

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	Contact: Jeff Peace	
Address: 200 Energy Court, Farmington, NM 87401	Telephone No.: 505-326-9479	
Facility Name: Barrett A 1E	Facility Type: Natural gas well	
Surface Owner: Federal	Mineral Owner: Federal	API No. 3004525943

#### LOCATION OF RELEASE

Unit Letter G	Section 20	Township 31N	Range 9W	Feet from the 1,640	North/South Line North	Feet from the 2,215	East/West Line East	County: San Juan
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Latitude 36.88633 Longitude 107.80207

#### NATURE OF RELEASE

Type of Release: condensate and produced water	Volume of Release: 50 bbl of condensate and 40 bbl produced water	Volume Recovered: none
Source of Release: bull plug and valve on drain line from condensate tank	Date and Hour of Occurrence: unknown	Date and Hour of Discovery: 1/30/2014; 1:00 PM
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Brandon Powell - NMOCD; Shari Ketcham - BLM	
By Whom? Courtney Cochran	Date and Hour: 1/30/2014; 4:30 PM	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

**OIL CONS. DIV DIST. 3**


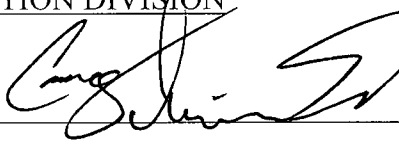
If a Watercourse was Impacted, Describe Fully.\*

**AUG 07 2014**

Describe Cause of Problem and Remedial Action Taken.\* The bull plug in front of the drain valve on the condensate tank froze due to cold weather and split. The drain valve itself had failed due to corrosion, so when the bull plug froze and split the contents of the condensate tank emptied into the bermed containment area. Approximately 50 bbl of condensate and 40 bbl of produced water were released.

Describe Area Affected and Cleanup Action Taken.\* The condensate tank was removed and impacted soil was excavated to a depth of 20 feet, which was the vertical extent of the impacts. Approximately 1,250 cubic yards of impacted soil were removed and transported to the landfarm for treatment. Subsequent soil analyses of the remaining soil on the bottom and walls of the excavation showed TPH below 100 ppm. Soil sampling data is attached.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD 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, NMOCD 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.

Signature: 	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Jeff Peace	Approved by Environmental Specialist: 	
Title: Area Environmental Advisor	Approval Date: <u>9/8/14</u>	Expiration Date:
E-mail Address: peace.jeffrey@bp.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: August 6, 2014	Phone: 505-326-9479	

\* Attach Additional Sheets If Necessary

#NCS 1425139 269

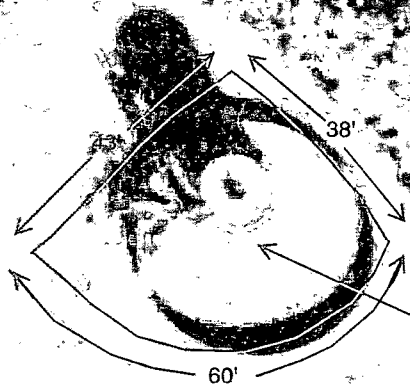
46

BP America  
Barrett A 1E  
(G) Sec 20 – T31N – R9W  
San Juan County, New Mexico

Spill Release Remediation Summary

Jan 30, 2014	Release of approximately 50 bbl condensate & 40 bbl water discovered from failed frozen valve on stock tank.
July 14, 2014	Begin excavation of impacted soil. Conduct initial sampling for laboratory analysis.
July 15, 2015	Field and lab test results indicate vertical extent of impacts did not extend deeper than 20' below grade. Conduct additional sampling of ongoing excavation.
July 16, 2015	Conduct sampling of ongoing excavation.
July 18, 2015	Conduct sampling of ongoing excavation.
July 21, 2015	Conduct sampling of ongoing excavation.
July 22, 2015	Conduct final sampling of excavation. Complete digging.
July 23, 2015	Receive final lab results confirming closure. Total volume soil transported to landfarm = 1,248 cubic yards

BP America  
Barrett A 1E  
(G) Sec 20 - T31N - R9W



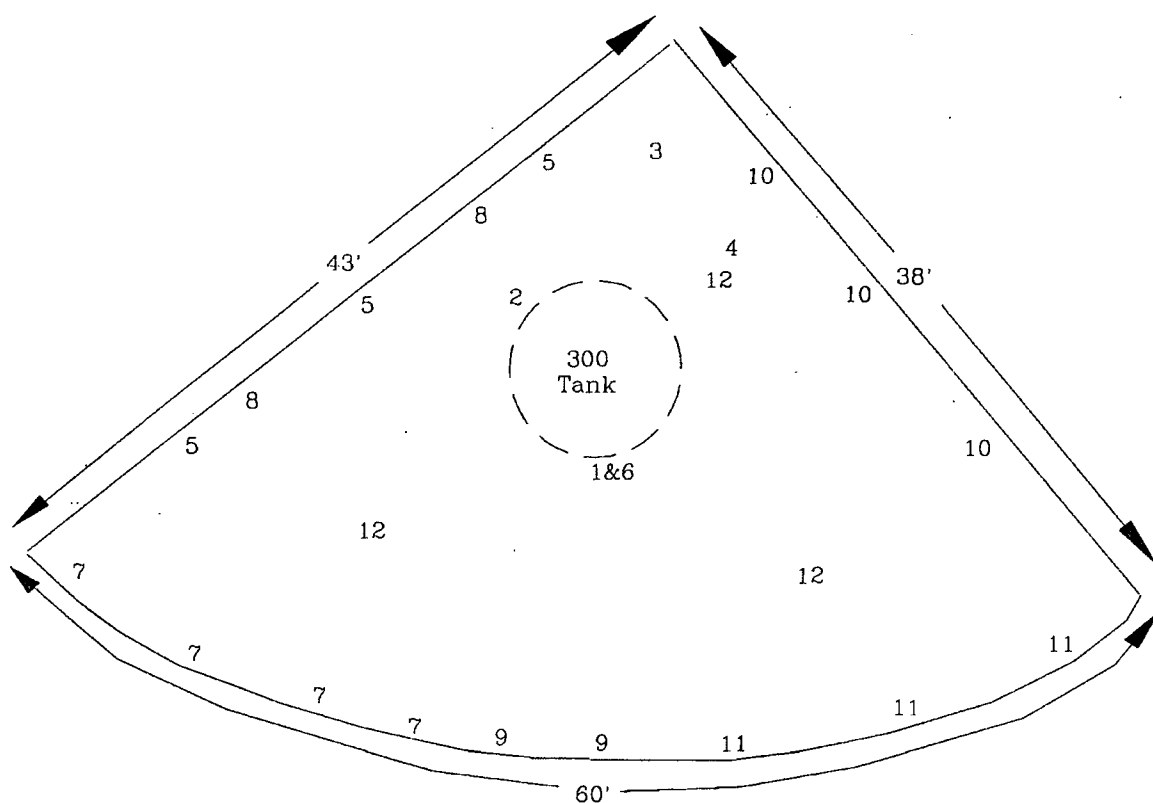
Excavation  
Extent  
(Average Depth 20')  
Center located  
approximately 115'  
N10E of wellhead

