<u>District I</u> 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

Form C-141 Revised August 8, 2011

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505

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

Release Notification	on and Corrective Action										
OPEI	RATOR Subsequent Report Sinal Report										
Name of Company: BP	Contact: Steve Moskal										
Address: 200 Energy Court, Farmington, NM 87401	Telephone No.: 505-330-9179										
Facility Name: Sammons GC A 001A	Facility Type: Natural gas well										
Surface Owner: Fee Mineral Owner	:: Fee API No. 30-045-22135										
LOCATIO	ON OF RELEASE										
Unit Letter Section Township Range Feet from the North Range Feet from the South South Range Feet from the South Range Fee	th/South Line   Feet from the   East/West Line   County: San Juan   East   East										
<b>Latitude</b> 36.92262° <b>Longitude</b> -107.91809°											
NATURI	E OF RELEASE										
Type of Release: Condensate	Volume of Release: Unknown Volume Recovered: Unknown										
Source of Release: Unknown (near meter run within northwest portion of well pad)	Date and Hour of Occurrence: Date and Hour of Discovery: March 1, 2013										
Was Immediate Notice Given?	If YES, To Whom?										
☐ Yes ☒ No ☐ Not Require											
By Whom?	Date and Hour:										
Was a Watercourse Reached?  ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.										
If a Watercourse was Impacted, Describe Fully.*											
northwest portion of well pad). Two initial soil borings were advanced in 2013. An additional 4 borings were advanced in October 2016. The rectype. The area was excavated and backfilled with clean, imported soils.											
approximately 5 to 35' bgs. Of the eight follow-up delineation soil boring converted into SVE points. A SVE remediation system has been operating 2016; these borings indicate that the SVE is not effective. The area was	s were delineated to be approximately 30'x30' in area with vertical interval impacts ags, four showed hydrocarbon impacts to soil. These same four borings were at location since March 2015. BP advanced an additional 4 borings in October excavated with soils exported off site for landfarm treatment. Clean soil was roximately 40'x40'x34' deep. Attached is documentation of the remedial no further action at the site.										
regulations all operators are required to report and/or file certain release public health or the environment. The acceptance of a C-141 report by t should their operations have failed to adequately investigate and remedi	the best of my knowledge and understand that pursuant to NMOCD rules and notifications and perform corrective actions for releases which may endanger the NMOCD marked as "Final Report" does not relieve the operator of liability at contamination that pose a threat to ground water, surface water, human health does not relieve the operator of responsibility for compliance with any other										
Signature: Muss Muss	OIL CONSERVATION DIVISION										
Printed Name: Steve Moskal	Approved by Environmental Specialist.										
Title: Field Environmental Coordinator	Approval Date: W8 207 Expiration Date:										
E-mail Address: steven.moskal@bp.com	Conditions of Approval:  Attached										
Date: October 9, 2017 Phone: 505-326-9429											
Attach Additional Sheets If Necessary	NC31628620833										

OIL CONS. DIV DIST. 3 OCT 1 0 2017

### Remediation of Hydrocarbon Impacted Soils

Sammons GC A 1A (P) Sec 6 – T31N – R10W API: 30-045-22135 San Juan County, New Mexico

Prepared for: BP America Production Co. Farmington, New Mexico

Prepared by:
Blagg Engineering, Inc.
P.O. Box 87
Bloomfield, New Mexico 87413
(505)632-1199

October 9, 2017

#### SAMMONS GC A 1A

# REMEDIATION OF HYDROCARBON IMPACTED SOILS

#### TABLE OF CONTENTS

Introduction and Site History	1
Excavation Remediation Activities	2
Conclusions and Recommendations	4
Closure and Limitations	4

#### **APPENDICES**

Appendix A: Figures

Figure 1: Site Location Topographic Map

Figure 2: Remedial Excavation

Appendix B: Excavation Closure - Laboratory Analytical Data Reports

#### SAMMONS GC A 1A

# REMEDIATION OF HYDROCARBON IMPACTED SOILS

#### INTRODUCTION AND SITE HISTORY

Blagg Engineering Inc. (BEI) has been retained by BP America Production Co. (BP) to monitor, sample and document environmental remediation of hydrocarbon impacts at the Sammons GC A 1A, a natural gas well located in rural San Juan County, New Mexico at (P) Sec. 6 – T31N – R10W (Figure 1). Impacts near the meter run were first discovered on February 26, 2013 while trenching during a reconfiguration of surface equipment. An initial investigation was immediately started and on March 1, 2013 a mobile drill rig was used to advance 2 borings. This drilling determined that impacts did not extend deeper than approximately 30 feet below grade or travel laterally more than approximately 20 feet from the source. A remedial excavation could not be started do to a third party high pressure natural gas line located only 34' from the estimated impact perimeter. BP elected to remediate the site in-situ. The original source of impacts could not be determined, but may have been from an unlined earthen pit used for fluid disposal, a common practice permitted by both New Mexico Oil Conservation Division (NMOCD) and the U.S. Bureau of Land Management (BLM) until the mid 1990's.

In August, 2013 a mobile drill rig was used to drill 8 borings at the impact site to fully delineate the extent of impacts and for installation of soil vapor extraction (SVE) wells. Four of the borings placed at the outer perimeter of the impact area found no hydrocarbon impacts and were backfilled. An additional 4 borings placed within the impact area were completed as SVE wells. Laboratory analysis of soils collected during the drilling confirmed that impacts ended at a depth of between 30'-40' below grade and did not extend more than approximately 20' laterally from the source.

Electric power to operate the SVE equipment could not be installed until March, 2015 with initial startup on March 16, 2015. The system was run continuously, except for rare electrical disruptions, until October, 2016. On October 13-14, 2016 a geoprobe unit was used to collect soil samples in the impact area for evaluation of residual hydrocarbon content. Laboratory testing determined that the SVE operation had not been successful at significantly reducing hydrocarbon impacts, mainly due to the content of heavy motor oil range organics (with the likely source being paraffin's produced by the gas well). The SVE system was placed back into operation and run until August, 2017 while alternative remedial options were considered.

Remediation via excavation was selected as the best available method to achieve site closure. This work was initiated on August 24, 2017 and completed on completed on September 6, 2017. The documentation for that excavation activity is presented below.

#### **EXCAVATION REMEDIATION ACTIVITIES**

Site remediation consisted of excavation of impacted soils until site closure standards had been achieved. The procedures to carry out these activities are discussed below.

The closure standard for the site as determined by the NMOCD and BLM was based on the potential risk to ground and surface water from hydrocarbon impacts. At this site the closure standard was established as follows:

Total Petroleum Hydrocarbons (TPH) = 100 mg/Kg (parts per million)
Benzene = 10 mg/Kg
Benzene, Toluene, Ethyl-Benzene and Total Xylenes (BTEX) combined = 50 mg/Kg
Total Chlorides = 600 mg/Kg

#### Excavation of Impacted Media to Achieve Site Remediation

Removal of hydrocarbon impacted media began on August 24, 2017 using an excavator to excavate impacted soils. Since the extent of potential impacts (both depth and lateral area) was well documented from previous site drilling the initial impacts to a depth of 15' below grade were removed and those sidewalls were sampled for closure. Following receipt of confirmation laboratory analytical results demonstrating that the shallow sidewalls were within closure standards, the clean outer walls were sloped pursuant to an engineered design to allow the excavation to safely be extended to the total anticipated remediation depth. The excavation advanced until all sampling test results indicated closure was achieved.

Closure sampling was progressive as the excavation advanced. Sampling of the excavation walls and base included collection of composites from each area. Sampling was performed using the excavator trackhoe due to the danger of personnel entering the excavation because of the risk of collapsing sidewalls. All closure sampling was witnessed by the NMOCD. Representative composite portions of sample were placed into a gallon sized Ziploc® baggie for field headspace analysis of organic vapors with a calibrated IonScience Tiger model photo-ionization detector (PID) containing a 11.2 eV lamp. Split samples were placed into a 4-ounce laboratory supplied jar with Teflon® lid, labeled and placed on ice in an ice chest for further laboratory testing. The jarred samples were hand delivered to a representative of Hall Environmental Analytical Laboratories for analysis via U.S. EPA Method 8021B (volatile organics limited to benzene, toluene, ethyl benzene and total xylenes), U.S. EPA Method 8015 (gasoline range (GRO), diesel range (DRO) and motor oil range (MRO) organics), and chlorides via U.S. EPA Method 300. A chain-of-custody followed the samples. Summary laboratory analytical results are included below in Table 1: Summary Excavation Closure Analytical Data. Laboratory test reports are attached in Appendix B. There were a total of 13 separate composite sampling areas.

Table 1

Summary Excavation Closure Laboratory Data

	Samme	in J Encura	Ton Crobare	Laborator	Duta
Sample ID	Date	TPH Total (mg/Kg)	BTEX Total (mg/Kg)	Benzene (mg/Kg)	Comments
1 – East Wall (5-pt. comp) (3'-13')	8/25/2017	ND	ND	ND	
2 – South Wall (5- pt. comp) (3'-13')	8/25/2017	ND	ND	ND	
3 – West Wall (5-pt. comp) (3'-13')	8/25/2017	ND	ND	ND	
4 –North Wall(5-pt. comp) (3'-13')	8/25/2017	ND	ND	ND	
5 – West Wall (5-pt. comp)(17'-28')	8/30/2017	ND	ND	ND	
6 – South Wall, West (3-pt. comp)(17'-28')	8/30/2017	ND	ND	ND	
7 – North Wall, West (3-pt. comp)(17'-28')	8/30/2017	ND	ND	ND	
8 – West Base @-30' (5 pt comp)	8/30/2017	580	ND	ND	Subsequently excavated.
9 – North Wall (5- pt. comp) (17'-28')	8/31/2017	ND	ND	ND	
10 – North Base @ -30' (5-pt comp)	8/31/2017	ND	ND	ND	
11 – Base (5- pt. comp @ 34')	9/6/2017	ND	ND	ND	
12-South Wall (5-pt.comp)(18'-30')	9/6/2017	ND	ND	ND	
13 – East Wall (5- pt. comp) (18'-30')	9/6/2017	ND	ND	ND	
NMOCD/BLM Closure Standard		100	50	10	

#### **CONCLUSIONS AND RECOMMENDATIONS**

Hydrocarbon impacted soil at the BP operated Sammons GC A 1A has been successfully excavated. Excavation sampling and analytical testing has confirmed that the entire remedial excavation sidewalls and base test below site closure standards. Therefore, no additional site remediation of impacts is indicated. Regulatory closure of remedial activities is recommended.

