep Date:	<b>4/4/2018</b>	Analysis Date:	<b>4/4/2018</b>	SeqNo:	<b>1629966</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.2		10.00		91.6	70	130			

Sample ID	<b>LCS-37405</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015M/D: Diesel Range Organics</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>37405</b>	RunNo:	<b>50301</b>					
Prep Date:	<b>4/3/2018</b>	Analysis Date:	<b>4/4/2018</b>	SeqNo:	<b>1630258</b>	Units:	<b>%Rec</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.1		5.000		82.1	70	130			

Sample ID	<b>MB-37405</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015M/D: Diesel Range Organics</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>37405</b>	RunNo:	<b>50301</b>					
Prep Date:	<b>4/3/2018</b>	Analysis Date:	<b>4/4/2018</b>	SeqNo:	<b>1630259</b>	Units:	<b>%Rec</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.2		10.00		92.5	70	130			

## Qualifiers:

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

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1804128

05-Apr-18

Client: Blagg Engineering

Project: GCU 42

Sample ID	<b>ics-37399</b>	SampType:	<b>LCS4</b>	TestCode:	<b>EPA Method 8260B: Volatiles Short List</b>					
Client ID:	<b>BatchQC</b>	Batch ID:	<b>37399</b>	RunNo:	<b>50305</b>					
Prep Date:	<b>4/3/2018</b>	Analysis Date:	<b>4/4/2018</b>	SeqNo:	<b>1630018</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.92	0.025	1.000	0	92.4	80	120			
Toluene	0.98	0.050	1.000	0	98.3	80	120			
Ethylbenzene	1.1	0.050	1.000	0	105	80	120			
Xylenes, Total	3.2	0.10	3.000	0	106	80	120			
Surr: 4-Bromofluorobenzene	0.47		0.5000		94.9	70	130			
Surr: Toluene-d8	0.43		0.5000		86.0	70	130			

Sample ID	<b>mb-37399</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8260B: Volatiles Short List</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>37399</b>	RunNo:	<b>50305</b>					
Prep Date:	<b>4/3/2018</b>	Analysis Date:	<b>4/4/2018</b>	SeqNo:	<b>1630050</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.57		0.5000		114	70	130			
Surr: Toluene-d8	0.44		0.5000		87.5	70	130			

Sample ID	<b>mb-37372</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8260B: Volatiles Short List</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>37372</b>	RunNo:	<b>50305</b>					
Prep Date:	<b>4/2/2018</b>	Analysis Date:	<b>4/4/2018</b>	SeqNo:	<b>1630651</b>	Units:	<b>%Rec</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.57		0.5000		113	70	130			
Surr: Toluene-d8	0.42		0.5000		83.5	70	130			

## Qualifiers:

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1804128

05-Apr-18

**Client:** Blagg Engineering  
**Project:** GCU 42

Sample ID	<b>lcs-37399</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D Mod: Gasoline Range</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>37399</b>	RunNo:	<b>50305</b>					
Prep Date:	<b>4/3/2018</b>	Analysis Date:	<b>4/4/2018</b>	SeqNo:	<b>1630013</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	99.4	70	130			
Surr: BFB	510		500.0		103	70	130			

Sample ID	<b>mb-37399</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D Mod: Gasoline Range</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>37399</b>	RunNo:	<b>50305</b>					
Prep Date:	<b>4/3/2018</b>	Analysis Date:	<b>4/4/2018</b>	SeqNo:	<b>1630047</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	570		500.0		114	70	130			

Sample ID	<b>mb-37372</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D Mod: Gasoline Range</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>37372</b>	RunNo:	<b>50305</b>					
Prep Date:	<b>4/2/2018</b>	Analysis Date:	<b>4/4/2018</b>	SeqNo:	<b>1630579</b>	Units:	<b>%Rec</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	560		500.0		112	70	130			