Wellhead

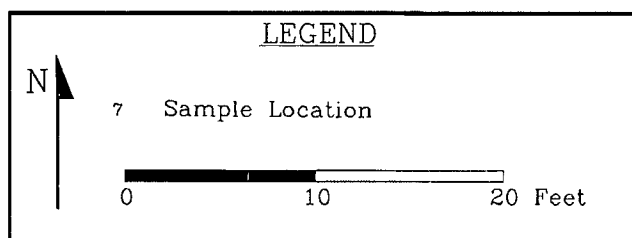
Google earth

1997

Imagery Date: 11/17/2013 36°53'11.75" N 107°48'07.32" W elev 6279 ft eye alt 6575 ft



Sample ID	Date	Description	Field OVM (ppm)	TPH (ppm)
1	7/14/2014	Source @ 19'(17')	350ppm	230ppm (excavated and removed)
2	7/15/2014	North Wall @ 10'	446	3,900 (excavated and removed)
3	7/15/2014	NW Corner @ 20'	14.3	0.0
4	7/15/2014	East Wall @ 8'	2.3	0.0
5	7/16/2014	North Wall 3-pt @ 8'	12.2	0.0
6	7/16/2014	Center Source @ 20'	73	0.0
7	7/18/2014	West Wall 4-pt 8'-15'	4.8	0.0
8	7/18/2014	North Wall 2-pt 15'-18'	2.5	0.0
9	7/21/2014	SW Corner 2-pt 8'-18'	2.4	0.0
10	7/22/2014	South Wall 3-pt 8'-18'	24.0	0.0
12	7/22/2014	Base 3-pt @ 20'	4.9	0.0



### Excavation Sampling Diagram

BP \*\* BARRETT A 1E \*\* (G)20-T31N-R9W

BLAGG ENGINEERING, INC.

DATE: 7/2014

FIGURE B

BY: JCB

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

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1407616

Date Reported: 7/18/2014

**CLIENT:** Blagg Engineering

**Client Sample ID:** Source @ 19'

**Project:** Barrett A LS 1E

**Collection Date:** 7/14/2014 12:15:00 PM

**Lab ID:** 1407616-001

**Matrix:** MEOH (SOIL)

**Received Date:** 7/15/2014 7:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	190	9.9		mg/Kg	1	7/15/2014 10:16:23 AM	14218
Surr: DNOP	86.1	57.9-140		%REC	1	7/15/2014 10:16:23 AM	14218
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	40	10		mg/Kg	2	7/15/2014 12:25:47 PM	R19893
Surr: BFB	174	80-120	S	%REC	2	7/15/2014 12:25:47 PM	R19893
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.10		mg/Kg	2	7/15/2014 12:25:47 PM	R19893
Toluene	0.41	0.10		mg/Kg	2	7/15/2014 12:25:47 PM	R19893
Ethylbenzene	0.16	0.10		mg/Kg	2	7/15/2014 12:25:47 PM	R19893
Xylenes, Total	2.3	0.21		mg/Kg	2	7/15/2014 12:25:47 PM	R19893
Surr: 4-Bromofluorobenzene	107	80-120		%REC	2	7/15/2014 12:25:47 PM	R19893
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JRR</b>
Chloride	58	30		mg/Kg	20	7/15/2014 11:11:23 AM	14229

Note: The sample depth on this was later determined to be approximately 17 feet below original grade and these soils were subsequently excavated and removed.

jeff blagg

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

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

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1407616

18-Jul-14

Client: Blagg Engineering

Project: Barrett A LS IE

Sample ID	MB-14229	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	14229	RunNo:	19915					
Prep Date:	7/15/2014	Analysis Date:	7/15/2014	SeqNo:	578776	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-14229	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	14229	RunNo:	19915					
Prep Date:	7/15/2014	Analysis Date:	7/15/2014	SeqNo:	578777	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.5	90	110			

## Qualifiers:

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

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

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1407616

18-Jul-14

Client: Blagg Engineering

Project: Barrett A LS 1E

Sample ID	MB-14218	SampType:	MBLK	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	14218	RunNo:	19870					
Prep Date:	7/15/2014	Analysis Date:	7/15/2014	SeqNo:	577863	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	7.7		10.00		77.0	57.9	140			

Sample ID	LCS-14218	SampType:	LCS	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	14218	RunNo:	19870					
Prep Date:	7/15/2014	Analysis Date:	7/15/2014	SeqNo:	577864	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	10	50.00	0	97.3	68.6	130			
Surr: DNOP	3.6		5.000		72.1	57.9	140			

## Qualifiers:

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

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1407616

18-Jul-14

Client: Blagg Engineering

Project: Barrett A LS 1E

Sample ID	MB-14213 MK		SampType:	MBLK		TestCode:	EPA Method 8015D: Gasoline Range				
Client ID:	PBS		Batch ID:	R19893		RunNo:	19893				
Prep Date:			Analysis Date:	7/15/2014		SeqNo:	578416		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	ND	5.0									
Surr: BFB	1000		1000		101	80	120				

Sample ID	LCS-14213 MK		SampType:	LCS		TestCode:	EPA Method 8015D: Gasoline Range				
Client ID:	LCSS		Batch ID:	R19893		RunNo:	19893				
Prep Date:			Analysis Date:	7/15/2014		SeqNo:	578417		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	23	5.0	25.00	0	91.7	71.7	134				
Surr: BFB	1100		1000		113	80	120				

### Qualifiers:

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

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



# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1407616

18-Jul-14

Client: Blagg Engineering

Project: Barrett A LS IE

Sample ID	MB-14213 MK		SampType:	MBLK		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	PBS		Batch ID:	R19893		RunNo:	19893			
Prep Date:			Analysis Date:	7/15/2014		SeqNo:	578456		Units: mg/Kg	
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	1.2		1.000		117	80	120			

Sample ID	LCS-14213 MK		SampType:	LCS		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	LCSS		Batch ID:	R19893		RunNo:	19893			
Prep Date:			Analysis Date:	7/15/2014		SeqNo:	578457		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.88	0.050	1.000	0	87.8	80	120			
Toluene	0.86	0.050	1.000	0	86.2	80	120			
Ethylbenzene	0.88	0.050	1.000	0	87.6	80	120			
Xylenes, Total	2.8	0.10	3.000	0	91.9	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		105	80	120			

## Qualifiers:

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

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



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

## Sample Log-In Check List

Client Name: **BLAGG**

Work Order Number: **1407616**

RcptNo: **1**

Received by/date:

Logged By: **Lindsay Mangin**

**07/15/14**  
7/15/2014 7:50:00 AM

Completed By: **Lindsay Mangin**

7/15/2014 8:09:08 AM

Reviewed By: **mg**

**07/15/14**

### Chain of Custody

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

### Log In

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

### Special Handling (if applicable)

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

Person Notified:

Date:

By Whom:

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

17. Additional remarks:

### 18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.9	Good	Yes			

Client: BLAGB Engineering Inc.  
BP America

Mailing Address: P.O. Box 87  
Bloomfield NM 87413

Phone #: 505-320-1183

email or Fax#: \_\_\_\_\_

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

Accreditation

☐ NELAP ☐ Other \_\_\_\_\_

☐ EDD (Type) \_\_\_\_\_

ASAP  
SAME DAY

☐ Standard ☒ Rush

BARRETT A LS 1E

Project #:

**Project Manager:**

**Sampler:**

On Ice ☒ Yes ☐ No

Sample Temperature: 7

Container Type and #	Material	Quantity	Weight	Volume	Notes
1	...	...	...	...	...
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Preservative  
Type

# HEAL Nö

1407616

-001

[illegible]

Date:	Time:	Relinquished by:
-------	-------	------------------

7/14/14	1616	J-H Bogg
Date:	Time:	Relinquished by:

Date:	Time:	Relinquished by:
-------	-------	------------------

7/14/14	1910	Ant Uale
---------	------	----------

Received by:

Received by: Christine Waechter

Received by:

07/15/14 0750

Date	Time
------	------

Remarks:

Bill Blagg

BP Contact



[www.hallenvironmental.com](http://www.hallenvironmental.com)

4901 Hawkins NE - Albuquerque, NM 87109

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

## Analysis Request

X	BTEX + <del>MTBE</del> + THMs (8021)
	BTEX + MTBE + TPH (Gas only)
X	TPH 8015B (GRO / DRO / <del>THPs</del> )
	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)
X	CHLORIDE
	Air Rubbles (Y or N)

**Analytical Report**

Lab Order 1407704

Date Reported: 7/21/2014

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Blagg Engineering**Client Sample ID:** North Wall @ 10'**Project:** Barrett A LS 1E**Collection Date:** 7/15/2014 2:02:00 PM**Lab ID:** 1407704-001**Matrix:** SOIL**Received Date:** 7/16/2014 8:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	2700	100		mg/Kg	10	7/16/2014 12:16:24 PM	14245
Surr: DNOP	0	57.9-140	S	%REC	10	7/16/2014 12:16:24 PM	14245
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	1200	99		mg/Kg	20	7/16/2014 12:38:00 PM	R19921
Surr: BFB	359	80-120	S	%REC	20	7/16/2014 12:38:00 PM	R19921
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	0.54	0.49		mg/Kg	20	7/16/2014 12:38:00 PM	R19921
Toluene	10	0.99		mg/Kg	20	7/16/2014 12:38:00 PM	R19921
Ethylbenzene	5.9	0.99		mg/Kg	20	7/16/2014 12:38:00 PM	R19921
Xylenes, Total	60	2.0		mg/Kg	20	7/16/2014 12:38:00 PM	R19921
Surr: 4-Bromofluorobenzene	149	80-120	S	%REC	20	7/16/2014 12:38:00 PM	R19921
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JRR</b>
Chloride	ND	30		mg/Kg	20	7/16/2014 11:38:00 AM	14251

Note: This sample tested a field OVM of 446 ppm and was submitted for laboratory testing to determine a correlation between field OVM readings and laboratory TPH/BTEX. This north wall was subsequently excavated and removed.

jeff blagg

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

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

**Analytical Report**

Lab Order 1407704

Date Reported: 7/21/2014

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Blagg Engineering**Client Sample ID:** NW Corner @ 20'**Project:** Barrett A LS 1E**Collection Date:** 7/15/2014 2:04:00 PM**Lab ID:** 1407704-002**Matrix:** SOIL**Received Date:** 7/16/2014 8:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	7/16/2014 12:47:31 PM	14245
Surr: DNOP	84.4	57.9-140		%REC	1	7/16/2014 12:47:31 PM	14245
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.4		mg/Kg	1	7/16/2014 10:07:12 AM	R19921
Surr: BFB	89.5	80-120		%REC	1	7/16/2014 10:07:12 AM	R19921
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.054		mg/Kg	1	7/16/2014 10:07:12 AM	R19921
Toluene	ND	0.054		mg/Kg	1	7/16/2014 10:07:12 AM	R19921
Ethylbenzene	ND	0.054		mg/Kg	1	7/16/2014 10:07:12 AM	R19921
Xylenes, Total	ND	0.11		mg/Kg	1	7/16/2014 10:07:12 AM	R19921
Surr: 4-Bromofluorobenzene	97.1	80-120		%REC	1	7/16/2014 10:07:12 AM	R19921
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JRR</b>
Chloride	34	30		mg/Kg	20	7/16/2014 12:15:13 PM	14251

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

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

**Analytical Report**Lab Order **1407704**

Date Reported: 7/21/2014

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Blagg Engineering**Client Sample ID:** East Wall @ 8'**Project:** Barrett A LS 1E**Collection Date:** 7/15/2014 2:09:00 PM**Lab ID:** 1407704-003**Matrix:** SOIL**Received Date:** 7/16/2014 8:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	7/16/2014 1:18:43 PM	14245
Surr: DNOP	84.4	57.9-140		%REC	1	7/16/2014 1:18:43 PM	14245
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.3		mg/Kg	1	7/16/2014 10:37:25 AM	R19921
Surr: BFB	90.4	80-120		%REC	1	7/16/2014 10:37:25 AM	R19921
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.043		mg/Kg	1	7/16/2014 10:37:25 AM	R19921
Toluene	ND	0.043		mg/Kg	1	7/16/2014 10:37:25 AM	R19921
Ethylbenzene	ND	0.043		mg/Kg	1	7/16/2014 10:37:25 AM	R19921
Xylenes, Total	ND	0.086		mg/Kg	1	7/16/2014 10:37:25 AM	R19921
Surr: 4-Bromofluorobenzene	98.6	80-120		%REC	1	7/16/2014 10:37:25 AM	R19921
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JRR</b>
Chloride	ND	30		mg/Kg	20	7/16/2014 12:27:38 PM	14251

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

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

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1407704

21-Jul-14

Client: Blagg Engineering

Project: Barrett A LS 1E

Sample ID	MB-14251	SampType:	MBLK		TestCode:	EPA Method 300.0: Anions				
Client ID:	PBS	Batch ID:	14251		RunNo:	19944				
Prep Date:	7/16/2014	Analysis Date:	7/16/2014		SeqNo:	579600	Units:	mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-14251		SampType:	LCS		TestCode:	EPA Method 300.0: Anions				
Client ID:	LCSS		Batch ID:	14251		RunNo:	19944				
Prep Date:	7/16/2014		Analysis Date:	7/16/2014		SeqNo:	579601		Units:	mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Chloride	14	1.5	15.00	0	91.3	90	110				

## Qualifiers:

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

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1407704

21-Jul-14

Client: Blagg Engineering

Project: Barrett A LS 1E

Sample ID	MB-14245	SampType:	MBLK	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	14245	RunNo:	19918					
Prep Date:	7/16/2014	Analysis Date:	7/16/2014	SeqNo:	578836	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	9.2		10.00		91.5	57.9	140			