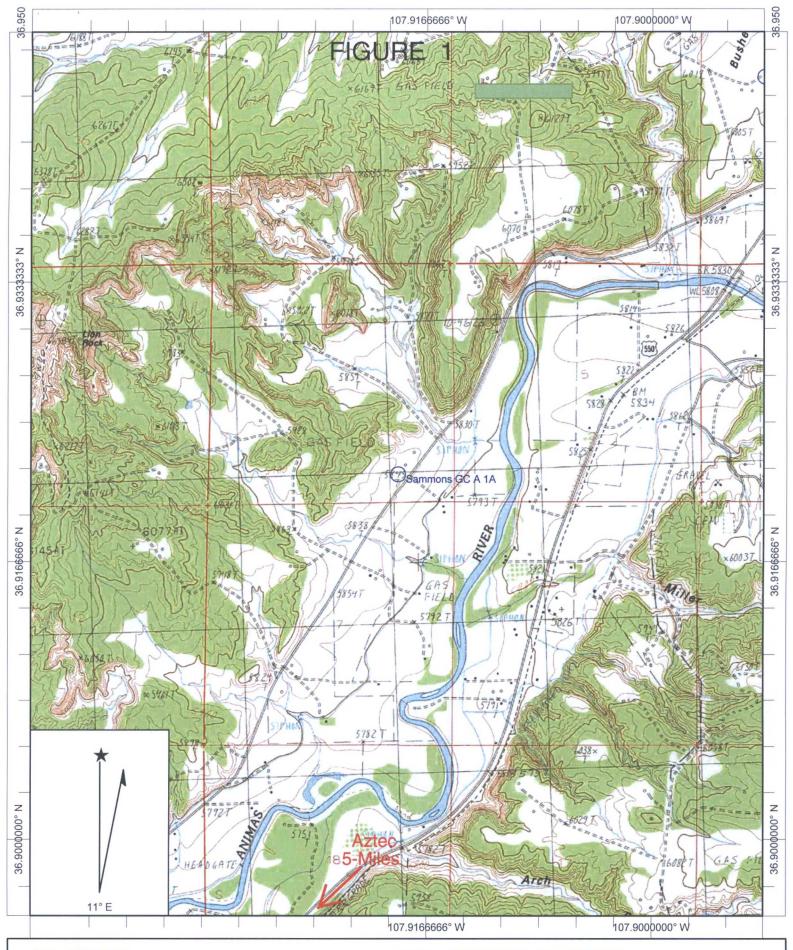
#### **CLOSURE AND LIMITATIONS**

This report has been prepared for the exclusive use of BP America Production Company as it pertains to hydrocarbon impact remediation at the Sammons GC A 1A in San Juan County, New Mexico. The data presented herein is based on visual observations, subsurface soil conditions encountered at sampling locations and on information reported by analytical laboratory testing of soils. This report does not reflect variations which may exist between sampling locations.

I certify that the work performed by Blagg Engineering, Inc. as described in this report was directed by my supervision, and that I am personally familiar with the remedial actions and the contents of this report.

Submitted by: **Blagg Engineering, Inc.** 

Jeffrey C. Blagg, PE NMPE 11607



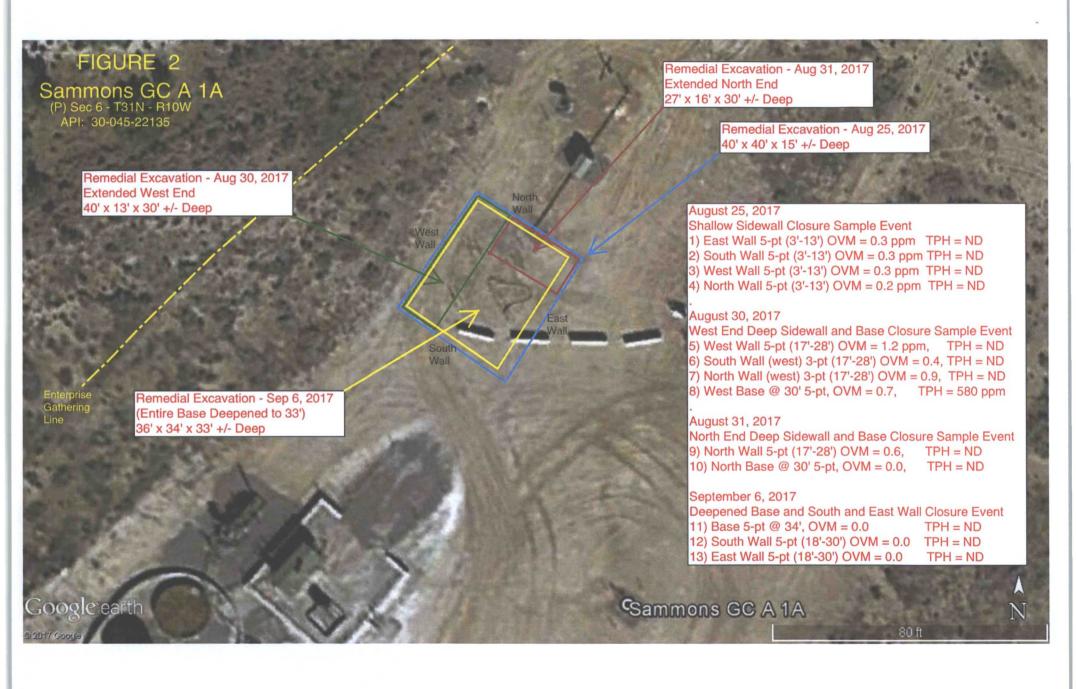
Name: CEDAR HILL

Date: 9/26/2017

Scale: 1 inch equals 2000 feet

Location: 036.9219051° N 107.9188773° W Caption: BP America

Sammons GC A 1A



# Appendix B

## Excavation Closure Laboratory Analytical Data Reports



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

September 01, 2017

Steve Moskal

Blagg Engineering

P. O. Box 87

Bloomfield, NM 87413

TEL: (505) 632-1199

FAX (505) 632-3903

RE: Sammons GC A 1A

OrderNo.: 1708F17

#### Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 4 sample(s) on 8/26/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <a href="www.hallenvironmental.com">www.hallenvironmental.com</a> 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,

Andy Freeman

Laboratory Manager

Only

4901 Hawkins NE

Albuquerque, NM 87109

### Date Reported: 9/1/2017

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Sammons GC A 1A

Project:

Client Sample ID: East Wall 5-pt (3'-13')

Collection Date: 8/25/2017 10:02:00 AM

Lab ID: 1708F17-001 Matrix: MEOH (SOIL) Received Date: 8/26/2017 10:00:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	MRA
Chloride	33	30	mg/Kg	20	8/28/2017 1:28:53 PM	33585
EPA METHOD 8015M/D: DIESEL RANG	SE ORGANICS	S			Analyst	:: TOM
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	8/28/2017 12:17:46 PM	33577
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	8/28/2017 12:17:46 PM	33577
Surr: DNOP	90.3	70-130	%Rec	1	8/28/2017 12:17:46 PM	33577
EPA METHOD 8015D: GASOLINE RAN	GE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	3.2	mg/Kg	1	8/28/2017 10:01:54 AM	G45253
Surr: BFB	76.7	54-150	%Rec	1	8/28/2017 10:01:54 AM	G45253
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	ND	0.016	mg/Kg	1	8/28/2017 10:01:54 AM	B45253
Toluene	ND	0.032	mg/Kg	1	8/28/2017 10:01:54 AM	B45253
Ethylbenzene	ND	0.032	mg/Kg	1	8/28/2017 10:01:54 AM	B45253
Xylenes, Total	ND	0.064	mg/Kg	1	8/28/2017 10:01:54 AM	B45253
Surr: 4-Bromofluorobenzene	114	66.6-132	%Rec	1	8/28/2017 10:01:54 AM	B45253

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 8
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

### Hall Environmental Analysis Laboratory, Inc.

Date Reported: 9/1/2017

**CLIENT:** Blagg Engineering

Client Sample ID: South Wall 5-pt (3'-13')

Project: Sammons GC A 1A

Collection Date: 8/25/2017 10:06:00 AM

Lab ID: 1708F17-002 Matrix: MEOH (SOIL)

Received Date: 8/26/2017 10:00:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	MRA
Chloride	ND	30	mg/Kg	20	8/28/2017 1:41:18 PM	33585
EPA METHOD 8015M/D: DIESEL RANG	E ORGANIC	S			Analyst	TOM
Diesel Range Organics (DRO)	ND	9.5	mg/Kg	1	8/28/2017 12:39:52 PM	33577
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	8/28/2017 12:39:52 PM	33577
Surr: DNOP	93.4	70-130	%Rec	1	8/28/2017 12:39:52 PM	33577
EPA METHOD 8015D: GASOLINE RAN	GE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	3.4	mg/Kg	1	8/28/2017 10:25:48 AM	G45253
Surr: BFB	79.6	54-150	%Rec	1	8/28/2017 10:25:48 AM	G45253
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.017	mg/Kg	1	8/28/2017 10:25:48 AM	B45253
Toluene	ND	0.034	mg/Kg	1	8/28/2017 10:25:48 AM	B45253
Ethylbenzene	ND	0.034	mg/Kg	1	8/28/2017 10:25:48 AM	B45253
Xylenes, Total	ND	0.068	mg/Kg	1	8/28/2017 10:25:48 AM	B45253
Surr: 4-Bromofluorobenzene	118	66.6-132	%Rec	1	8/28/2017 10:25:48 AM	B45253

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

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 2 of 8
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Project:

Sammons GC A 1A

Client Sample ID: West Wall 5-pt (3'-13')

