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

☐ Subsequent Report ☒ Final 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

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County: San Juan
P	6	31N	10W	830	South	1,000	East	

Latitude 36.92262° **Longitude** -107.91809°

NATURE 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: Unknown	Date and Hour of Discovery: March 1, 2013
Was Immediate Notice Given? ☐ Yes ☒ No ☐ Not Required	If YES, To Whom?	
By Whom?	Date and Hour:	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.* Identification of hydrocarbon impacted soil from an unknown source (near meter run within northwest portion of well pad). Two initial soil borings were advanced March 2013, and eight follow-up delineation soil borings were advanced August 2013. An additional 4 borings were advanced in October 2016. The recent borings indicate the SVE system is not effective in remediation due to the soil type. The area was excavated and backfilled with clean, imported soils.

Describe Area Affected and Cleanup Action Taken.* The impacted soils were delineated to be approximately 30'x30' in area with vertical interval impacts approximately 5 to 35' bgs. Of the eight follow-up delineation soil borings, four showed hydrocarbon impacts to soil. These same four borings were converted into SVE points. A SVE remediation system has been operating at location since March 2015. BP advanced an additional 4 borings in October 2016; these borings indicate that the SVE is not effective. The area was excavated with soils exported off site for landfarm treatment. Clean soil was imported for use as backfill. The total area of excavation measured approximately 40'x40'x34' deep. Attached is documentation of the remedial excavation including site diagrams and laboratory results. BP requests no further action at the site.

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:	OIL CONSERVATION DIVISION	
Printed Name: Steve Moskal	Approved by Environmental Specialist:	
Title: Field Environmental Coordinator	Approval Date: 11/8/2017	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

nCS1628650832

OIL CONS. DIV DIST. 3

OCT 10 2017

52

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

APPENDICES

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

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

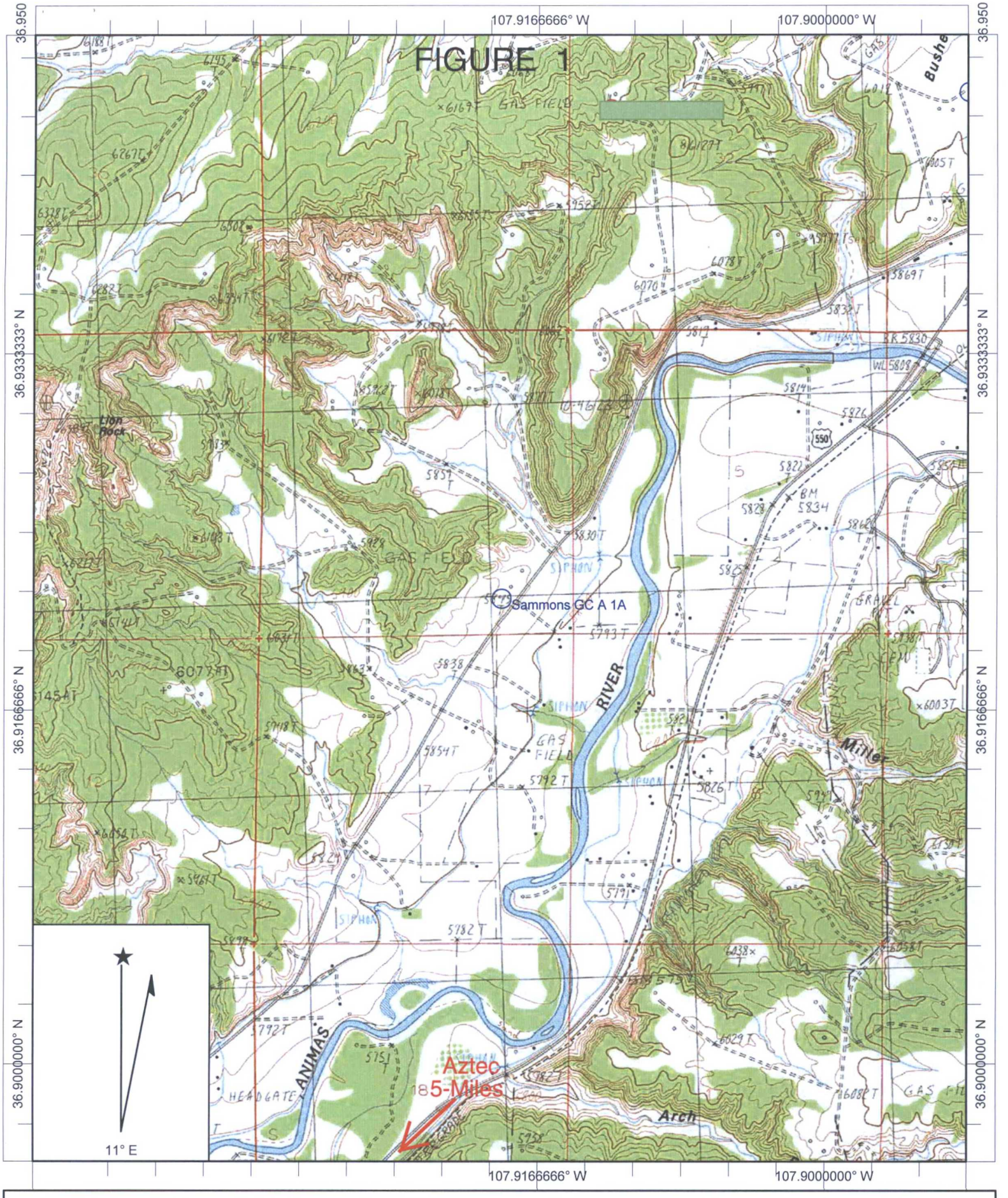
This report has been prepared for the exclusive use of BP America Production Company as it pertains to hydrocarbon impact remediation at the Sammons GC A 1A in San Juan County, New Mexico. The data presented herein is based on visual observations, subsurface soil conditions encountered at sampling locations 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