Sample ID	LCS-14245	SampType:	LCS	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	14245	RunNo:	19918					
Prep Date:	7/16/2014	Analysis Date:	7/16/2014	SeqNo:	578862	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	54	10	50.00	0	108	68.6	130			
Surr: DNOP	4.1		5.000		82.6	57.9	140			

Sample ID	MB-14274	SampType:	MBLK	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	14274	RunNo:	19943					
Prep Date:	7/17/2014	Analysis Date:	7/17/2014	SeqNo:	580659	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	7.7		10.00		76.8	57.9	140			

Sample ID	LCS-14274	SampType:	LCS	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	14274	RunNo:	19943					
Prep Date:	7/17/2014	Analysis Date:	7/17/2014	SeqNo:	580660	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	3.9		5.000		77.7	57.9	140			

### Qualifiers:

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

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



# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1407704

21-Jul-14

Client: Blagg Engineering

Project: Barrett A LS IE

Sample ID	MB-14230 MK	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	R19921	RunNo:	19921					
Prep Date:		Analysis Date:	7/16/2014	SeqNo:	579280	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	960		1000		95.7	80	120			

Sample ID	LCS-14230 MK	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	R19921	RunNo:	19921					
Prep Date:		Analysis Date:	7/16/2014	SeqNo:	579286	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	89.1	71.7	134			
Surr: BFB	1000		1000		104	80	120			

Sample ID	MB-14250 MK	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	R19948	RunNo:	19948					
Prep Date:		Analysis Date:	7/17/2014	SeqNo:	580277	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	900		1000		89.9	80	120			

Sample ID	LCS-14250 MK	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	R19948	RunNo:	19948					
Prep Date:		Analysis Date:	7/17/2014	SeqNo:	580278	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	950		1000		95.1	80	120			

Sample ID	MB-14250	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	14250	RunNo:	19948					
Prep Date:	7/16/2014	Analysis Date:	7/17/2014	SeqNo:	580281	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	900		1000		89.9	80	120			

Sample ID	LCS-14250	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	14250	RunNo:	19948					
Prep Date:	7/16/2014	Analysis Date:	7/17/2014	SeqNo:	580282	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	950		1000		95.1	80	120			

### Qualifiers:

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

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

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1407704

21-Jul-14

Client: Blagg Engineering

Project: Barrett A LS 1E

Sample ID	MB-14230 MK		SampType:	MBLK		TestCode:	EPA Method 8021B: Volatiles				
Client ID:	PBS		Batch ID:	R19921		RunNo:	19921				
Prep Date:			Analysis Date:	7/16/2014		SeqNo:	579349		Units: mg/Kg		
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	1.1		1.000		109	80	120				

Sample ID	MB-14250 MK		SampType:	MBLK		TestCode:	EPA Method 8021B: Volatiles				
Client ID:	PBS		Batch ID:	R19948		RunNo:	19948				
Prep Date:			Analysis Date:	7/17/2014		SeqNo:	580348		Units: %REC		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Surr: 4-Bromofluorobenzene	1.0		1.000		100	80	120				

Sample ID	LCS-14250 MK	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	R19948	RunNo:	19948					
Prep Date:		Analysis Date:	7/17/2014	SeqNo:	580349	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.0		1.000		103	80	120			

Sample ID	LCS-14230 MK		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS		Batch ID: R19921		RunNo: 19948					
Prep Date:			Analysis Date: 7/17/2014		SeqNo: 580359		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	103	80	120			
Toluene	1.0	0.050	1.000	0	99.8	80	120			
Ethylbenzene	0.99	0.050	1.000	0	99.2	80	120			
Xylenes, Total	3.0	0.10	3.000	0	101	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		107	80	120			

## Qualifiers:

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

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

# Sample Log-In Check List

Client Name: **BLAGG**

Work Order Number: **1407704**

RcptNo: **1**

Received by/date:

*AT 07/16/14*

Logged By: **Anne Thorne**

7/16/2014 8:10:00 AM

*Anne Thorne*

Completed By: **Anne Thorne**

7/16/2014

*Anne Thorne*

Reviewed By:

*AT 07/16/14*

## Chain of Custody

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

## Log In

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

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

## Special Handling (if applicable)

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

Person Notified:

Date:

By Whom:

Via:

☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

17. Additional remarks:

## 18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.4	Good	Yes			

Client: BLAG Engineering Inc.  
BP America

Mailing Address: P.O. Box 87  
Bloomfield NM 87413

Phone #: 505-320-1183

email or Fax#:

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

Accreditation

☐ NELAP ☐ Other \_\_\_\_\_

☐ EDD (Type) \_\_\_\_\_

Project Name: BARRETT A LS 1E

Project #:	
------------	--

Project Manager:  
J. Blagg

Sampler: J. Black  
 On Ice: ☒ Yes ☐ No

Sample Temperature: 14

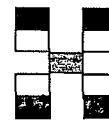
Container Type and # <i>Wollard</i> <i>mech rts</i>	Preservative Type	HEAL No. <i>1407704</i>
--	----------------------	----------------------------

402 x 1	COOL	-CU
11	11	002
11	11	003




Received by:	Date	Time
Christa Wade	7/5/14	1540
Received by:	Date	Time
[Signature]	07/16/14	0

contracted to other accredited laboratories. This serves as notice of the



[www.hallenvironmental.com](http://www.hallenvironmental.com)

4901 Hawkins NE - Albuquerque, NM 87109

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

## Analysis Request

		X	X	X	BTEX + <del>MTBE</del> + <del>TMBEs</del> (8021)
					BTEX + MTBE + TPH (Gas only)
		X	x	X	TPH 8015B (GRO / DRO / <del>MTBE</del> )
					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)
		X	X	X	CHLORIDE
					Air Rubbles (Y or N)

Date: 2/5/2014	Time: 1540	Relinquished by: Jeff Blagg
----------------	------------	-----------------------------

Date:	Time:	Relinquished by:
1/5/14	1800	Christine Walton

Received by: Christa Davis Date 2/15/14 Time 1:54

Received by: *[Signature]* Date: 07/16/14 Time: *0*

Remarks: Bill Blabl

8/10 BP contact Jeff Peace

## Analytical Report

Lab Order 1407774

Date Reported: 7/22/2014

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Client Sample ID: N Wall 3-pt @ 8'

Project: BARRETT A 1E

Collection Date: 7/16/2014 1:01:00 PM

Lab ID: 1407774-001

Matrix: SOIL

Received Date: 7/17/2014 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	7/17/2014 12:00:39 PM	14274
Surr: DNOP	85.9	57.9-140		%REC	1	7/17/2014 12:00:39 PM	14274
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.5		mg/Kg	1	7/17/2014 12:10:21 PM	R19948
Surr: BFB	87.4	80-120		%REC	1	7/17/2014 12:10:21 PM	R19948
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.045		mg/Kg	1	7/17/2014 12:10:21 PM	R19948
Toluene	ND	0.045		mg/Kg	1	7/17/2014 12:10:21 PM	R19948
Ethylbenzene	ND	0.045		mg/Kg	1	7/17/2014 12:10:21 PM	R19948
Xylenes, Total	ND	0.089		mg/Kg	1	7/17/2014 12:10:21 PM	R19948
Surr: 4-Bromofluorobenzene	95.0	80-120		%REC	1	7/17/2014 12:10:21 PM	R19948
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JRR</b>
Chloride	ND	30		mg/Kg	20	7/17/2014 12:15:20 PM	14278