Collection Date: 8/25/2017 10:09:00 AM

Lab ID: 1708F17-003 Matrix: MEOH (SOIL) Received Date: 8/26/2017 10:00:00 AM

Analyses	Result	PQL Qua	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	MRA
Chloride	34	30	mg/Kg	20	8/28/2017 1:53:42 PM	33585
EPA METHOD 8015M/D: DIESEL RANGE	ORGANIC	3			Analyst	TOM
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	8/28/2017 1:02:03 PM	33577
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	8/28/2017 1:02:03 PM	33577
Surr: DNOP	91.7	70-130	%Rec	1	8/28/2017 1:02:03 PM	33577
EPA METHOD 8015D: GASOLINE RANG	E				Analyst	NSB
Gasoline Range Organics (GRO)	ND	3.5	mg/Kg	1	8/28/2017 12:12:20 PM	G45253
Surr: BFB	85.0	54-150	%Rec	1	8/28/2017 12:12:20 PM	G45253
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.018	mg/Kg	1	8/28/2017 12:12:20 PM	B45253
Toluene	ND	0.035	mg/Kg	1	8/28/2017 12:12:20 PM	B45253
Ethylbenzene	ND	0.035	mg/Kg	1	8/28/2017 12:12:20 PM	B45253
Xylenes, Total	ND	0.071	mg/Kg	1	8/28/2017 12:12:20 PM	B45253
Surr: 4-Bromofluorobenzene	115	66.6-132	%Rec	1	8/28/2017 12:12:20 PM	B45253

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

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 3 of 8
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

### Hall Environmental Analysis Laboratory, Inc.

Date Reported: 9/1/2017

**CLIENT:** Blagg Engineering

Client Sample ID: North Wall 5-pt (3'-13')

Project: Sammons GC A 1A

Collection Date: 8/25/2017 10:12:00 AM

Lab ID: 1708F17-004

Matrix: MEOH (SOIL) Received Date: 8/26/2017 10:00:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	MRA
Chloride	36	30	mg/Kg	20	8/28/2017 2:06:07 PM	33585
EPA METHOD 8015M/D: DIESEL RANGE	ORGANIC	S			Analyst:	TOM
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	8/28/2017 1:24:11 PM	33577
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	8/28/2017 1:24:11 PM	33577
Surr: DNOP	95.9	70-130	%Rec	1	8/28/2017 1:24:11 PM	33577
EPA METHOD 8015D: GASOLINE RANG	Ε				Analyst:	NSB
Gasoline Range Organics (GRO)	ND	3.5	mg/Kg	1	8/28/2017 12:36:16 PM	G45253
Surr: BFB	79.4	54-150	%Rec	1	8/28/2017 12:36:16 PM	G45253
EPA METHOD 8021B: VOLATILES					Analyst:	NSB
Benzene	ND	0.018	mg/Kg	1	8/28/2017 12:36:16 PM	B45253
Toluene	ND	0.035	mg/Kg	1	8/28/2017 12:36:16 PM	B45253
Ethylbenzene	ND	0.035	mg/Kg	1	8/28/2017 12:36:16 PM	B45253
Xylenes, Total	ND	0.070	mg/Kg	1	8/28/2017 12:36:16 PM	B45253
Surr: 4-Bromofluorobenzene	116	66.6-132	%Rec	1	8/28/2017 12:36:16 PM	B45253

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 4 of 8
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

### Hall Environmental Analysis Laboratory, Inc.

WO#:

1708F17

01-Sep-17

Client:

Blagg Engineering

Project:

Sammons GC A 1A

Sample ID MB-33585

SampType: mblk

TestCode: EPA Method 300.0: Anions

Client ID:

**PBS** 

Batch ID: 33585

RunNo: 45254

Prep Date:

SeqNo: 1434156

Units: mg/Kg

Analyte

8/28/2017

Analysis Date: 8/28/2017

**RPDLimit** 

Qual

Chloride

Result

ND

PQL

SPK value SPK Ref Val %REC LowLimit

HighLimit

%RPD

Sample ID LCS-33585

SampType: Ics Batch ID: 33585

PQL

TestCode: EPA Method 300.0: Anions

RunNo: 45254

SeqNo: 1434157

Units: mg/Kg

%RPD **RPDLimit** 

Qual

Analyte

8/28/2017

LCSS

Analysis Date: 8/28/2017

SPK value SPK Ref Val %REC

90.3

HighLimit

Result

Chloride

Client ID:

Prep Date:

14

1.5

15.00

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

Not Detected at the Reporting Limit

POL Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix

Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits Page 5 of 8

Sample pH Not In Range

Reporting Detection Limit

Sample container temperature is out of limit as specified

### Hall Environmental Analysis Laboratory, Inc.

WO#:

1708F17

01-Sep-17

Client:

Blagg Engineering

Project:

Sammons GC A 1A

Sample ID LCS-33577	SampTy	pe: LC	S	TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID: LCSS	Batch I	D: 33	577	RunNo: 45248						
Prep Date: 8/28/2017	Analysis Da	te: 8/	28/2017	S	eqNo: 1	432929	Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	95.9	73.2	114			
Surr: DNOP	4.0		5.000		80.9	70	130			

Sample ID MB-33577	SampT	ype: ME	BLK	Tes	TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID: PBS	Batch	ID: 33	577	RunNo: 45248						
Prep Date: 8/28/2017	Analysis D	ate: 8/	28/2017	S	SeqNo: 1	432930	Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	<b>RPDLimit</b>	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.0		10.00		89.6	70	130			

#### Qualifiers:

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

its Page 6 of 8

### Hall Environmental Analysis Laboratory, Inc.

WO#:

1708F17

01-Sep-17

Client:

Blagg Engineering

Project:

Sammons GC A 1A

Sample ID RB

SampType: MBLK

TestCode: EPA Method 8015D: Gasoline Range

LowLimit

Client ID: **PBS** 

Batch ID: **G45253** 

PQL

5.0

RunNo: 45253

Prep Date:

Analysis Date: 8/28/2017

HighLimit

Analyte

SeqNo: 1433360

Units: mg/Kg

**RPDLimit** 

Qual

Gasoline Range Organics (GRO) Surr: BFB

Result ND 830

1000

SPK value SPK Ref Val %REC

SPK value SPK Ref Val %REC

82.6

54

%RPD

Sample ID 2.5UG GRO LCS

SampType: LCS

TestCode: EPA Method 8015D: Gasoline Range

150

Client ID: LCSS

Batch ID: G45253

RunNo: 45253

Prep Date: Analyte

Analysis Date: 8/28/2017

PQL

5.0

SeqNo: 1433361

Units: mg/Kg

LowLimit HighLimit %RPD 76.4 125

**RPDLimit** Qual

Gasoline Range Organics (GRO) Surr: BFB

22 920

Result

25.00 1000

88.6 91.9

54

150

#### Qualifiers:

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

Page 7 of 8

### Hall Environmental Analysis Laboratory, Inc.

WO#:

1708F17

01-Sep-17

Client:

Blagg Engineering

Project:

Sammons GC A 1A

Sample ID RB	SampT	уре: МЕ	BLK	Tes	TestCode: EPA Method 8021B: Volatiles					
Client ID: PBS	Batch	n ID: <b>B4</b>	5253	F	RunNo: 45253					
Prep Date:	Analysis D	Date: 8/	28/2017	8	SeqNo: 1	433381	Units: mg/K	g		
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	1.2		1.000		120	66.6	132			

Sample ID 100NG BTEX LC	Samp1	ype: LC	S	Tes	TestCode: EPA Method 8021B: Volatiles					
Client ID: LCSS	Batcl	h ID: <b>B4</b>	5253	F	RunNo: 4	5253				
Prep Date:	Analysis D	Analysis Date: 8/28/2017 SeqNo: 1433382 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	104	80	120			
Toluene	1.0	0.050	1.000	0	102	80	120			
Ethylbenzene	1.0	0.050	1.000	0	100	80	120			
Xylenes, Total	3.1	0.10	3.000	0	103	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		124	66.6	132			

#### Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

Page 8 of 8

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 C	Order Numbe	r: 1708	F17	*		RcptNo:	1
Received By:	Andy Freem	an	8/26/201	7 10:00:00 A	M		Andy	_		
Completed By:	Erin Melend	Irez	8/28/201	7 8:20:22 AM	И		andy.	1	<del>, </del>	
Reviewed By:	70		8-29	8-17						
Chain of Cus	stody									
1. Custody sea	als intact on sar	mple bottles?			Yes		No		Not Present	
2. Is Chain of	Custody comple	ete?			Yes	<b>V</b>	No		Not Present	
3. How was the	e sample delive	red?			Cour	ier				
<u>Log In</u>										
4. Was an atte	empt made to c	ool the sample	s?		Yes	<b>V</b>	No		NA 🗆	
5. Were all sai	mples received	at a temperatu	ire of >0° C	to 6.0°C	Yes	$\checkmark$	No		NA 🗆	
6. Sample(s) i	n proper contai	ner(s)?			Yes	V	No			
7. Sufficient sa	ample volume fo	or indicated tes	it(s)?		Yes	V	No			
8. Are samples	s (except VOA	and ONG) prop	erly preserve	ed?	Yes	<b>V</b>	No			
9. Was presen	vative added to	bottles?			Yes		No	<b>✓</b>	NA 🗆	
10.VOA vials h	ave zero heads	pace?			Yes				No VOA Vials 🗹	
11. Were any s	ample containe	rs received bro	oken?		Yes		No	<b>Y</b>	# of preserved	
12.Does paper (Note discre	work match bot				Yes	✓	No		for pH:	or >12 unless noted)
13. Are matrices	s correctly ident	ified on Chain	of Custody?		Yes	<b>V</b>	No		Adjusted?	
14. Is it clear wh	nat analyses we	re requested?			Yes	<b>V</b>	No			
15. Were all hol (If no, notify	ding times able customer for a				Yes	$\checkmark$	No		Checked by:	
Special Hand	lling (if ann	licable)								
16. Was client r			h this order?		Yes		No		NA <b></b> ✓	
Perso	n Notified:			Date:				- CARLES		
By Wi	nom:			Via:	_ eMa	ail 🗀	Phone [	Fax	☐ In Person	
Regar	ding:	MICAGONA CONCERNA MANAGANA SEMINASANIAN SE		Tel Tel Mal Marine Program Construent Anna Anna Anna Anna Anna Anna Anna An		N STRUCTURE SHOWING		NATE OF STREET	AN COMPANY AND AN ADVANCE AND ADVANCE AND ADDRESS OF THE ADDRESS O	
	Instructions:									
17. Additional r	emarks:									
18. Cooler Info		Salabas of	engantes 1	holding to	0-15		المنافقة المالية		İ	
Cooler N		Condition Sood	Seal Intact	Seal No	Seal D	ate.	Signed B	у		
Ľ										