**Qualifiers:**

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



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

# Sample Log-In Check List

Client Name: **BLAGG**

Work Order Number: **1804128**

RcptNo: **1**

Received By: **Anne Thorne** 4/4/2018 7:40:00 AM

*Anne Thorne*

Completed By: **Anne Thorne** 4/4/2018 7:48:11 AM

*Anne Thorne*

Reviewed By: **Jro** 4/4/18

**Chain of Custody**

1. Is Chain of Custody complete? Yes  No  Not Present
2. How was the sample delivered? Courier

**Log In**

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

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

**Special Handling (if applicable)**

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

Person Notified:	_____	Date:	_____
By Whom:	_____	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	_____		
Client Instructions:	_____		

16. Additional remarks:

**17. Cooler Information**

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





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

May 07, 2018

Steve Moskal  
Blagg Engineering  
P. O. Box 87  
Bloomfield, NM 87413  
TEL: (505) 632-1199  
FAX (505) 632-3903

RE: GCU 42

OrderNo.: 1805003

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 1 sample(s) on 5/1/2018 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 [www.hallenvironmental.com](http://www.hallenvironmental.com) 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 qualifiers 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,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a light blue horizontal line.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

**Analytical Report**Lab Order **1805003**Date Reported: **5/7/2018****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Blagg Engineering**Client Sample ID:** Bio Pile 5-pt Comp.**Project:** GCU 42**Collection Date:** 4/30/2018 11:45:00 AM**Lab ID:** 1805003-001**Matrix:** SOIL**Received Date:** 5/1/2018 8:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>MRA</b>
Chloride	580	30		mg/Kg	20	5/4/2018 10:57:57 PM	37957
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>AG</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/2/2018 8:24:24 PM	37876
Surr: BFB	121	70-130		%Rec	1	5/2/2018 8:24:24 PM	37876
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	11	9.1		mg/Kg	1	5/3/2018 11:55:25 PM	37916
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	5/3/2018 11:55:25 PM	37916
Surr: DNOP	86.4	70-130		%Rec	1	5/3/2018 11:55:25 PM	37916
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>AG</b>
Benzene	ND	0.024		mg/Kg	1	5/2/2018 8:24:24 PM	37876
Toluene	ND	0.048		mg/Kg	1	5/2/2018 8:24:24 PM	37876
Ethylbenzene	ND	0.048		mg/Kg	1	5/2/2018 8:24:24 PM	37876
Xylenes, Total	ND	0.096		mg/Kg	1	5/2/2018 8:24:24 PM	37876
Surr: 4-Bromofluorobenzene	132	70-130	S	%Rec	1	5/2/2018 8:24:24 PM	37876
Surr: Toluene-d8	88.7	70-130		%Rec	1	5/2/2018 8:24:24 PM	37876

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

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1805003  
07-May-18

Client: Blagg Engineering  
Project: GCU 42

Sample ID	<b>LCS-37957</b>	SampType:	<b>ics</b>	TestCode:	<b>EPA Method 300.0: Anions</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>37957</b>	RunNo:	<b>51062</b>					
Prep Date:	<b>5/4/2018</b>	Analysis Date:	<b>5/4/2018</b>	SeqNo:	<b>1658329</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.1	90	110			

Sample ID	<b>MB-37957</b>	SampType:	<b>mbk</b>	TestCode:	<b>EPA Method 300.0: Anions</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>37957</b>	RunNo:	<b>51062</b>					
Prep Date:	<b>5/4/2018</b>	Analysis Date:	<b>5/4/2018</b>	SeqNo:	<b>1658330</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

### Qualifiers:

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1805003  
07-May-18

Client: Blagg Engineering  
Project: GCU 42

Sample ID	<b>LCS-37916</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015M/D: Diesel Range Organics</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>37916</b>	RunNo:	<b>51013</b>					
Prep Date:	<b>5/2/2018</b>	Analysis Date:	<b>5/3/2018</b>	SeqNo:	<b>1657153</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
I Range Organics (DRO)	41	10	50.00	0	82.6	70	130			
Surr: DNOP	3.5		5.000		70.7	70	130			