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

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

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Blagg Engineering      Client Sample ID: Center Source @ 20'  
 Project: BARRETT A 1E      Collection Date: 7/16/2014 1:16:00 PM  
 Lab ID: 1407774-002      Matrix: SOIL      Received Date: 7/17/2014 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	7/17/2014 12:22:03 PM	14274
Surr: DNOP	80.8	57.9-140		%REC	1	7/17/2014 12:22:03 PM	14274
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/17/2014 12:38:57 PM	R19948
Surr: BFB	106	80-120		%REC	1	7/17/2014 12:38:57 PM	R19948
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.050		mg/Kg	1	7/17/2014 12:38:57 PM	R19948
Toluene	ND	0.050		mg/Kg	1	7/17/2014 12:38:57 PM	R19948
Ethylbenzene	ND	0.050		mg/Kg	1	7/17/2014 12:38:57 PM	R19948
Xylenes, Total	ND	0.10		mg/Kg	1	7/17/2014 12:38:57 PM	R19948
Surr: 4-Bromofluorobenzene	107	80-120		%REC	1	7/17/2014 12:38:57 PM	R19948
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JRR</b>
Chloride	49	30		mg/Kg	20	7/17/2014 12:27:45 PM	14278

Note: This sample collected at same location as 7/14/2014 sample (which was labelled at 19 foot depth, but subsequently determined to be from a depth of 17')

jeff blagg

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

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

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1407774

22-Jul-14

Client: Blagg Engineering

Project: BARRETT A 1E

Sample ID	MB-14278	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	14278	RunNo:	19973					
Prep Date:	7/17/2014	Analysis Date:	7/17/2014	SeqNo:	580401	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-14278			SampType:	LCS		TestCode:	EPA Method 300.0: Anions			
Client ID:	LCSS			Batch ID:	14278		RunNo:	19973			
Prep Date:	7/17/2014			Analysis Date:	7/17/2014		SeqNo:	580402		Units:	mg/Kg
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Chloride	14	1.5	15.00	0	92.7	90	110				

## Qualifiers:

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

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

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1407774

22-Jul-14

Client: Blagg Engineering

Project: BARRETT A IE

Sample ID	MB-14274	SampType:	MBLK	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	14274	RunNo:	19943					
Prep Date:	7/17/2014	Analysis Date:	7/17/2014	SeqNo:	580659	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	7.7		10.00		76.8	57.9	140			

Sample ID	LCS-14274	SampType:	LCS	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	14274	RunNo:	19943					
Prep Date:	7/17/2014	Analysis Date:	7/17/2014	SeqNo:	580660	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	93.1	68.6	130			
Surr: DNOP	3.9		5.000		77.7	57.9	140			

## Qualifiers:

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

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



# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1407774

22-Jul-14

Client: Blagg Engineering  
Project: BARRETT A 1E

Sample ID	MB-14250 MK	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	R19948	RunNo:	19948					
Prep Date:		Analysis Date:	7/17/2014	SeqNo:	580277	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	900		1000		89.9	80	120			

Sample ID	LCS-14250 MK	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	R19948	RunNo:	19948					
Prep Date:		Analysis Date:	7/17/2014	SeqNo:	580278	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	92.6	71.7	134			
Surr: BFB	950		1000		95.1	80	120			

Sample ID	MB-14250	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	14250	RunNo:	19948					
Prep Date:	7/16/2014	Analysis Date:	7/17/2014	SeqNo:	580281	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	900		1000		89.9	80	120			

Sample ID	LCS-14250	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	14250	RunNo:	19948					
Prep Date:	7/16/2014	Analysis Date:	7/17/2014	SeqNo:	580282	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	950		1000		95.1	80	120			

### Qualifiers:

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

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1407774

22-Jul-14

Client: Blagg Engineering

Project: BARRETT A 1E

Sample ID	MB-14250 MK		SampType:	MBLK		TestCode:	EPA Method 8021B: Volatiles				
Client ID:	PBS		Batch ID:	R19948		RunNo:	19948				
Prep Date:			Analysis Date:	7/17/2014		SeqNo:	580348		Units:	mg/Kg	
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	1.0		1.000		100	80	120				

Sample ID	LCS-14250 MK		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS		Batch ID: R19948		RunNo: 19948					
Prep Date:			Analysis Date: 7/17/2014		SeqNo: 580349		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.050	1.000	0	98.8	80	120			
Toluene	0.95	0.050	1.000	0	94.9	80	120			
Ethylbenzene	0.96	0.050	1.000	0	95.5	80	120			
Xylenes, Total	2.9	0.10	3.000	0	97.1	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  
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

# Sample Log-In Check List

Client Name: **BLAGG**

Work Order Number: **1407774**

RcptNo: **1**

Received by/date: AS 07/17/14

Logged By: **Anne Thorne** 7/17/2014 7:40:00 AM

Completed By: **Anne Thorne** 7/17/2014

Reviewed By: [Signature] 07/17/14

[Signature]  
[Signature]

## Chain of Custody

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

## Log In

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

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

## Special Handling (if applicable)

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

Person Notified: \_\_\_\_\_ Date: \_\_\_\_\_  
By Whom: \_\_\_\_\_ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person  
Regarding: \_\_\_\_\_  
Client Instructions: \_\_\_\_\_

17. Additional remarks:

## 18. Cooler Information

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

<b>Chain-of-Custody Record</b>		Turn-Around Time: <u>ASAP</u> <u>SAME Day</u>
Client: <u>BLAGG ENGINEERING Inc.</u> <u>BP America</u>		<input type="checkbox"/> Standard <input checked="" type="checkbox"/> Rush
Mailing Address: <u>P.O. Box 87</u> <u>Bloomfield NM 87413</u>		Project Name: <u>BARRETT A 1E</u>
Phone #: <u>505-320-1183</u>		Project #:
email or Fax#:		Project Manager: <u>J. Blagg</u>
QA/QC Package: <input checked="" type="checkbox"/> Standard <input type="checkbox"/> Level 4 (Full Validation)		Sampler: <u>J. Blagg</u>
Accreditation <input type="checkbox"/> NELAP <input type="checkbox"/> Other _____		On Ice: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> EDD (Type) _____		Sample Temperature: <u>40</u>

ASAP  
Same Day

☐ Standard ☒ Rush

Project Name:

BARRETT A IE

Project #:

**Project Manager:**

J. Beab

Sampler: J-B1-99

On Ice: ☒ Yes ☐ No

Sample Temperature.	4
---------------------	---

~~At~~ 7/17/14  
 Container  
 Type and #  
 Meott

Preservative  
Type

HEAL No

1407774

4 oz x 1	Calc
----------	------

70

11	11
----	----

-212

A 3x3 grid of squares. The central square is shaded with a stippled pattern. The four squares immediately adjacent to the center (top, bottom, left, and right) are white. The four corner squares (top-left, top-right, bottom-left, and bottom-right) are shaded solid black.