C	Chain-of-Custody Record			Turn-Around	Time:	SAME								NIX	TE		BIB		NT	- 4 1	
Client:	BP AV	MERICA		□ Standard															ATC		
F	S. N.	Falcioner	ene Inc.	Project Name	9:							ı.hal						-			
Mailing	Address	:	two TVC:	SAMM	ons GC	A 1A		49	01 H									1100			
				Project #:		· · · · · · · · · · · · · · · · · · ·	1		el. 50								410				
Phone	#: (505	5) 370	- 1183	1					)i. 00	5 54	0-00	-		-	Req						
email o	-	, , ,		Project Mana	ger:		_	<u>(</u>	(Q)					(4)					П	T	T
QA/QC	Package:			J.	E MOSEAC		3021	IS OF	/ MF			(S)		4,SC	PCB's						
Stan			☐ Level 4 (Full Validation)	STEV	E 1 1031-310	-	8) 8	(G	8			SIMS)		9,	2 PC						
Accredi  □ NEL		□ Othe	r	Sampler:	TEFF BLAGE		MIBE + TME'S (8021)	+ TPH (Gas only)	O/D	3.1)	1.1	8270		NO,	/ 8082						E
□ EDD		- Out	r		payes	NO (	- #	÷ ш	GRC	418	1 50		als	NO	les /		10A	W			\ or
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type		BTEX + MITE	BTEX + MTBE	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or	RCRA 8 Metals	Anions (F,CI,NO3,NO2,PO4,SO4)	8081 Pesticides	8260B (VOA)	8270 (Semi-VOA)	CHLORIDE			Air Rubbles (Y or N)
925/17	1002	SOIL	EAST WALL 5-PT (3'-13')	4 02 x 1	COOL	-001	X		X									X			
	1006	}	South wall 5-pt (3-13)		1	-002	1		1									İ			$\top$
	1009		(3-13)			-003															-
	1012	1	West wall 5-pt (3-13) NORTH wall 5-pt (3-13)	1	1	-004	1		1									1		$\perp$	
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Date:	Time: 1425 Time:	Relinquish	Blegg	Received by:	W	Date Time		wB5	VID	D: 1	HI			RM					uska.		LĄ



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

September 06, 2017

Steve Moskal

Blagg Engineering

P. O. Box 87

Bloomfield, NM 87413

TEL: (505) 632-1199

FAX (505) 632-3903

RE: SAMMONS GC A 1A

OrderNo.: 1708H26

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 4 sample(s) on 8/31/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <a href="www.hallenvironmental.com">www.hallenvironmental.com</a> 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,

Andy Freeman

Laboratory Manager

Only

4901 Hawkins NE

Albuquerque, NM 87109

#### Lab Order 1708H26

Date Reported: 9/6/2017

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: West Wall (17'-28')

Project: SAMMONS GC A 1A

Collection Date: 8/30/2017 11:34:00 AM

Lab ID: 1708H26-001

Matrix: SOIL

Received Date: 8/31/2017 7:10:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	MRA
Chloride	ND	30	mg/Kg	20	8/31/2017 9:57:41 AM	33647
EPA METHOD 8015M/D: DIESEL RANGE	ORGANIC	S			Analyst	TOM
Diesel Range Organics (DRO)	ND	9.2	mg/Kg	1	8/31/2017 9:59:37 AM	33646
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	8/31/2017 9:59:37 AM	33646
Surr: DNOP	94.1	70-130	%Rec	1	8/31/2017 9:59:37 AM	33646
EPA METHOD 8015D: GASOLINE RANG	Ε				Analyst	NSB
Gasoline Range Organics (GRO)	ND	3.5	mg/Kg	1	8/31/2017 10:11:34 AM	33627
Surr: BFB	77.4	54-150	%Rec	1	8/31/2017 10:11:34 AM	33627
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.017	mg/Kg	1	8/31/2017 10:11:34 AM	33627
Toluene	ND	0.035	mg/Kg	1	8/31/2017 10:11:34 AM	33627
Ethylbenzene	ND	0.035	mg/Kg	1	8/31/2017 10:11:34 AM	33627
Xylenes, Total	ND	0.070	mg/Kg	1	8/31/2017 10:11:34 AM	33627
Surr: 4-Bromofluorobenzene	113	66.6-132	%Rec	1	8/31/2017 10:11:34 AM	33627

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 8
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

#### Lab Order 1708H26

Date Reported: 9/6/2017

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: South Wall (West)(17'-28')

SAMMONS GC A 1A **Project:** 

Collection Date: 8/30/2017 11:37:00 AM

Lab ID: 1708H26-002 Matrix: SOIL

Received Date: 8/31/2017 7:10:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	MRA
Chloride	ND	30	mg/Kg	20	8/31/2017 10:10:05 AM	33647
EPA METHOD 8015M/D: DIESEL RANG	E ORGANIC	S			Analyst	TOM
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	8/31/2017 10:21:46 AM	33646
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	8/31/2017 10:21:46 AM	33646
Surr: DNOP	96.2	70-130	%Rec	1	8/31/2017 10:21:46 AM	33646
EPA METHOD 8015D: GASOLINE RANG	SE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	3.7	mg/Kg	1	8/31/2017 10:35:27 AM	33627
Surr: BFB	77.0	54-150	%Rec	1	8/31/2017 10:35:27 AM	33627
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	NSB
Benzene	ND	0.018	mg/Kg	1	8/31/2017 10:35:27 AM	33627
Toluene	ND	0.037	mg/Kg	1	8/31/2017 10:35:27 AM	33627
Ethylbenzene	ND	0.037	mg/Kg	1	8/31/2017 10:35:27 AM	33627
Xylenes, Total	ND	0.074	mg/Kg	1	8/31/2017 10:35:27 AM	33627
Surr: 4-Bromofluorobenzene	114	66.6-132	%Rec	1	8/31/2017 10:35:27 AM	33627

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 2 of 8 J
- Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

#### Lab Order 1708H26

Date Reported: 9/6/2017

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: North Wall (West)(17-'28')

Collection Date: 8/30/2017 11:39:00 AM

**Project:** SAMMONS GC A 1A **Lab ID:** 1708H26-003

Received Date: 8/31/2017 7:10:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst:	MRA
Chloride	44	30	mg/Kg	20	8/31/2017 10:22:30 AM	33647
EPA METHOD 8015M/D: DIESEL RANG	GE ORGANICS	3			Analyst:	TOM
Diesel Range Organics (DRO)	ND	9.4	mg/Kg	1	8/31/2017 10:43:47 AM	33646
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	8/31/2017 10:43:47 AM	33646
Surr: DNOP	99.7	70-130	%Rec	1	8/31/2017 10:43:47 AM	33646
EPA METHOD 8015D: GASOLINE RAN	IGE				Analyst:	NSB
Gasoline Range Organics (GRO)	ND	3.9	mg/Kg	1	8/31/2017 10:59:20 AM	33627
Surr: BFB	77.6	54-150	%Rec	1	8/31/2017 10:59:20 AM	33627
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst:	NSB
Benzene	ND	0.019	mg/Kg	1	8/31/2017 10:59:20 AM	33627
Toluene	ND	0.039	mg/Kg	1	8/31/2017 10:59:20 AM	33627
Ethylbenzene	ND	0.039	mg/Kg	1	8/31/2017 10:59:20 AM	33627
Xylenes, Total	ND	0.078	mg/Kg	1	8/31/2017 10:59:20 AM	33627
Surr: 4-Bromofluorobenzene	117	66.6-132	%Rec	1	8/31/2017 10:59:20 AM	33627

Matrix: SOIL

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 3 of 8
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1708H26

Date Reported: 9/6/2017

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: Base @ 30' (5-pt)

Project: SAMMONS GC A 1A

**Collection Date:** 8/30/2017 11:52:00 AM

Lab ID: 1708H26-004

Matrix: SOIL

Received Date: 8/31/2017 7:10:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	MRA
Chloride	ND	30	mg/Kg	20	8/31/2017 10:34:55 AM	33647
EPA METHOD 8015M/D: DIESEL RANG	E ORGANIC	S			Analyst	TOM
Diesel Range Organics (DRO)	270	9.6	mg/Kg	1	8/31/2017 11:27:56 AM	33646
Motor Oil Range Organics (MRO)	310	48	mg/Kg	1	8/31/2017 11:27:56 AM	33646
Surr: DNOP	111	70-130	%Rec	1	8/31/2017 11:27:56 AM	33646
EPA METHOD 8015D: GASOLINE RANG	GE				Analyst:	NSB
Gasoline Range Organics (GRO)	ND	3.5	mg/Kg	1	8/31/2017 11:23:16 AM	33627
Surr: BFB	79.1	54-150	%Rec	1	8/31/2017 11:23:16 AM	33627
EPA METHOD 8021B: VOLATILES					Analyst:	NSB
Benzene	ND	0.017	mg/Kg	1	8/31/2017 11:23:16 AM	33627
Toluene	ND	0.035	mg/Kg	1	8/31/2017 11:23:16 AM	33627
Ethylbenzene	ND	0.035	mg/Kg	1	8/31/2017 11:23:16 AM	33627
Xylenes, Total	ND	0.069	mg/Kg	1	8/31/2017 11:23:16 AM	33627
Surr: 4-Bromofluorobenzene	117	66.6-132	%Rec	1	8/31/2017 11:23:16 AM	33627

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 4 of 8
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

### Hall Environmental Analysis Laboratory, Inc.

WO#:

1708H26

06-Sep-17

Client:

Blagg Engineering

Project:

SAMMONS GC A 1A

Sample ID MB-33647

SampType: mblk

TestCode: EPA Method 300.0: Anions

Client ID:

**PBS** 

Batch ID: 33647

RunNo: 45341

Prep Date: 8/31/2017 Analysis Date: 8/31/2017

Units: mg/Kg **HighLimit** 

Analyte Chloride

SPK value SPK Ref Val %REC LowLimit Result PQL

SeqNo: 1437822

%RPD

%RPD

**RPDLimit** 

Qual

Sample ID LCS-33647

TestCode: EPA Method 300.0: Anions

Client ID: LCSS Batch ID: 33647

RunNo: 45341

Prep Date: 8/31/2017 Analysis Date: 8/31/2017

ND

SeqNo: 1437823

Units: mg/Kg

HighLimit

Analyte

Result PQL

SampType: Ics

SPK value SPK Ref Val %REC LowLimit

Qual

15.00

Chloride

14

1.5

**RPDLimit** 

91.4

Qualifiers:

Value exceeds Maximum Contaminant Level.