Sample ID	<b>MB-37916</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015M/D: Diesel Range Organics</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>37916</b>	RunNo:	<b>51013</b>					
Prep Date:	<b>5/2/2018</b>	Analysis Date:	<b>5/3/2018</b>	SeqNo:	<b>1657154</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
I Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	7.8		10.00		78.3	70	130			

### Qualifiers:

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

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1805003

07-May-18

Client: Blagg Engineering

Project: GCU 42

Sample ID	<b>lcs-37876</b>	SampType:	<b>LCS4</b>	TestCode:	<b>EPA Method 8260B: Volatiles Short List</b>					
Client ID:	<b>BatchQC</b>	Batch ID:	<b>37876</b>	RunNo:	<b>50985</b>					
Prep Date:	<b>5/1/2018</b>	Analysis Date:	<b>5/2/2018</b>	SeqNo:	<b>1655456</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.85	0.025	1.000	0	85.0	80	120			
Toluene	0.97	0.050	1.000	0	96.8	80	120			
Ethylbenzene	1.0	0.050	1.000	0	104	80	120			
Xylenes, Total	3.1	0.10	3.000	0	103	80	120			
Surr: 4-Bromofluorobenzene	0.58		0.5000		115	70	130			
Surr: Toluene-d8	0.45		0.5000		90.5	70	130			

Sample ID	<b>mb-37876</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8260B: Volatiles Short List</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>37876</b>	RunNo:	<b>50985</b>					
Prep Date:	<b>5/1/2018</b>	Analysis Date:	<b>5/2/2018</b>	SeqNo:	<b>1655457</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.65		0.5000		130	70	130			S
Surr: Toluene-d8	0.44		0.5000		88.2	70	130			

## Qualifiers:

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1805003

07-May-18

**Client:** Blagg Engineering

**Project:** GCU 42

Sample ID <b>ics-37876</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>37876</b>		RunNo: <b>50985</b>							
Prep Date: <b>5/1/2018</b>	Analysis Date: <b>5/2/2018</b>		SeqNo: <b>1655451</b>				Units: <b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	89.0	70	130			
Surr: BFB	500		500.0		99.0	70	130			

Sample ID <b>mb-37876</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D Mod: Gasoline Range</b>							
Client ID: <b>PBS</b>	Batch ID: <b>37876</b>		RunNo: <b>50985</b>							
Prep Date: <b>5/1/2018</b>	Analysis Date: <b>5/2/2018</b>		SeqNo: <b>1655452</b>				Units: <b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	600		500.0		120	70	130			

**Qualifiers:**

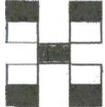
- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated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



# Chain-of-Custody Record

Client: BP America  
BLADE Engineering  
 Mailing Address:  
 Phone #: 505-320-1193  
 email or Fax#:  
 QA/QC Package:  
 Standard  Level 4 (Full Validation)  
 Accreditation  
 NELAP  Other \_\_\_\_\_  
 EDD (Type) \_\_\_\_\_

Turn-Around Time:  
 Standard  Rush  
 Project Name:  
GCU 42  
 Project #:  
 Project Manager:  
Steve Moskal  
 Sampler: Jeff Blagg  
 On Ice:  Yes  No  
 Sample Temperature: 0.5



## HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109  
 Tel. 505-345-3975 Fax 505-345-4107

### Analysis Request

BTEX + MTBE + THMs (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride	Air Bubbles (Y or N)
X	X										X	

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.
<u>4/30/18</u>	<u>1145</u>	<u>soil</u>	<u>BIOPILE 5-pt comp</u>	<u>4oz x 1</u>	<u>ceoc</u>	<u>1805003-001</u>

Date: 4/30/18 Time: 1710 Relinquished by: Jeff Blagg  
 Received by: Christie White Date: 4/30/18 Time: 1710  
 Date: 4/30/18 Time: 1807 Relinquished by: Christie White  
 Received by: [Signature] Date: 5/1/18 Time: 805

Remarks: Bill BP contact: Steve Moskal  
USE General P.O.

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 noted on the analytical report.