FIGURE 1



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


FIGURE 2
Sammons GC A 1A
(P) Sec 6 - T31N - R10W
API: 30-045-22135
Remedial Excavation - Aug 31, 2017
Extended North End
27' x 16' x 30' +/- Deep
Remedial Excavation - Aug 25, 2017
40' x 40' x 15' +/- Deep
Remedial Excavation - Aug 30, 2017
Extended West End
40' x 13' x 30' +/- Deep
North Wall
West Wall
East Wall
South Wall
Enterprise Gathering Line
Remedial Excavation - Sep 6, 2017
(Entire Base Deepened to 33')
36' x 34' x 33' +/- Deep
August 25, 2017
Shallow Sidewall Closure Sample Event
1) East Wall 5-pt (3'-13') OVM = 0.3 ppm TPH = ND
2) South Wall 5-pt (3'-13') OVM = 0.3 ppm TPH = ND
3) West Wall 5-pt (3'-13') OVM = 0.3 ppm TPH = ND
4) North Wall 5-pt (3'-13') OVM = 0.2 ppm TPH = ND
August 30, 2017
West End Deep Sidewall and Base Closure Sample Event
5) West Wall 5-pt (17'-28') OVM = 1.2 ppm, TPH = ND
6) South Wall (west) 3-pt (17'-28') OVM = 0.4, TPH = ND
7) North Wall (west) 3-pt (17'-28') OVM = 0.9, TPH = ND
8) West Base @ 30' 5-pt, OVM = 0.7, TPH = 580 ppm
August 31, 2017
North End Deep Sidewall and Base Closure Sample Event
9) North Wall 5-pt (17'-28') OVM = 0.6, TPH = ND
10) North Base @ 30' 5-pt, OVM = 0.0, TPH = ND
September 6, 2017
Deepened Base and South and East Wall Closure Event
11) Base 5-pt @ 34', OVM = 0.0 TPH = ND
12) South Wall 5-pt (18'-30') OVM = 0.0 TPH = ND
13) East Wall 5-pt (18'-30') OVM = 0.0 TPH = ND
Google earth
© 2017 Google
Sammons GC A 1A
N
80 ft