Sample Diluted Due to Matrix D

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix

Analyte detected in the associated Method Blank B

Value above quantitation range

Analyte detected below quantitation limits

Sample pH Not In Range

P

RL Reporting Detection Limit Sample container temperature is out of limit as specified

Page 5 of 8

### Hall Environmental Analysis Laboratory, Inc.

WO#:

1708H26

06-Sep-17

Client:

Blagg Engineering

Project:

SAMMONS GC A 1A

Sample ID LCS-33646	SampT	ype: LC	S	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS Batch ID: 33646 RunNo: 45327												
Prep Date: 8/31/2017	Analysis D	ate: 8/	31/2017	S	SeqNo: 1	436150	Units: mg/k	(g				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Diesel Range Organics (DRO)	48	10	50.00	0	95.1	73.2	114					
Surr: DNOP	5.0		5.000		99.3	70	130					

Sample ID MB-33646	SampT	ype: ME	BLK	Tes	tCode: E	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID: PBS	Batch	1D: 33	646	R	RunNo: 4	5327				
Prep Date: 8/31/2017	Analysis D	ate: 8/	31/2017	S	SeqNo: 1	436151	Units: mg/K	(g		
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	10		10.00		102	70	130			

#### Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

Page 6 of 8

### Hall Environmental Analysis Laboratory, Inc.

WO#:

1708H26

06-Sep-17

Client:

Blagg Engineering

Project:

SAMMONS GC A 1A

Sample ID MB-33627

SampType: MBLK

TestCode: EPA Method 8015D: Gasoline Range

Client ID:

**PBS** 

Batch ID: 33627

RunNo: 45344

Prep Date: 8/30/2017

Analysis Date: 8/31/2017

SeqNo: 1437225

Units: mg/Kg

Analyte

Result Gasoline Range Organics (GRO)

PQL SPK value SPK Ref Val 5.0

%REC LowLimit

**RPDLimit** 

Qual

Surr: BFB

SampType: LCS

SPK value SPK Ref Val %REC

1000

8.08

54

HighLimit

150

%RPD

%RPD

Sample ID LCS-33627

Prep Date: 8/30/2017

Client ID: LCSS

Batch ID: 33627

Analysis Date: 8/31/2017

PQL

RunNo: 45344

TestCode: EPA Method 8015D: Gasoline Range

HighLimit

SeqNo: 1437226

Units: mg/Kg

**RPDLimit** Qual

Analyte Gasoline Range Organics (GRO) Surr: BFB

Result 24 890

ND

810

25.00 1000

95.3 88.5

LowLimit 76.4 54

125 150

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix D
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- Practical Quanitative Limit **PQL**
- % Recovery outside of range due to dilution or matrix
- B
- E
- J
- P Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

Analyte detected in the associated Method Blank

Value above quantitation range

Analyte detected below quantitation limits

Page 7 of 8

### Hall Environmental Analysis Laboratory, Inc.

WO#:

1708H26

06-Sep-17

Client:

Blagg Engineering

Project:

SAMMONS GC A 1A

Sample ID MB-33627	SampT	Гуре: МЕ	BLK	Tes	tCode: El	tiles				
Client ID: PBS	Batch	h ID: 33	627	R	RunNo: 4	5344				
Prep Date: 8/30/2017	Analysis D	Date: 8/	31/2017	S	SeqNo: 1	437243	Units: mg/K	g		
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	1.2		1.000		121	66.6	132			

Sample ID LCS-33627	s	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch	n ID: 33	627	F	RunNo: 4	5344				
Prep Date: 8/30/2017	Analysis D	Date: 8/	31/2017	S	SeqNo: 1	437244	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	112	80	120			
Toluene	1.1	0.050	1.000	0	112	80	120			
Ethylbenzene	1.1	0.050	1.000	0	111	80	120			
Xylenes, Total	3.4	0.10	3.000	0	114	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		124	66.6	132			

#### Qualifiers:

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

Page 8 of 8



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	1708H26		RcptNo:	1
Received By:	Anne Thor	ne 8/31/2017 7:10:00 AM		anne Ham	_	
Completed By:	Anne Thor	ne 8/31/2017 7:44:29 AM		Aone Am		
Reviewed By:	IMO	8-31-2017				
Chain of Cus	tody					
1. Custody sea	ils intact on sa	mple bottles?	Yes	No 🗆	Not Present 🗹	
2. Is Chain of C	Custody compl	ete?	Yes 🗹	No 🗌	Not Present	
3. How was the	sample deliv	ered?	Courier			
Log In						
4. Was an atte	empt made to	cool the samples?	Yes 🗹	No 🗆	NA 🗆	
5. Were all san	mples received	at a temperature of >0° C to 6.0°C	Yes 🗹	No 🗆	NA 🗆	
6. Sample(s) in	n proper conta	iner(s)?	Yes 🗹	No 🗆		
7. Sufficient sa	mple volume f	for indicated test(s)?	Yes 🗹	No 🗆		
8. Are samples	(except VOA	and ONG) properly preserved?	Yes 🗸	No 🗌	_	
9. Was preserv	ative added to	bottles?	Yes	No 🗹	NA 🗆	
10.VOA vials ha	ave zero heads	space?	Yes	No 🗆	No VOA Vials 🗹	
11. Were any sa	ample containe	ers received broken?	Yes -	No 🗹	# of preserved	
40 =			Yes <b>⊻</b>	No 🗆	bottles checked for pH:	
12. Does paperv (Note discret		ttie labels? ain of custody)	Yes 💌	NO L	6056 A. C.	or >12 unless noted)
13. Are matrices	correctly iden	tified on Chain of Custody?	Yes 🗹	No 🗆	Adjusted?	
14. Is it clear wh	at analyses w	ere requested?	Yes 🗹	No 🗆		
15. Were all hold	ding times able customer for a		Yes 🗸	No 🗌	Checked by:	
(II IIO, IIOdiy	custoffiel for a	autorization.,				
Special Hand	ling (if app	licable)				
16. Was client ne	otified of all di	screpancies with this order?	Yes	No 🗆	NA 🗹	
Person	Notified:	Date		DANGERSTANDARD STANDARD STANDA		
By Wh	om:	Via:	eMail [	Phone Fax	☐ In Person	
Regard	ding:			2.12.2000 文·华·尔·尔·尔·尔·尔·西·西·西·西·西·西·西·西·西·西·西·西·西·西	6.4 (activit-si), and red literace technical references the first relativity to the second se	
Client I	Instructions:	TOTAL OF STATE OF THE STATE OF				
17. Additional re	emarks:					
18. Cooler Info						
Cooler No			Seal Date	Signed By		
[1	1.8	Good Yes				

C	hain	-of-Cu	stody Record	Turn-Around	Time:	SAME DAY					A I I		BI3	/TE	20	BIR		NT	
Client:	BP Am	ERICA		□ Standard														TO	
			ering Inc	Project Name						٧	ww.h	allen	viron	men	tal.c	om			
Mailing	Address	:		SAMMON	is GC A	1 1A		490	)1 H	awkir	s NE	- All	buqu	erqu	e, N	M 87	109		
				Project #:							5-3975					-4107			
Phone #	#: (505	320	-1183	1							-	Anal		-			4		
email or	-			Project Mana	ger:			only)	0			Т	(4)						$\top$
QA/QC F			☐ Level 4 (Full Validation)	STE	VE MOSKA	L	\$ (8021)	Gas or	O / MF		SIMS		PO4,SC	PCB's					
Accredit	tation	□ Othe	r	On Ice:	EFF BLAGG	□ No	TIME	+ TPH (Gas	30 / DF	18.1)			3,NO <sub>2</sub> ,	/ 8082		(A)			2 z
□ EDD	(Type)			Sample Tem	perature/	.8	H	BE	9	4 p	0 5 G	tals	N,	ides	7	9			3
Date	Time	Matrix	Sample Request ID	Container Type and #  Medita	Preservative Type		BTEX + WITEE	BTEX + MTBE	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1) PAH's (8310 or 8270	RCRA 8 Metals	Anions (F,CI,NO <sub>3</sub> ,NO <sub>2</sub> ,PO <sub>4</sub> ,SO <sub>4</sub> )	8081 Pesticides / 8082	8260B (VOA)	8270 (Semi-VOA)	CHLORIDE		Air Bubbles (Y or N)
3/2017	1134	SOIL	West Wall (17-28')	4 02 × 1	COOL	-col	X		X								×		
1	1137		South Wall (West) (17'-28')	1	1 .	702	1		1								1		
	1139		North Wall (west) (17'-28'	1 1		703													
	1152		BASE @ 30'(5- pt)		1	204	1		1	+		+	-				-		
												1							
							_											$\perp$	
							-			-	_	+-	$\vdash$				$\vdash$	+	++
										_	+	+	+	-		$\vdash$	$\vdash$	+	++
Date:	Time:	Relinquish	od by:    Slage	Received by:	h) all	Date Time  8/30/17 1552	Rer			10×01	PUEVR	m		Ce	ATA	er:	STEV	E M	ISKAL
8   Sult   Date:	Time: 1985	Relinquish	ed by:	Received by	me de	Dafe Time / 08/3///7	u	UBS	ELE	EME	π:	L1-	. φο	181	E	: <b>S</b> A	MMC	)NS G(	CAIA