[www.hallenvironmental.com](http://www.hallenvironmental.com)

4901 Hawkins NE - Albuquerque, NM 87109

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

## Analysis Request

[illegible]

Date:	Time:	Relinquished by:	Received by:	Date	Time
7/16/14	1605	July Blogg	Chad Warden	7/16/14	1605
Date:	Time:	Relinquished by:	Received by:	Date	Time
7/16/14	1749	Christine Warden	Chad Warden	07/16/14	0740

Remarks: Bill Beab

BP Contact: J. Peace

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.

**Analytical Report**

Lab Order 1407981

Date Reported: 7/25/2014

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Blagg Engineering**Client Sample ID:** West Wall 4-pt 8'-15'**Project:** Barrett A 1E**Collection Date:** 7/18/2014 1:55:00 PM**Lab ID:** 1407981-001**Matrix:** SOIL**Received Date:** 7/22/2014 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	7/22/2014 11:06:17 AM	14345
Surr: DNOP	77.0	57.9-140		%REC	1	7/22/2014 11:06:17 AM	14345
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.5		mg/Kg	1	7/22/2014 9:24:53 AM	R20059
Surr: BFB	84.5	80-120		%REC	1	7/22/2014 9:24:53 AM	R20059
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.045		mg/Kg	1	7/22/2014 9:24:53 AM	R20059
Toluene	ND	0.045		mg/Kg	1	7/22/2014 9:24:53 AM	R20059
Ethylbenzene	ND	0.045		mg/Kg	1	7/22/2014 9:24:53 AM	R20059
Xylenes, Total	ND	0.090		mg/Kg	1	7/22/2014 9:24:53 AM	R20059
Surr: 4-Bromofluorobenzene	98.8	80-120		%REC	1	7/22/2014 9:24:53 AM	R20059
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JRR</b>
Chloride	69	30		mg/Kg	20	7/22/2014 11:48:36 AM	14352

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

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

**Analytical Report**

Lab Order 1407981

Date Reported: 7/25/2014

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Blagg Engineering**Client Sample ID:** North Wall 2-pt 15'-18'**Project:** Barrett A 1E**Collection Date:** 7/18/2014 2:05:00 PM**Lab ID:** 1407981-002**Matrix:** SOIL**Received Date:** 7/22/2014 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	7/22/2014 11:27:50 AM	14345
Surr: DNOP	75.4	57.9-140		%REC	1	7/22/2014 11:27:50 AM	14345
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	7/22/2014 9:55:02 AM	R20059
Surr: BFB	85.1	80-120		%REC	1	7/22/2014 9:55:02 AM	R20059
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.050		mg/Kg	1	7/22/2014 9:55:02 AM	R20059
Toluene	ND	0.050		mg/Kg	1	7/22/2014 9:55:02 AM	R20059
Ethylbenzene	ND	0.050		mg/Kg	1	7/22/2014 9:55:02 AM	R20059
Xylenes, Total	ND	0.10		mg/Kg	1	7/22/2014 9:55:02 AM	R20059
Surr: 4-Bromofluorobenzene	101	80-120		%REC	1	7/22/2014 9:55:02 AM	R20059
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JRR</b>
Chloride	170	30		mg/Kg	20	7/22/2014 12:25:51 PM	14352

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

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

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1407981

25-Jul-14

Client: Blagg Engineering

Project: Barrett A 1E

Sample ID	MB-14352	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	14352	RunNo:	20077					
Prep Date:	7/22/2014	Analysis Date:	7/22/2014	SeqNo:	583605	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-14352	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	14352	RunNo:	20077					
Prep Date:	7/22/2014	Analysis Date:	7/22/2014	SeqNo:	583606	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.1	90	110			

## Qualifiers:

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

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1407981

25-Jul-14

Client: Blagg Engineering

Project: Barrett A 1E

Sample ID	MB-14345	SampType:	MBLK	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	14345	RunNo:	20046					
Prep Date:	7/22/2014	Analysis Date:	7/22/2014	SeqNo:	582880	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	6.5		10.00		64.7	57.9	140			

Sample ID	LCS-14345	SampType:	LCS	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	14345	RunNo:	20046					
Prep Date:	7/22/2014	Analysis Date:	7/22/2014	SeqNo:	582881	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	94.1	68.6	130			
Surr: DNOP	3.4		5.000		68.1	57.9	140			

Sample ID	MB-14374	SampType:	MBLK	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	14374	RunNo:	20083					
Prep Date:	7/23/2014	Analysis Date:	7/23/2014	SeqNo:	583900	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.0		10.00		80.4	57.9	140			

Sample ID	LCS-14374	SampType:	LCS	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	14374	RunNo:	20083					
Prep Date:	7/23/2014	Analysis Date:	7/23/2014	SeqNo:	583901	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	3.8		5.000		77.0	57.9	140			

### Qualifiers:

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

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



# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1407981

25-Jul-14

Client: Blagg Engineering

Project: Barrett A 1E

Sample ID	MB-14325 MK	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	R20059	RunNo:	20059					
Prep Date:		Analysis Date:	7/22/2014	SeqNo:	583538	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	840		1000		83.7	80	120			

Sample ID	LCS-14325 MK	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	R20059	RunNo:	20059					
Prep Date:		Analysis Date:	7/22/2014	SeqNo:	583539	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	95.7	71.7	134			
Surr: BFB	920		1000		92.2	80	120			

## Qualifiers:

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

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

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1407981

25-Jul-14

Client: Blagg Engineering

Project: Barrett A 1E

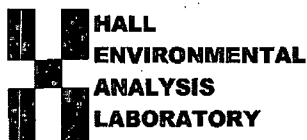
Sample ID	MB-14325 MK	SampType:	MBLK		TestCode:	EPA Method 8021B: Volatiles				
Client ID:	PBS	Batch ID:	R20059		RunNo:	20059				
Prep Date:		Analysis Date:	7/22/2014		SeqNo:	583676		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.97		1.000		96.7	80	120			

Sample ID	LCS-14325 MK		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS		Batch ID: R20059		RunNo: 20059					
Prep Date:	7/21/2014		Analysis Date: 7/22/2014		SeqNo: 583677		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.93	0.050	1.000	0	93.1	80	120			
Toluene	0.92	0.050	1.000	0	91.7	80	120			
Ethylbenzene	0.94	0.050	1.000	0	93.8	80	120			
Xylenes, Total	2.9	0.10	3.000	0	97.7	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		108	80	120			

## Qualifiers:

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

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



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

## Sample Log-In Check List

Client Name: BLAGG

Work Order Number: 1407981

RcptNo: 1

Received by/date:	CS	07/22/14
Logged By:	Celina Sessa	7/22/2014 8:00:00 AM
Completed By:	Celina Sessa	7/22/2014 8:23:13 AM
Reviewed By:	IO	07/22/2014