Appendix B

Excavation Closure
Laboratory Analytical Data Reports

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1708F17**
Date Reported: **9/1/2017**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Sammons GC A 1A
Lab ID: 1708F17-001
Matrix: MEOH (SOIL)
Client Sample ID: East Wall 5-pt (3'-13')
Collection Date: 8/25/2017 10:02:00 AM
Received Date: 8/26/2017 10:00:00 AM

Analyses	Result	PQL	Qual	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 RANGE ORGANICS						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 RANGE						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.

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Sammons GC A 1A
Lab ID: 1708F17-002
Matrix: MEOH (SOIL)
Client Sample ID: South Wall 5-pt (3'-13')
Collection Date: 8/25/2017 10:06:00 AM
Received Date: 8/26/2017 10:00:00 AM

Analyses	Result	PQL	Qual	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 RANGE ORGANICS						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 RANGE						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.

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Sammons GC A 1A
Lab ID: 1708F17-003
Matrix: MEOH (SOIL)
Client Sample ID: West Wall 5-pt (3'-13')
Collection Date: 8/25/2017 10:09:00 AM
Received Date: 8/26/2017 10:00:00 AM

Analyses	Result	PQL	Qual	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 ORGANICS						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 RANGE						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.

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Sammons GC A 1A
Lab ID: 1708F17-004 **Matrix:** MEOH (SOIL)

Client Sample ID: North Wall 5-pt (3'-13')
Collection Date: 8/25/2017 10:12:00 AM
Received Date: 8/26/2017 10:00:00 AM

Analyses	Result	PQL	Qual	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 ORGANICS						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 RANGE						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.

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **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:	**8/28/2017**	Analysis Date:	**8/28/2017**		SeqNo:	**1434156**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-33585**	SampType:	**lcs**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**LCSS**	Batch ID:	**33585**		RunNo:	**45254**				
Prep Date:	**8/28/2017**	Analysis Date:	**8/28/2017**		SeqNo:	**1434157**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	90.3	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1708F17**

01-Sep-17

Client: Blagg Engineering
Project: Sammons GC A 1A

Sample ID **LCS-33577**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **33577**	RunNo: **45248**
Prep Date: **8/28/2017**	Analysis Date: **8/28/2017**	SeqNo: **1432929** 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**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **33577**	RunNo: **45248**
Prep Date: **8/28/2017**	Analysis Date: **8/28/2017**	SeqNo: **1432930** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.0		10.00		89.6	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1708F17**

01-Sep-17

Client: Blagg Engineering
Project: Sammons GC A 1A

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **G45253**	RunNo: **45253**
Prep Date:	Analysis Date: **8/28/2017**	SeqNo: **1433360** 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	830		1000		82.6	54	150			

Sample ID **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **G45253**	RunNo: **45253**
Prep Date:	Analysis Date: **8/28/2017**	SeqNo: **1433361** 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	88.6	76.4	125			
Surr: BFB	920		1000		91.9	54	150			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1708F17**

01-Sep-17

Client: Blagg Engineering
Project: Sammons GC A 1A

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **B45253**	RunNo: **45253**
Prep Date:	Analysis Date: **8/28/2017**	SeqNo: **1433381** Units: **mg/Kg**

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 LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **B45253**	RunNo: **45253**
Prep Date:	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.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: BLAGG | Work Order Number: 1708F17 | RcptNo: 1

Received By: Andy Freeman 8/26/2017 10:00:00 AM

Completed By: Erin Melendrez 8/28/2017 8:20:22 AM

Reviewed By: JO 8-28-17

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	4.8	Good	Yes			

Chain-of-Custody Record

Client: BP AMERICA

BLAGG ENGINEERING INC.