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

September 06, 2017

Steve Moskal

Blagg Engineering

P. O. Box 87

Bloomfield, NM 87413

TEL: (505) 632-1199

FAX (505) 632-3903

RE: Sammons GC A 1A

OrderNo.: 1709001

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 2 sample(s) on 9/1/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <a href="www.hallenvironmental.com">www.hallenvironmental.com</a> 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,

Andy Freeman

Laboratory Manager

Only

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order 1709001

Date Reported: 9/6/2017

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Sammons GC A 1A

Project:

Client Sample ID: North Wall (East) (17'-28')

Collection Date: 8/31/2017 11:43:00 AM

Lab ID: 1709001-001 Matrix: MEOH (SOIL) Received Date: 9/1/2017 8:00:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	CJS
Chloride	40	30	mg/Kg	20	9/1/2017 10:36:20 AM	33671
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS	3			Analyst	TOM
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	9/1/2017 10:45:50 AM	33668
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	9/1/2017 10:45:50 AM	33668
Surr: DNOP	99.6	70-130	%Rec	1	9/1/2017 10:45:50 AM	33668
EPA METHOD 8015D: GASOLINE RAM	IGE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.2	mg/Kg	1	9/1/2017 11:03:47 AM	33653
Surr: BFB	80.7	54-150	%Rec	1	9/1/2017 11:03:47 AM	33653
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.021	mg/Kg	1	9/1/2017 11:03:47 AM	33653
Toluene	ND	0.042	mg/Kg	1	9/1/2017 11:03:47 AM	33653
Ethylbenzene	ND	0.042	mg/Kg	1	9/1/2017 11:03:47 AM	33653
Xylenes, Total	ND	0.084	mg/Kg	1	9/1/2017 11:03:47 AM	33653
Surr: 4-Bromofluorobenzene	122	66.6-132	%Rec	1	9/1/2017 11:03:47 AM	33653

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 Sample Diluted Due to Matrix D E Value above quantitation range Analyte detected below quantitation limits Page 1 of 6 Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit P Sample pH Not In Range PQL Practical Quanitative Limit RL Reporting Detection Limit % Recovery outside of range due to dilution or matrix Sample container temperature is out of limit as specified

Lab Order 1709001

Date Reported: 9/6/2017

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: North Base @ 30'

Sammons GC A 1A Project:

Collection Date: 8/31/2017 11:55:00 AM

Lab ID: 1709001-002 Matrix: MEOH (SOIL) Received Date: 9/1/2017 8:00:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	CJS
Chloride	41	30	mg/Kg	20	9/1/2017 10:48:44 AM	33671
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS					Analyst	TOM
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	9/1/2017 11:30:05 AM	33668
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	9/1/2017 11:30:05 AM	33668
Surr: DNOP	99.4	70-130	%Rec	1	9/1/2017 11:30:05 AM	33668
EPA METHOD 8015D: GASOLINE RANGE					Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.2	mg/Kg	1	9/1/2017 11:27:46 AM	33653
Surr: BFB	79.9	54-150	%Rec	1	9/1/2017 11:27:46 AM	33653
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.021	mg/Kg	1	9/1/2017 11:27:46 AM	33653
Toluene	ND	0.042	mg/Kg	1	9/1/2017 11:27:46 AM	33653
Ethylbenzene	ND	0.042	mg/Kg	1	9/1/2017 11:27:46 AM	33653
Xylenes, Total	ND	0.084	mg/Kg	1	9/1/2017 11:27:46 AM	33653
Surr: 4-Bromofluorobenzene	120	66.6-132	%Rec	1	9/1/2017 11:27:46 AM	33653

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 2 of 6 J
- P Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

### Hall Environmental Analysis Laboratory, Inc.

WO#:

1709001

06-Sep-17

Client:

Blagg Engineering

Project:

Sammons GC A 1A

Sample ID MB-33671

SampType: mblk

TestCode: EPA Method 300.0: Anions

Client ID:

**PBS** 

Batch ID: 33671

RunNo: 45372

Prep Date: 9/1/2017

Analysis Date: 9/1/2017

SeqNo: 1438456

Units: mg/Kg

Analyte

Result PQL ND

1.5

HighLimit

%RPD **RPDLimit**  Qual

Chloride

Sample ID LCS-33671

SampType: Ics Batch ID: 33671

RunNo: 45372

TestCode: EPA Method 300.0: Anions

Units: mg/Kg

Prep Date:

Client ID:

9/1/2017

LCSS

Analysis Date: 9/1/2017

SeqNo: 1438457

Qual

Analyte

SPK value SPK Ref Val %REC

SPK value SPK Ref Val %REC LowLimit

93.7

Result

110

PQL

14

15.00

90

HighLimit

Chloride

1.5

LowLimit

%RPD

**RPDLimit** 

Qualifiers:

Η

**PQL** 

Value exceeds Maximum Contaminant Level.

Sample Diluted Due to Matrix D

Practical Quanitative Limit

Not Detected at the Reporting Limit ND

% Recovery outside of range due to dilution or matrix

Holding times for preparation or analysis exceeded

В Analyte detected in the associated Method Blank

E Value above quantitation range J Analyte detected below quantitation limits

Page 3 of 6

P Sample pH Not In Range

RL Reporting Detection Limit Sample container temperature is out of limit as specified

### Hall Environmental Analysis Laboratory, Inc.

WO#:

1709001

06-Sep-17

Client:

Blagg Engineering

Project:

Sammons GC A 1A

Sample ID LCS-33668	SampTy	pe: LC	S	Test	Code: El	PA Method	8015M/D: Die	esel Rang	e Organics	
Client ID: LCSS	Batch	ID: 33	668	R	tunNo: 4	5363				
Prep Date: 9/1/2017	Analysis Da	ate: 9/	1/2017	S	Units: mg/K	(g				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	95.7	73.2	114			
Surr: DNOP	4.7		5.000		93.7	70	130			

Sample ID MB-33668	SampT	ype: ME	BLK	Tes	tCode: E	PA Method	8015M/D: Die	esel Rang	e Organics	
Client ID: PBS	Batch	ID: 33	668	F	RunNo: 4	5363				
Prep Date: 9/1/2017	Analysis D	ate: 9/	1/2017	S	SeqNo: 1	437581	Units: mg/K	g		
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	10		10.00		101	70	130			

#### Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

ove quantitation range

Page 4 of 6

### Hall Environmental Analysis Laboratory, Inc.

WO#:

1709001

06-Sep-17

Client:

Blagg Engineering

Project:

Sammons GC A 1A

Sample ID MB-33653

SampType: MBLK

TestCode: EPA Method 8015D: Gasoline Range

LowLimit

Client ID:

PBS

Batch ID: 33653

PQL

5.0

RunNo: 45374

Prep Date: 8/31/2017

1000

SPK value SPK Ref Val

%REC

Units: mg/Kg

Analysis Date: 9/1/2017

SeqNo: 1438048

HighLimit

%RPD **RPDLimit**  Qual

Analyte Result Gasoline Range Organics (GRO) ND

Surr: BFB

80.6

150

Sample ID LCS-33653 Client ID: LCSS

SampType: LCS

810

Batch ID: 33653

PQL

RunNo: 45374

TestCode: EPA Method 8015D: Gasoline Range

54

Prep Date: 8/31/2017

SeqNo: 1438049

Units: mg/Kg

Analyte Gasoline Range Organics (GRO) Analysis Date: 9/1/2017

SPK value SPK Ref Val %REC LowLimit

HighLimit %RPD **RPDLimit** Qual

Surr: BFB

24 920

Result

25.00 1000 96.1 91.7 76.4 125 54 150

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit ND
- **PQL** Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- В 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 Sample container temperature is out of limit as specified

Page 5 of 6

### Hall Environmental Analysis Laboratory, Inc.

WO#:

1709001

06-Sep-17

Client:

Blagg Engineering

Project:

Sammons GC A 1A

Sample ID MB-33653

SampType: MBLK

TestCode: EPA Method 8021B: Volatiles

LowLimit

66.6

Client ID:

Client ID:

**PBS** 

Batch ID: 33653

RunNo: 45374

%REC

Prep Date: 8/31/2017

Analysis Date: 9/1/2017

SPK value SPK Ref Val

1.000

SeqNo: 1438062

Units: mg/Kg

HighLimit

%RPD **RPDLimit** 

Qual

Qual

Analyte Result PQL Benzene ND 0.025 ND 0.050 Toluene 0.050 ND Ethylbenzene Xylenes, Total ND 0.10

Surr: 4-Bromofluorobenzene Sample ID LCS-33653

LCSS

SampType: LCS Batch ID: 33653

1.2

TestCode: EPA Method 8021B: Volatiles

RunNo: 45374

122

SeqNo: 1438063

Units: mg/Kg

%RPD

**RPDLimit** 

132

Prep Date: 8/31/2017 Analysis Date: 9/1/2017 Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit 0.025 80 Benzene 1.1 1.000 0 114 120 0 Toluene 1.1 0.050 1.000 113 80 120 0 Ethylbenzene 1.1 0.050 1.000 113 80 120 3.000 0 114 80 120 Xylenes, Total 3.4 0.10 122 Surr: 4-Bromofluorobenzene 1.2 1.000 66.6 132