### Chain of Custody

- |  |   |                             |   |
|--|---|-----------------------------|---|
| 1. Custody seals intact on sample bottles? | Yes <input type="checkbox"/>            | No <input type="checkbox"/> | Not Present <input checked="" type="checkbox"/> |
| 2. Is Chain of Custody complete?           | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Not Present <input type="checkbox"/>            |
| 3. How was the sample delivered?           | Courier                                 |                             |   |

### Log In

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

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

### Special Handling (if applicable)

- |   |                              |                             |  |
|---|------------------------------|-----------------------------|--|
| 16. Was client notified of all discrepancies with this order? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | NA <input checked="" type="checkbox"/> |
|---|------------------------------|-----------------------------|--|

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:	

17. Additional remarks:

### 18. Cooler Information

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

Client: Black Engineering Inc.  
BP AMERICA

Mailing Address: P.O. Box 87  
Bloomfield NM 87413

Phone #: 505-320-1183

email or Fax#:

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

Accreditation

☐ NELAP ☐ Other \_\_\_\_\_

☐ EDD (Type) \_\_\_\_\_

BY TUES  
7/22/2014

☐ Standard ☒ Rush

Project Name:

Barrett A 1E

Project #:

**Project Manager:**

J. Blagg

Sampler: J. Blagg

On Ice: ☒ Yes ☐ No

Sample Temperature: 118°

[illegible]

Date: 7/13/14	Time: 2000	Relinquished by: Jeff Blegg	Received by: Christine White	Date 7/18/14	Time 2000
Date: 7/21/14	Time: 1829	Relinquished by: Christine White	Received by: Celine Sme	Date 07/22/14	Time 0800

Remarks:	Bill Biabb
----------	------------



## HALL ENVIRONMENTAL ANALYSIS LABORATORY

[www.hallenvironmental.com](http://www.hallenvironmental.com)

4901 Hawkins NE - Albuquerque, NM 87109

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

## Analysis Request

	X	X	BTEX + <del>MTBE</del> + <del>TBES</del> 's (8021)
			BTEX + MTBE + TPH (Gas only)
	X	X	TPH 8015B (GRO / DRO / <del>MBO</del> )
			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)
	X	X	<i>CHLORIDE</i>
			Air Bubbles (Y or N)

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.

## Analytical Report

Lab Order 1407A36

Date Reported: 7/28/2014

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Client Sample ID: SW Corner 2-pt @ 8'-18'

Project: Barrett A 1E

Collection Date: 7/21/2014 1:10:00 PM

Lab ID: 1407A36-001

Matrix: SOIL

Received Date: 7/23/2014 7:56:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: BCN
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	7/23/2014 11:42:56 AM	14374
Surr: DNOP	84.9	57.9-140		%REC	1	7/23/2014 11:42:56 AM	14374
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: DJF
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/23/2014 12:06:06 PM	R20101
Surr: BFB	86.1	80-120		%REC	1	7/23/2014 12:06:06 PM	R20101
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: DJF
Benzene	ND	0.049		mg/Kg	1	7/23/2014 12:06:06 PM	R20101
Toluene	ND	0.049		mg/Kg	1	7/23/2014 12:06:06 PM	R20101
Ethylbenzene	ND	0.049		mg/Kg	1	7/23/2014 12:06:06 PM	R20101
Xylenes, Total	ND	0.097		mg/Kg	1	7/23/2014 12:06:06 PM	R20101
Surr: 4-Bromofluorobenzene	95.0	80-120		%REC	1	7/23/2014 12:06:06 PM	R20101
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: JRR
Chloride	ND	30		mg/Kg	20	7/23/2014 11:49:38 AM	14378

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

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

**Analytical Report**

Lab Order 1407A36

Date Reported: 7/28/2014

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Blagg Engineering**Project:** Barrett A 1E**Lab ID:** 1407A36-002**Matrix:** SOIL**Client Sample ID:** E Wall 3-pt @ 8'-18'**Collection Date:** 7/22/2014 11:44:00 AM**Received Date:** 7/23/2014 7:56:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	7/23/2014 1:24:51 PM	14374
Surr: DNOP	79.8	57.9-140		%REC	1	7/23/2014 1:24:51 PM	14374
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	4.2		mg/Kg	1	7/23/2014 12:34:42 PM	R20101
Surr: BFB	86.0	80-120		%REC	1	7/23/2014 12:34:42 PM	R20101
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>DJF</b>
Benzene	ND	0.042		mg/Kg	1	7/23/2014 12:34:42 PM	R20101
Toluene	ND	0.042		mg/Kg	1	7/23/2014 12:34:42 PM	R20101
Ethylbenzene	ND	0.042		mg/Kg	1	7/23/2014 12:34:42 PM	R20101
Xylenes, Total	ND	0.084		mg/Kg	1	7/23/2014 12:34:42 PM	R20101
Surr: 4-Bromofluorobenzene	94.6	80-120		%REC	1	7/23/2014 12:34:42 PM	R20101
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JRR</b>
Chloride	55	30		mg/Kg	20	7/23/2014 12:26:53 PM	14378

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

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

**Analytical Report**Lab Order **1407A36**Date Reported: **7/28/2014****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Blagg Engineering**Client Sample ID:** S Wall 3-pt @ 8'-18'**Project:** Barrett A 1E**Collection Date:** 7/22/2014 11:48:00 AM**Lab ID:** 1407A36-003**Matrix:** SOIL**Received Date:** 7/23/2014 7:56:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	7/23/2014 1:46:26 PM	14374
Surr: DNOP	76.4	57.9-140		%REC	1	7/23/2014 1:46:26 PM	14374
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	7/23/2014 1:03:22 PM	R20101
Surr: BFB	87.0	80-120		%REC	1	7/23/2014 1:03:22 PM	R20101
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>DJF</b>
Benzene	ND	0.034		mg/Kg	1	7/23/2014 1:03:22 PM	R20101
Toluene	ND	0.034		mg/Kg	1	7/23/2014 1:03:22 PM	R20101
Ethylbenzene	ND	0.034		mg/Kg	1	7/23/2014 1:03:22 PM	R20101
Xylenes, Total	ND	0.067		mg/Kg	1	7/23/2014 1:03:22 PM	R20101
Surr: 4-Bromofluorobenzene	94.9	80-120		%REC	1	7/23/2014 1:03:22 PM	R20101
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JRR</b>
Chloride	ND	30		mg/Kg	20	7/23/2014 12:39:17 PM	14378

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

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

**Analytical Report**Lab Order **1407A36**

Date Reported: 7/28/2014

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Blagg Engineering**Client Sample ID:** Base 3-pt @ 20'**Project:** Barrett A 1E**Collection Date:** 7/22/2014 11:51:00 AM**Lab ID:** 1407A36-004**Matrix:** SOIL**Received Date:** 7/23/2014 7:56:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D: DIESEL RANGE ORGANICS</b>							Analyst: <b>BCN</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	7/23/2014 2:08:11 PM	14374
Surr: DNOP	77.8	57.9-140		%REC	1	7/23/2014 2:08:11 PM	14374
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	46		mg/Kg	10	7/23/2014 1:31:55 PM	R20101
Surr: BFB	85.5	80-120		%REC	10	7/23/2014 1:31:55 PM	R20101
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>DJF</b>
Benzene	ND	0.046		mg/Kg	1	7/23/2014 1:31:55 PM	R20101
Toluene	ND	0.046		mg/Kg	1	7/23/2014 1:31:55 PM	R20101
Ethylbenzene	ND	0.046		mg/Kg	1	7/23/2014 1:31:55 PM	R20101
Xylenes, Total	ND	0.092		mg/Kg	1	7/23/2014 1:31:55 PM	R20101
Surr: 4-Bromofluorobenzene	93.4	80-120		%REC	1	7/23/2014 1:31:55 PM	R20101
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>JRR</b>
Chloride	ND	30		mg/Kg	20	7/23/2014 12:51:41 PM	14378