Mailing Address:

Phone #: (505) 320-1183

email or Fax#:

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time: SAME DAY
☐ Standard ☒ Rush

Project Name: SAMMONS GC A 1A

Project #:

Project Manager: STEVE MOSKAL

Sampler: JEFF BLAGG

On Ice: ☒ Yes ☐ No

Sample Temperature: 4.8°C

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1708F17	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	CHLORIDE				Air Bubbles (Y or N)
8/25/17	1002	SOIL	EAST WALL 5-PT (3'-13')	4 oz x 1	COOL	-001	X		X									X				
	1006		SOUTH WALL 5-PT (3'-13')			-002																
	1009		WEST WALL 5-PT (3'-13')			-003																
	1012		NORTH WALL 5-PT (3'-13')			-004																

Date:	Time:	Relinquished by:	Received by:	Date	Time
8/25/17	1425	Jeff Blagg		8/26/17	1000
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: BILL BP CONTACT: STEVE MOSKAL
VID: VHIXONEVRM
WBS ELEMENT: L1-0018L-E:SAMMONSGCA1A

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1708H26**
Date Reported: **9/6/2017**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: SAMMONS GC A 1A
Lab ID: 1708H26-001 **Matrix:** SOIL

Client Sample ID: West Wall (17'-28')
Collection Date: 8/30/2017 11:34:00 AM
Received Date: 8/31/2017 7:10:00 AM

Analyses	Result	PQL	Qual	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 ORGANICS						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 RANGE						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.

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: SAMMONS GC A 1A
Lab ID: 1708H26-002 **Matrix:** SOIL

Client Sample ID: South Wall (West)(17'-28')
Collection Date: 8/30/2017 11:37:00 AM
Received Date: 8/31/2017 7:10:00 AM

Analyses	Result	PQL	Qual	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 RANGE ORGANICS						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 RANGE						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
EPA METHOD 8021B: VOLATILES						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.

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: SAMMONS GC A 1A
Lab ID: 1708H26-003 **Matrix:** SOIL

Client Sample ID: North Wall (West)(17-'28')
Collection Date: 8/30/2017 11:39:00 AM
Received Date: 8/31/2017 7:10:00 AM

Analyses	Result	PQL	Qual	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 RANGE ORGANICS						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 RANGE						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
EPA METHOD 8021B: VOLATILES						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

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: SAMMONS GC A 1A
Lab ID: 1708H26-004 **Matrix:** SOIL

Client Sample ID: Base @ 30' (5-pt)
Collection Date: 8/30/2017 11:52:00 AM
Received Date: 8/31/2017 7:10:00 AM

Analyses	Result	PQL	Qual	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 RANGE ORGANICS						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 RANGE						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.

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **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**		SeqNo:	**1437822**	Units:	**mg/Kg**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-33647**	SampType:	**lcs**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**LCSS**	Batch ID:	**33647**		RunNo:	**45341**				
Prep Date:	**8/31/2017**	Analysis Date:	**8/31/2017**		SeqNo:	**1437823**	Units:	**mg/Kg**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	91.4	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1708H26**

06-Sep-17

Client: Blagg Engineering
Project: SAMMONS GC A 1A

Sample ID **LCS-33646**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **33646**	RunNo: **45327**
Prep Date: **8/31/2017**	Analysis Date: **8/31/2017**	SeqNo: **1436150** 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	95.1	73.2	114			
Surr: DNOP	5.0		5.000		99.3	70	130			

Sample ID **MB-33646**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **33646**	RunNo: **45327**
Prep Date: **8/31/2017**	Analysis Date: **8/31/2017**	SeqNo: **1436151** Units: **mg/Kg**

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **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	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	810		1000		80.8	54	150			