#### Qualifiers:

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

Value above quantitation range

Page 6 of 6



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:	1709001		RcptNo:	1
Received By:	Erin Melendrez	9/1/2017 8:00:00 AM		une.	-	
Completed By:	Ashley Gallegos	9/1/2017 8:48:08 AM		Lat.		
		1/17		349		
Reviewed By:	NC	71				
Chain of Cus	tody					
1. Custody sea	ils intact on sample bottles?		Yes	No 🗆	Not Present	
2. Is Chain of C	Custody complete?		Yes 🗸	No 🗆	Not Present	
3. How was the	e sample delivered?		Courier			
Log In			•	•		
4. Was an atte	empt made to cool the samples'	?	Yes 🗸	No 🗌	NA 🗆	
5. Were all san	nples received at a temperature	of >0° C to 6.0°C	Yes 🗹	No 🗆	NA 🗆	
6. Sample(s) in	n proper container(s)?		Yes 🗹	No 🗆		
7. Sufficient sa	mple volume for indicated test(	s)?	Yes 🗹	No 🗆		
8. Are samples	(except VOA and ONG) prope	rly preserved?	Yes 🗹	No 🗌		
9. Was preserv	vative added to bottles?		Yes	No 🗹	NA 🗀	
10.VOA vials ha	ave zero headspace?		Yes	No 🗌	No VOA Vials	
11. Were any sa	ample containers received brok	en?	Yes -	No 🗹	# of processed	116.4.40
			_		# of preserved bottles checked	
	vork match bottle labels? pancies on chain of custody)		Yes 🗹	No L	for pH: (<2 o	r >12 unless noted)
	correctly identified on Chain of	Custody?	Yes 🗸	No 🗆	Adjusted?	
	at analyses were requested?	,	Yes 🗸	No 🗆		
	ding times able to be met?		Yes 🗸	No 🗆	Checked by:	-
(If no, notify	customer for authorization.)		*	L		
Special Hand	lling (if applicable)		. 1			
	otified of all discrepancies with	this arder?	Yes	No 🗆	NA 🗹	
	No sistema estimate de una de la companya del companya de la companya de la companya del companya de la companya del la companya de la compan	- Cara	Tes L	NO L	NA 🖭	1
i	Notified:	Date		Bt 🗆 E		
By Wh Regard	Contract Continues and Contract Contrac	Via:	eMail	Phone  Fax	In Person	
	Instructions:		NEW AND AND ADDRESS OF THE PARTY AND ADDRESS O	MALANCE THE RESIDENCE AND AND AND AND AND AND AND AND AND AND	o accessors conservants a construit annecembran.	
17. Additional re		* * * * * * * * * * * *				,
18. Cooler Info	rmation					
Cooler No	Temp °C   Condition   S		Seal Date	Signed By		
1	3.4 Good Ye	s i				

C	hain-	of-Cu	stody Record	Turn-Around	Time:	SAME DAY							-								
Client:	BP AW	ERICA		□ Standard					H										NT		
			ERIAG INC.	Project Name	):									rironi							•
	Address		ENIM JAIC!	SAMM	VONS GC	A 1A		49	01 H	awki								7109			
				Project #:			1			5-34				=ax							
Phone #	#: <b>(5</b> 0\$	320	- 1183				1		ii. 00	0-04	0-00		_	ysis	444		_		33		
email or	Fax#:			Project Mana	ger:		_	(ylc	30					04)							
QA/QC F	Package:		□ Level 4 (Full Validation)	STEV	E MOSKA	rL.	(8021	+ TPH (Gas only)	DRO / MRO)			MS)		04,80	CB's						
Accredi			Level 4 (Full Validation)	0	JEFF BU		H	H	DR(			SI		)2,P	82						
□ NEL		□ Othe	ег		X Yes			+ TP	(GRO / 1	18.1)	04.1)	8270		3,NC	/ 80		(A				S
□ EDD	(Type)_				Sample Temperature 3 L					4 0	d 5	oc	tals	Ŋ,	des	2	ν.	101			2
Date	Time	Matrix	Sample Request ID	Container Type and #	BTEX + MIBE - IMB'S (8021)	BTEX + MTBE	<b>TPH 8015B</b>	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,CI,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)		
Bypan	1143	Soil	NORTH WALL (EAST) (17-28')	400×1	4 0 × 1 Cool -001													X			
- 1(	1155	1(	NORTH BASE @ 30'	10	И	-002	X		X									X		_	+
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																					士
Date:  Date:	Time:	Relinquish	1 Blogg	Received by:	hbet	8/3 /2017 1450			V	ULB D:	VH			M					Mosk CA!		
8/31/17	1856	Chi	sta Walls	Virt		9/01/17 0800															
If	necessary,	samples sub	mitted to Hall Environmental may be subo	contracted to other a	ccredited laboratorio	es. This serves as notice of this	s possi	onity.	Any s	up-conf	tracted	o data	Will b	e clear	ty nota	ated or	n the a	malytic	al repoi	T.	



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

September 11, 2017

Steve Moskal

Blagg Engineering

P. O. Box 87

Bloomfield, NM 87413

TEL: (505) 632-1199

FAX (505) 632-3903

RE: SAMMONS GC A 1A

OrderNo.: 1709291

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 3 sample(s) on 9/7/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <a href="www.hallenvironmental.com">www.hallenvironmental.com</a> 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,

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

#### **Analytical Report**

Lab Order 1709291

Date Reported: 9/11/2017

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: Base 5-pt @ 34'

Project: SAMMONS GC A 1A Collection Date: 9/6/2017 10:16:00 AM

Lab ID: 1709291-001 Matrix: SOIL

Received Date: 9/7/2017 7:15:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	MRA
Chloride	33	30	mg/Kg	20	9/7/2017 10:08:52 AM	33743
EPA METHOD 8015D MOD: GASOLI	NE RANGE				Analyst	DJF
Gasoline Range Organics (GRO)	ND	3.5	mg/Kg	1	9/7/2017 10:58:29 AM	33725
Surr: BFB	88.6	70-130	%Rec	1	9/7/2017 10:58:29 AM	33725
EPA METHOD 8015M/D: DIESEL RA	NGE ORGANICS				Analyst	TOM
Diesel Range Organics (DRO)	ND	9.5	mg/Kg	1	9/7/2017 9:53:48 AM	33742
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	9/7/2017 9:53:48 AM	33742
Surr: DNOP	104	70-130	%Rec	1	9/7/2017 9:53:48 AM	33742
EPA METHOD 8260B: VOLATILES S	HORT LIST				Analyst	DJF
Benzene	ND	0.018	mg/Kg	1	9/7/2017 10:58:29 AM	33725
Toluene	ND	0.035	mg/Kg	1	9/7/2017 10:58:29 AM	33725
Ethylbenzene	ND	0.035	mg/Kg	1	9/7/2017 10:58:29 AM	33725
Xylenes, Total	ND	0.070	mg/Kg	1	9/7/2017 10:58:29 AM	33725
Surr: 1,2-Dichloroethane-d4	119	70-130	%Rec	1	9/7/2017 10:58:29 AM	33725
Surr: 4-Bromofluorobenzene	86.4	70-130	%Rec	1	9/7/2017 10:58:29 AM	33725
Surr: Dibromofluoromethane	117	70-130	%Rec	1	9/7/2017 10:58:29 AM	33725
Surr: Toluene-d8	97.8	70-130	%Rec	1	9/7/2017 10:58:29 AM	33725

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

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- Value above quantitation range
- Analyte detected below quantitation limits Page 1 of 7 J
- Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

#### **Analytical Report**

Lab Order 1709291

Date Reported: 9/11/2017

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: South Wall (18'-30') 5-pt

SAMMONS GC A 1A Project:

Collection Date: 9/6/2017 10:24:00 AM

Lab ID: 1709291-002

Matrix: SOIL

Received Date: 9/7/2017 7:15:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	MRA
Chloride	40	30	mg/Kg	20	9/7/2017 10:21:17 AM	33743
EPA METHOD 8015D MOD: GASOLINE	ERANGE				Analyst	DJF
Gasoline Range Organics (GRO)	ND	3.4	mg/Kg	1	9/7/2017 11:27:29 AM	33725
Surr: BFB	88.6	70-130	%Rec	1	9/7/2017 11:27:29 AM	33725
EPA METHOD 8015M/D: DIESEL RANG	GE ORGANICS	3			Analyst	TOM
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	9/7/2017 10:15:51 AM	33742
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	9/7/2017 10:15:51 AM	33742
Surr: DNOP	91.8	70-130	%Rec	1	9/7/2017 10:15:51 AM	33742
EPA METHOD 8260B: VOLATILES SHO	ORT LIST				Analyst	DJF
Benzene	ND	0.017	mg/Kg	1	9/7/2017 11:27:29 AM	33725
Toluene	ND	0.034	mg/Kg	1	9/7/2017 11:27:29 AM	33725
Ethylbenzene	ND	0.034	mg/Kg	1	9/7/2017 11:27:29 AM	33725
Xylenes, Total	ND	0.068	mg/Kg	1	9/7/2017 11:27:29 AM	33725
Surr: 1,2-Dichloroethane-d4	123	70-130	%Rec	1	9/7/2017 11:27:29 AM	33725
Surr: 4-Bromofluorobenzene	88.9	70-130	%Rec	. 1	9/7/2017 11:27:29 AM	33725
Surr: Dibromofluoromethane	120	70-130	%Rec	1	9/7/2017 11:27:29 AM	33725
Surr: Toluene-d8	95.7	70-130	%Rec	1	9/7/2017 11:27:29 AM	33725

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- Value above quantitation range
- Analyte detected below quantitation limits Page 2 of 7 J
- Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

#### **Analytical Report**

Lab Order 1709291

Date Reported: 9/11/2017

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: East Wall (18'-30') 5-pt

Project: SAMMONS GC A 1A

Collection Date: 9/6/2017 10:31:00 AM

**Lab ID:** 1709291-003

Matrix: SOIL

Received Date: 9/7/2017 7:15:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	MRA
Chloride	ND	30	mg/Kg	20	9/7/2017 10:33:42 AM	33743
EPA METHOD 8015D MOD: GASOLI	NE RANGE				Analyst	DJF
Gasoline Range Organics (GRO)	ND	3.4	mg/Kg	1	9/7/2017 11:56:15 AM	33725
Surr: BFB	89.1	70-130	%Rec	1	9/7/2017 11:56:15 AM	33725
EPA METHOD 8015M/D: DIESEL RA	NGE ORGANICS				Analyst	TOM
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	9/7/2017 10:37:55 AM	33742
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	9/7/2017 10:37:55 AM	33742
Surr: DNOP	104	70-130	%Rec	1	9/7/2017 10:37:55 AM	33742
EPA METHOD 8260B: VOLATILES S	HORT LIST				Analyst	DJF
Benzene	ND	0.017	mg/Kg	1	9/7/2017 11:56:15 AM	33725
Toluene	ND	0.034	mg/Kg	1	9/7/2017 11:56:15 AM	33725
Ethylbenzene	ND	0.034	mg/Kg	1	9/7/2017 11:56:15 AM	33725
Xylenes, Total	ND	0.068	mg/Kg	1	9/7/2017 11:56:15 AM	33725
Surr: 1,2-Dichloroethane-d4	122	70-130	%Rec	1	9/7/2017 11:56:15 AM	33725
Surr: 4-Bromofluorobenzene	88.9	70-130	%Rec	1	9/7/2017 11:56:15 AM	33725
Surr: Dibromofluoromethane	118	70-130	%Rec	1	9/7/2017 11:56:15 AM	33725
Surr: Toluene-d8	96.2	70-130	%Rec	1	9/7/2017 11:56:15 AM	33725