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

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



# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1407A36

28-Jul-14

Client: Blagg Engineering

Project: Barrett A 1E

Sample ID	MB-14378	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	14378	RunNo:	20105					
Prep Date:	7/23/2014	Analysis Date:	7/23/2014	SeqNo:	584505	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-14378		SampType:	LCS		TestCode:	EPA Method 300.0: Anions				
Client ID:	LCSS		Batch ID:	14378		RunNo:	20105				
Prep Date:	7/23/2014		Analysis Date:	7/23/2014		SeqNo:	584506		Units:	mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Chloride	14	1.5	15.00	0	91.8	90	110				

## Qualifiers:

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

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1407A36

28-Jul-14

Client: Blagg Engineering

Project: Barrett A 1E

Sample ID	MB-14374		SampType:	MBLK		TestCode:	EPA Method 8015D: Diesel Range Organics				
Client ID:	PBS		Batch ID:	14374		RunNo:	20083				
Prep Date:	7/23/2014		Analysis Date:	7/23/2014		SeqNo:	583900		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	ND	10									
Surr: DNOP	8.0		10.00		80.4	57.9	140				

Sample ID	LCS-14374		SampType: LCS		TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 14374		RunNo: 20083					
Prep Date:	7/23/2014		Analysis Date: 7/23/2014		SeqNo: 583901		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	93.8	68.6	130			
Surr: DNOP	3.8		5.000		77.0	57.9	140			

Sample ID	MB-14414		SampType:	MBLK		TestCode:	EPA Method 8015D: Diesel Range Organics				
Client ID:	PBS		Batch ID:	14414		RunNo:	20106				
Prep Date:	7/24/2014		Analysis Date:	7/24/2014		SeqNo:	584672		Units: %REC		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Surr: DNOP	8.9		10.00		89.1	57.9	140				

Sample ID	LCS-14414		SampType: LCS		TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 14414		RunNo: 20106					
Prep Date:	7/24/2014		Analysis Date: 7/24/2014		SeqNo: 584673		Units: %REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.6		5.000		91.5	57.9	140			

Sample ID	MB-14393		SampType:	MBLK		TestCode:	EPA Method 8015D: Diesel Range Organics				
Client ID:	PBS		Batch ID:	14393		RunNo:	20106				
Prep Date:	7/23/2014		Analysis Date:	7/24/2014		SeqNo:	585046		Units: %REC		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Surr: DNOP	9.4		10.00		94.2	57.9	140				

Sample ID	LCS-14393		SampType: LCS		TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 14393		RunNo: 20106					
Prep Date:	7/23/2014		Analysis Date: 7/24/2014		SeqNo: 585047		Units: %REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.9		5.000		97.9	57.9	140			

### Qualifiers:

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

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

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1407A36

28-Jul-14

Client: Blagg Engineering

Project: Barrett A 1E

Sample ID	MB-14359 MK		SampType:	MBLK		TestCode:	EPA Method 8015D: Gasoline Range				
Client ID:	PBS		Batch ID:	R20101		RunNo:	20101				
Prep Date:			Analysis Date:	7/23/2014		SeqNo:	584415		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	ND	5.0									
Surr: BFB	860		1000		86.3	80	120				

Sample ID	LCS-14359 MK		SampType:	LCS		TestCode:	EPA Method 8015D: Gasoline Range				
Client ID:	LCSS		Batch ID:	R20101		RunNo:	20101				
Prep Date:			Analysis Date:	7/23/2014		SeqNo:	584416		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	28	5.0	25.00	0	111	71.7	134				
Surr: BFB	940		1000		93.9	80	120				

## Qualifiers:

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

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

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1407A36

28-Jul-14

Client: Blagg Engineering

Project: Barrett A 1E

Sample ID	MB-14359 MK		SampType:	MBLK		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	PBS		Batch ID:	R20101		RunNo:	20101			
Prep Date:			Analysis Date:	7/23/2014		SeqNo:	584469		Units:	mg/Kg
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	0.96		1.000		95.6	80	120			

Sample ID	LCS-14359 MK		SampType:	LCS		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	LCSS		Batch ID:	R20101		RunNo:	20101			
Prep Date:	7/22/2014		Analysis Date:	7/23/2014		SeqNo:	584470		Units:	mg/Kg
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.3	0.050	1.000	0	125	80	120			S
Toluene	1.1	0.050	1.000	0	110	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	0.97		1.000		96.6	80	120			

Sample ID	1407A36-001AMS		SampType:	MS		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	SW Corner 2-pt @ 8'		Batch ID:	R20101		RunNo:	20101			
Prep Date:			Analysis Date:	7/23/2014		SeqNo:	584472		Units:	mg/Kg
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.2	0.049	0.9747	0	128	77.4	142			
Toluene	1.1	0.049	0.9747	0.006082	111	77	132			
Ethylbenzene	1.0	0.049	0.9747	0	106	77.6	134			
Xylenes, Total	3.1	0.097	2.924	0	106	77.4	132			
Surr: 4-Bromofluorobenzene	0.96		0.9747		98.8	80	120			

Sample ID	1407A36-001AMSD		SampType:	MSD		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	SW Corner 2-pt @ 8'		Batch ID:	R20101		RunNo:	20101			
Prep Date:			Analysis Date:	7/23/2014		SeqNo:	584473		Units:	mg/Kg
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.2	0.049	0.9747	0	121	77.4	142	5.56	20	
Toluene	1.0	0.049	0.9747	0.006082	105	77	132	6.05	20	
Ethylbenzene	0.99	0.049	0.9747	0	102	77.6	134	4.69	20	
Xylenes, Total	3.0	0.097	2.924	0	101	77.4	132	5.31	20	
Surr: 4-Bromofluorobenzene	0.97		0.9747		99.7	80	120	0	0	

## Qualifiers:

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

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



Hall Environmental Analysis Laboratory  
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: **1407A36**

RcptNo: **1**

Received by/date:

*CS 07/23/14*

Logged By: **Anne Thorne**

**7/23/2014 7:56:00 AM**

*Anne Thorne*

Completed By: **Anne Thorne**

**7/23/2014**

*Anne Thorne*

Reviewed By:

*TD*

*07/23/14*

### Chain of Custody

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

### Log In

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

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

### Special Handling (if applicable)

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

Person Notified:

Date

By Whom:

Via:

☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

17. Additional remarks:

### 18. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.1	Good	Yes			