Sample ID **LCS-33627**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **33627**	RunNo: **45344**
Prep Date: **8/30/2017**	Analysis Date: **8/31/2017**	SeqNo: **1437226** 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	95.3	76.4	125			
Surr: BFB	890		1000		88.5	54	150			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1708H26**

06-Sep-17

Client: Blagg Engineering
Project: SAMMONS GC A 1A

Sample ID **MB-33627**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **33627**	RunNo: **45344**
Prep Date: **8/30/2017**	Analysis Date: **8/31/2017**	SeqNo: **1437243** Units: **mg/Kg**

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**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **33627**	RunNo: **45344**
Prep Date: **8/30/2017**	Analysis Date: **8/31/2017**	SeqNo: **1437244** Units: **mg/Kg**

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: BLAGG | Work Order Number: 1708H26 | RcptNo: 1

Received By: Anne Thorne 8/31/2017 7:10:00 AM Anne Thorne

Completed By: Anne Thorne 8/31/2017 7:44:29 AM Anne Thorne

Reviewed By: IMO 8-31-2017

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	1.8	Good	Yes			

Chain-of-Custody Record

Client: BP AMERICA

BLAGG ENGINEERING INC

Mailing Address:

Phone #: (505) 320-1183

email or Fax#:

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

Accreditation

☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time: SAME DAY

☐ Standard ☒ Rush

Project Name: SAMMONS GC A 1A

Project #:

Project Manager: STEVE MOSKAL

Sampler: JEFF BLAGG

On Ice: ☑ Yes ☐ No

Sample Temperature: 1.8

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and # (08/31/17)	Preservative Type	HEAL No. 1708H26	BTEX + ~~MTBE +~~ TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	CHLORIDE	Air Bubbles (Y or N)
8/30/2017	1134	SOIL	West Wall (17'-28')	4 oz x 1	COOL	-001	X		X									X	
"	1137	"	South Wall (West) (17'-28')	"	"	-002	"		"									"	
"	1139	"	North Wall (West) (17'-28')	"	"	-003	"		"									"	
"	1152	"	BASE @ 30' (5-pt)	"	"	-004	"		"									"	

Date:	Time:	Relinquished by:	Received by:	Date	Time
8/30/17	1552	Jeff Blagg	Elliot Walls	8/30/17	1552
8/31/17	1905	Elliot Walls	Anne Thum	08/31/17	0710

Remarks: BILL BP CONTACT: STEVE MOSKAL

VID: VHXONEVRM

WBS ELEMENT: L1-0018L-E: SAMMONS GC A1A

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.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
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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 www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1709001**
Date Reported: **9/6/2017**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Sammons GC A 1A
Lab ID: 1709001-001
Matrix: MEOH (SOIL)
Client Sample ID: North Wall (East) (17'-28')
Collection Date: 8/31/2017 11:43:00 AM
Received Date: 9/1/2017 8:00:00 AM

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Sammons GC A 1A
Lab ID: 1709001-002
Client Sample ID: North Base @ 30'
Collection Date: 8/31/2017 11:55:00 AM
Matrix: MEOH (SOIL)
Received Date: 9/1/2017 8:00:00 AM

Analyses	Result	PQL	Qual	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.

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

QC SUMMARY REPORT

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	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-33671**	SampType:	**lcs**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**LCSS**	Batch ID:	**33671**		RunNo:	**45372**				
Prep Date:	**9/1/2017**	Analysis Date:	**9/1/2017**		SeqNo:	**1438457**	Units:	**mg/Kg**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.7	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709001**

06-Sep-17

Client: Blagg Engineering
Project: Sammons GC A 1A

Sample ID **LCS-33668**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **33668**	RunNo: **45363**
Prep Date: **9/1/2017**	Analysis Date: **9/1/2017**	SeqNo: **1437550** 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	95.7	73.2	114			
Surr: DNOP	4.7		5.000		93.7	70	130			