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

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 3 of 7
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

### Hall Environmental Analysis Laboratory, Inc.

WO#:

1709291

11-Sep-17

Client:

Blagg Engineering

Project:

SAMMONS GC A 1A

Sample ID MB-33743

Prep Date:

SampType: mblk

Client ID:

**PBS** 

9/7/2017

Batch ID: 33743

Analysis Date: 9/7/2017

RunNo: 45475

SeqNo: 1442603

Units: mg/Kg

Qual

Analyte

Result PQL

SPK value SPK Ref Val

%REC LowLimit HighLimit

TestCode: EPA Method 300.0: Anions

%RPD

**RPDLimit** 

Chloride

ND 1.5

SampType: Ics

TestCode: EPA Method 300.0: Anions

RunNo: 45475

Client ID: Prep Date:

LCSS

Sample ID LCS-33743

Batch ID: 33743 9/7/2017

Analysis Date: 9/7/2017

SegNo: 1442604 %REC

Units: mg/Kg HighLimit

%RPD **RPDLimit** 

Qual

Analyte Chloride

Result

14

PQL 1.5

15.00

SPK value SPK Ref Val

94.8

90

LowLimit

110

#### **Oualifiers:**

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

Page 4 of 7

### Hall Environmental Analysis Laboratory, Inc.

WO#:

1709291

11-Sep-17

Client:

Blagg Engineering

Project:

SAMMONS GC A 1A

Sample ID LCS-33742	SampT	ype: LC	s	Test	Code: El	PA Method	8015M/D: Die	esel Rang	e Organics	
Client ID: LCSS	Batch	ID: 337	742	R	lunNo: 4	5468				
Prep Date: 9/7/2017	Analysis D	ate: 9/	7/2017	S	Units: mg/K	g				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	96.6	73.2	114			
Surr: DNOP	4.8		5.000		96.2	70	130			

Sample ID MB-33742	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID: PBS	Batch	1D: 33	742	F	RunNo: 4	5468				
Prep Date: 9/7/2017	Analysis D	ate: 9/	7/2017	8	SeqNo: 1	440760	Units: mg/K	(g		
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	11		10.00		106	70	130			

#### Qualifiers:

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

Page 5 of 7

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

### Hall Environmental Analysis Laboratory, Inc.

WO#:

1709291

11-Sep-17

Client:

Blagg Engineering

Project:

SAMMONS GC A 1A

Sample ID mb-33725	SampT	уре: МЕ	BLK	Tes	tCode: El	PA Method	8260B: Volat	tiles Short	List	
Client ID: PBS	Batch	ID: 33	725	F	RunNo: 4	5482				
Prep Date: 9/6/2017	Analysis D	ate: 9/	7/2017	S	SeqNo: 1	442102	Units: mg/K	g		
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: 1,2-Dichloroethane-d4	0.61		0.5000		122	70	130			
Surr: 4-Bromofluorobenzene	0.46		0.5000		91.6	70	130			
Surr: Dibromofluoromethane	0.60		0.5000		119	70	130			
Surr: Toluene-d8	0.48		0.5000		96.9	70	130			

Sample ID Ics-33725	SampTy	ype: LC	S	Test	tCode: El	PA Method	8260B: Volat	iles Short	List	
Client ID: LCSS	Batch	ID: 337	725	R	RunNo: 4	5482				
Prep Date: 9/6/2017	Analysis Da	ate: 9/	7/2017	S	SeqNo: 14	442103	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.2	0.025	1.000	0	121	70	130			
Toluene	0.93	0.050	1.000	0	93.4	70	130			
Surr: 1,2-Dichloroethane-d4	0.61		0.5000		123	70	130			
Surr: 4-Bromofluorobenzene	0.47		0.5000		93.2	70	130			
Surr: Dibromofluoromethane	0.56		0.5000		112	70	130			
Surr: Toluene-d8	0.50		0.5000		100	70	130			

#### Qualifiers:

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

P

W Sample container temperature is out of limit as specified

Page 6 of 7

### Hall Environmental Analysis Laboratory, Inc.

WO#:

1709291

11-Sep-17

Client:

Blagg Engineering

Project:

SAMMONS GC A 1A

Sample ID mb-33725

SampType: MBLK

TestCode: EPA Method 8015D Mod: Gasoline Range

Client ID:

PBS

Batch ID: 33725

PQL

5.0

RunNo: 45482

Prep Date: 9/6/2017

Analyte

Analysis Date: 9/7/2017

SeqNo: 1441971

Units: mg/Kg

%REC

HighLimit LowLimit

70

LowLimit

70

70

**RPDLimit** 

Qual

Gasoline Range Organics (GRO) Surr: BFB

Result ND 440

500.0

SPK value SPK Ref Val

89.0

130

%RPD

Sample ID Ics-33725

SampType: LCS

Batch ID: 33725

TestCode: EPA Method 8015D Mod: Gasoline Range

RunNo: 45482

0

Prep Date: 9/6/2017

Client ID: LCSS

Analysis Date: 9/7/2017

SeqNo: 1441977

Units: mg/Kg

Analyte Gasoline Range Organics (GRO) Surr: BFB

Result 26 470

SPK value SPK Ref Val PQL 5.0 25.00 500.0

%REC 105 93.9

130 130

%RPD **RPDLimit** HighLimit Qual

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit ND
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- В 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
- Sample container temperature is out of limit as specified

Page 7 of 7



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109

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

## Sample Log-In Check List

RcptNo: 1 Client Name: BLAGG Work Order Number: 1709291 am Ilm Received By: **Anne Thorne** 9/7/2017 7:15:00 AM an Am Completed By: Anne Thome 9/7/2017 7:41:03 AM 9/7/17 Reviewed By: Chain of Custody Yes No 🗌 Not Present 1 Custody seals intact on sample bottles? No 🗌 Not Present Yes V 2. Is Chain of Custody complete? 3. How was the sample delivered? Courier Log In No 🗌 NA 🗌 4. Was an attempt made to cool the samples? NA 🗆 No 🗌 Yes V 5. Were all samples received at a temperature of >0° C to 6.0°C No 🗌 Yes V 6. Sample(s) in proper container(s)? Yes 🗸 No 🗌 7. Sufficient sample volume for indicated test(s)? No 🗌 Yes 🗸 8. Are samples (except VOA and ONG) properly preserved? NA Yes No 🗸 9. Was preservative added to bottles? No VOA Vials No 🗌 Yes 10. VOA vials have zero headspace? Yes No V 11. Were any sample containers received broken? # of preserved bottles checked Yes 🗸 No 🗆 for pH: 12. Does paperwork match bottle labels? (<2 or >12 unless noted) (Note discrepancies on chain of custody) Adjusted? Yes 🗸 No 🗌 13. Are matrices correctly identified on Chain of Custody? No 🗌 Yes 🗸 14. Is it clear what analyses were requested? No 🗌 Checked by: Yes V 15. Were all holding times able to be met? (If no, notify customer for authorization.) Special Handling (if applicable) Yes NA V 16. Was client notified of all discrepancies with this order? Person Notified: Date eMail Phone Fax In Person By Whom: Via: Regarding: Client Instructions: 17. Additional remarks: 18. Cooler Information Cooler No Temp °C Condition Seal Intact | Seal No Seal Date Signed By 1.0 Good

	Maill-Ul	Cusio	uy Recoru	I		DAME AM	Ι.		IL.	ALI	E	NVIF	CAL	MEN	TA	
Client:	BP America	3		☐ Standard	Rush		-					SIS L				
	Blagg Engi	neering. In	IC.	Project Name	e:				^						OR	K T
Mailing Ad				Samma	NS GC 1	4 1A						lenviror				
				Project #:			-	4901	Haw	kins I	NE -	Albuqu	erque,	NM 87	109	
				Troject #.				Tel.	505-	-	-		505-3	15-410	7	
Phone #:		(505)320	0-1183					4		F	lnaly	sis Red	quest			
email or F				Project Mana					MKO							
QA/QC Pad				]	Steve Moska	l			2							
Standa			☐ Level 4 (Full Validation	)			4 1		DRO							
				Sampler:	Jeff Blagg				~ I							15
	ype)			On Ice:	Market State Commission	□ No	9		(GK0							č
				Sample Tem		40	5		<u> </u>							5
				Container	Preservative		BTEX (8021)		1PH 8015B	0						Air Ruhhles (Y or N)
Date	Time	Matrix	Sample Request ID	Type and #	Туре	HEAL/NO.	M		ğ	Chloride						P. F.
				1 / 1/09291 E					=	ਨ						Air
16/2017	1016	SOIL	BASE 5-PE @ 34	40= ×1	COOL	-60	×	>	<	X						
1(	1024	-tc	South Wall (18-30") 5-Pt	10	II.	702	X	,	< <b>│</b>	×	П					$\top$
16	1031	ic	EAST (411 (18 -30)) 5-Pb	I.	11	703	×	>	<	×						
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										_	Ш					
										$\perp$						$\perp$
				Received by:												
Date: 9/6/2017	Time:	Relinquish	Relinquished by:		1	Date Time	Remarks: Bill BP									
	1011 1320 Juga Diego			Becklyd by Date Time VID: VHIXONEVRM												
Date:	Time: Relinquished by:		Received by:	· O	Date Time 09/67/17						0181-	E: SAV	MMMCI	SCA	1A	
9/6/17	2011 Chrut Weels			(16)	me 1	0715	0	WBS ELEMENT: L1-0018L-E: SAMMINSGCA1A						gart t		