Sample ID **MB-33668**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **33668**	RunNo: **45363**
Prep Date: **9/1/2017**	Analysis Date: **9/1/2017**	SeqNo: **1437581** Units: **mg/Kg**

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709001**

06-Sep-17

Client: Blagg Engineering
Project: Sammons GC A 1A

Sample ID **MB-33653**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **33653**	RunNo: **45374**
Prep Date: **8/31/2017**	Analysis Date: **9/1/2017**	SeqNo: **1438048** 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	810		1000		80.6	54	150			

Sample ID **LCS-33653**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **33653**	RunNo: **45374**
Prep Date: **8/31/2017**	Analysis Date: **9/1/2017**	SeqNo: **1438049** 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	96.1	76.4	125			
Surr: BFB	920		1000		91.7	54	150			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709001**

06-Sep-17

Client: Blagg Engineering
Project: Sammons GC A 1A

Sample ID **MB-33653**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **33653**	RunNo: **45374**
Prep Date: **8/31/2017**	Analysis Date: **9/1/2017**	SeqNo: **1438062** Units: **mg/Kg**

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		122	66.6	132			

Sample ID **LCS-33653**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **33653**	RunNo: **45374**
Prep Date: **8/31/2017**	Analysis Date: **9/1/2017**	SeqNo: **1438063** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	114	80	120			
Toluene	1.1	0.050	1.000	0	113	80	120			
Ethylbenzene	1.1	0.050	1.000	0	113	80	120			
Xylenes, Total	3.4	0.10	3.000	0	114	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		122	66.6	132			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: BLAGG | Work Order Number: 1709001 | RcptNo: 1

Received By: Erin Melendrez 9/1/2017 8:00:00 AM

Completed By: Ashley Gallegos 9/1/2017 8:48:08 AM

Reviewed By: 9/1/17

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	3.4	Good	Yes			

Chain-of-Custody Record

Client: BP AMERICA

BLAGG ENGINEERING INC.

Mailing Address:

Phone #: (505) 320-1183

email or Fax#:

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time: SAME DAY
☐ Standard ☒ Rush

Project Name: SAMMONS GC A 1A

Project #:

Project Manager: STEVE MOSKAL

Sampler: JEFF BLAGG

On Ice: ☒ Yes ☐ No

Sample Temperature: 3.2

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	1709001 HEAL No. 1708	BTEX + ~~MTBE + TMB's~~ (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	CHLORIDE				Air Bubbles (Y or N)
8/31/2017	1143	SOIL	NORTH WALL (EAST) (17'-28')	4 oz x 1	COOL	-001	X		X									X				
"	1155	"	NORTH BASE @ 30'	"	"	-002	X		X									X				

Date	Time	Relinquished by:	Received by:	Date	Time
8/31/2017	1450	Jeff Blagg		8/31/2017	1450
8/31/17	1856	Christian Walker		9/01/17	0800

Remarks: BILL BP CONTACT: STEVE MOSKAL
VOC: VHIXONEVRM
WBS ELEMENT: L1-0018L-E:SAMMONSGCA1A

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.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

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

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

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

Sincerely,

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
Project: SAMMONS GC A 1A
Lab ID: 1709291-001 **Matrix:** SOIL

Client Sample ID: Base 5-pt @ 34'
Collection Date: 9/6/2017 10:16:00 AM
Received Date: 9/7/2017 7:15:00 AM

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: SAMMONS GC A 1A
Lab ID: 1709291-002 **Matrix:** SOIL

Client Sample ID: South Wall (18'-30') 5-pt
Collection Date: 9/6/2017 10:24:00 AM
Received Date: 9/7/2017 7:15:00 AM

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: SAMMONS GC A 1A
Lab ID: 1709291-003 **Matrix:** SOIL

Client Sample ID: East Wall (18'-30') 5-pt
Collection Date: 9/6/2017 10:31:00 AM
Received Date: 9/7/2017 7:15:00 AM

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709291**

11-Sep-17

Client: Blagg Engineering
Project: SAMMONS GC A 1A

Sample ID	**MB-33743**	SampType:	**mblk**	TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**PBS**	Batch ID:	**33743**	RunNo:	**45475**				
Prep Date:	**9/7/2017**	Analysis Date:	**9/7/2017**	SeqNo:	**1442603**	Units:	**mg/Kg**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-33743**	SampType:	**lcs**	TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**LCSS**	Batch ID:	**33743**	RunNo:	**45475**				
Prep Date:	**9/7/2017**	Analysis Date:	**9/7/2017**	SeqNo:	**1442604**	Units:	**mg/Kg**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.8	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709291**

11-Sep-17

Client: Blagg Engineering
Project: SAMMONS GC A 1A

Sample ID **LCS-33742**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **33742**	RunNo: **45468**
Prep Date: **9/7/2017**	Analysis Date: **9/7/2017**	SeqNo: **1440759** 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	96.6	73.2	114			
Surr: DNOP	4.8		5.000		96.2	70	130			

Sample ID **MB-33742**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **33742**	RunNo: **45468**
Prep Date: **9/7/2017**	Analysis Date: **9/7/2017**	SeqNo: **1440760** Units: **mg/Kg**

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709291**

11-Sep-17

Client: Blagg Engineering
Project: SAMMONS GC A 1A

Sample ID **mb-33725**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS**	Batch ID: **33725**	RunNo: **45482**
Prep Date: **9/6/2017**	Analysis Date: **9/7/2017**	SeqNo: **1442102** Units: **mg/Kg**

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 **lcs-33725**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **LCSS**	Batch ID: **33725**	RunNo: **45482**
Prep Date: **9/6/2017**	Analysis Date: **9/7/2017**	SeqNo: **1442103** Units: **mg/Kg**

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **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**	RunNo: **45482**
Prep Date: **9/6/2017**	Analysis Date: **9/7/2017**	SeqNo: **1441971** 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	440		500.0		89.0	70	130			

Sample ID **lcs-33725**	SampType: **LCS**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS**	Batch ID: **33725**	RunNo: **45482**
Prep Date: **9/6/2017**	Analysis Date: **9/7/2017**	SeqNo: **1441977** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	105	70	130			
Surr: BFB	470		500.0		93.9	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: BLAGG | Work Order Number: 1709291 | RcptNo: 1

Received By: Anne Thorne 9/7/2017 7:15:00 AM

Completed By: Anne Thorne 9/7/2017 7:41:03 AM

Reviewed By: ENM 9/7/17

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			

Chain-of-Custody Record

Client: BP America

Blagg Engineering, Inc.

Mailing Address:

Phone #: (505)320-1183

email or Fax#:

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

☐ Other ______

☐ EDD (Type) ______

Turn-Around Time: SAME DAY

☐ Standard ☒ Rush

Project Name: SAMMONS GC A 1A

Project #:

Project Manager: Steve Moskal

Sampler: Jeff Blagg

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and # (AJ 09/07/17 n Kit)	Preservative Type	HEAL No. 1709291	BTEX (8021)		TPH 8015B (GRO / DRO/ MRO)		Chloride									Air Bubbles (Y or N)
9/6/2017	1016	SOIL	BASE 5-pt @ 34'	4oz x 1	COOL	-001	X		X		X									
"	1024	"	South Wall (18'-30') 5-pt	"	"	-002	X		X		X									
"	1031	"	EAST wall (18'-30') 5-pt	"	"	-003	X		X		X									

Date	Time	Relinquished by	Received by	Date	Time
9/6/2017	1320	Jeff Blagg	Christ Walters	9/6/2017	1320
9/6/17	2011	Christ Walters	[signature]	09/07/17	0715

Remarks: Bill BP
BP Contact: Steve Moskal
VID: VHIXONEVRM
WBS ELEMENT: L1-0018L-E: SAMMONSGCA1A