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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company: BP	Contact: Steve Moskal
Address: 200 Energy Court, Farmington, NM 87401	Telephone No.: 505-326-9497
Facility Name: Gallegos Canyon Unit 170	Facility Type: Natural gas well

Surface Owner: Fee	Mineral Owner: Fee	API No. 30-045-07658

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County: San Juan
K	35	29N	12W	1,750	South	1,777	West	

OIL CONS. DIV DIST. 3
MAR 0 2 2017

Latitude 36.68015° **Longitude** -108.07149°

NATURE OF RELEASE

Type of Release: Produced water and condensate	Volume of Release: 253 bbl	Volume Recovered: 71.1
Source of Release: Failed well casing and Historical impacts	Date and Hour of Occurrence: July 21, 2016; 2:15 PM	Date and Hour of Discovery: July 22, 2016; 8:30 AM
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Landowner Contacted Brandon Powell - NMOCD	
By Whom? Jesus Villalobos – Private Landowner	Date and Hour: 7/22/16; Phone 8:30 AM Email – 5:30 PM	
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.* A significant increase in water production of the well is suspected to be associated with a breach in the downhole casing. The produced water triggered an alarm, closing the automated choke valve. The water then filled the separator, above ground tank (pit) and production tank which subsequently became overfilled. The well was subsequently plugged and abandoned. During remedial work of the recent release, significant amounts of historical impacts were discovered. BP removed all known and encountered impacts from the site via excavation.

Describe Area Affected and Cleanup Action Taken.* Approximately 16,000 cubic yards of soil was excavated and removed from the location with clean backfill imported from an offsite location designated by the landowner. Where applicable, hydrogen peroxide was applied to the groundwater interface at the base of the excavation. Closure soil samples were collected from the excavation under the observation of the NMOCD with the lab results included in the attached report. Additional groundwater delineation will be performed.

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: 3/3/17	Expiration Date:
E-mail Address: steven.moskal@bp.com	Conditions of Approval: Additional Groundwater Delineation	Attached ☐
Date: March 1, 2017 Phone: 505-326-9497		

* Attach Additional Sheets If Necessary

#NCS1621656998 Must be Done within 60 Day's (5-1-17)
Sample for 8260 Full List
3R-381 Cation/Anion

Smith, Cory, EMNRD

From: Smith, Cory, EMNRD
Sent: Friday, March 3, 2017 2:29 PM
To: Moskal, Steven
Cc: Fields, Vanessa, EMNRD; Bayliss, Randolph, EMNRD
Subject: GCU 170 3RP-381

Steve,

The OCD has received the Final C-141 for the soil aspects at the Gallegos Canyon Unit 170 2016 release. The C-141 has been approved with the following conditions of Approval.

- BP must return to the site within 60 days (5-1-17) and delineate any possible water contamination from the 2016 release and replace as needed monitor wells from the previous ground water contamination that were destroyed during excavation.
- BP will be sample the ground water by EPA Method 8260 (or equivalent division approved method), and General Water Chemistry (Cations and Anion)
- BP will notify the District III Office at least 24 hours but no more than 1 week prior to the start of delineation and before collection conformation water samples.

Since the 2016 release possibly comingled with the previous historic 1995 release BP will not be issued a new 3RP# and will use the historic 3RP-381.

If you have any additional questions please give me a call.

Cory Smith
Environmental Specialist
Oil Conservation Division
Energy, Minerals, & Natural Resources
1000 Rio Brazos, Aztec, NM 87410
(505)334-6178 ext 115
cory.smith@state.nm.us

Release Remediation

GCU 170
(K) Sec 35 – T29N – R12W
API: 30-045-07658
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

February 28, 2017

RELEASE REMEDIATION
GCU 170

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APPENDICES

RELEASE REMEDIATION
GCU 170

INTRODUCTION

Blagg Engineering Inc. (BEI) has been retained by BP America Production Co. (BP) to provide consulting for the remediation of a release that occurred at the GCU 170 natural gas well, located in rural San Juan County, New Mexico at (K) Sec. 35 – T29N – R12. A sudden catastrophic release of approximately 253 barrels of produced water and condensate was discovered to begin on July 21, 2016. The cause of the release was subsequently found to be an integrity issue with the natural gas well which resulted in a sudden inflow of water that overflowed both the on-site 300 barrel production storage tank and 95 barrel low profile tank. The release was contained within the tank perimeter containments and on July 22, 2016 approximately 71 barrels was recovered via vacuum truck.

Removal of surface equipment began on July 27, 2017 and soil impacts were remediated via excavation beginning on July 28, 2016. This work was suspended between August 12 – September 18, 2016 to allow a workover rig access to permanently plug and abandon the natural gas well. Remedial activities resumed on September 19, 2016.

During the period that remedial activities were suspended, BP obtained approval from the New Mexico Oil Conservation Division and the private surface landowner to treat the hydrocarbon impacted soils on-site via a soil shredding process. This process includes proprietary treatment of the soils with hydrogen peroxide, followed by sampling to insure that the soils meet closure standards (total petroleum hydrocarbons at < 100 ppm, benzene at <10 ppm, combined benzene, toluene, ethyl-benzene and total xylenes at <50 ppm). This process was conducted beginning on September 19, 2016.

Removal of impacted soils included excavation to below the top of the water table, found at approximately 8 feet below surface grade. To facilitate groundwater remediation, certain areas of the remedial excavation base were treated with hydrogen peroxide. Additionally, a lateral piping system to inject hydrogen peroxide was installed in the area of the remedial excavation, protected with a geo-textile fabric and then covered with cobbles. It was anticipated to place successfully shredded soils on top of the cobble layer. However, the private landowner rejected the use of the lateral piping, geo-textile fabric and cobble layer. As a result, BP elected to terminate the shredding process on October 17, 2016 and had the remediation contractor remove all piping, fabric and cobbles.

A prior historical release at the site had been remediated via excavation in 1995. This prior remediation did not result in removal of all impacts due to conflicts with piping, surface equipment and the request of the previous landowner to not excavate in his cultivated fields surrounding the well pad. Since the gas well had been permanently abandon, BP elected to remediate the residual historical impacts by excavation. This remedial effort began on October 26, 2016 and was completed on December 13, 2016.

A cathodic protection well was on the GCU 170 well pad, and as a result of the remedial efforts it was necessary to abandon this well. This work was completed by Corrpro of Farmington, New Mexico on November 7, 2016.

Closure sidewall sampling discovered elevated chlorides along the western boundary of the remedial excavation. Elevated chlorides were not evident at any other area of the remediation. A prior abandon gas well operated by Benson, Montin and Greer, the GCU 2, was immediately adjacent to this area. BP conducted additional chloride sampling of the ground surface in the cultivated pasture north of the GCU 2 abandonment marker, but found no elevated chlorides in the surface soils. There was no visual evidence that the pasture grasses were stressed.

CLOSURE SAMPLING PROCEDURES

The remedial excavation in all areas was extended to depths deeper than the known static water table (approximately 8 feet below grade) and as a result only excavation sidewall samples were necessary to demonstrate remediation closure. This sampling was conducted with witnessing by the NMOCD and included composite sampling of each portion of the excavation. Composite samples 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) and U.S. EPA Method 8015 (gasoline range (GRO), diesel range (DRO) and motor oil range (MRO) organics). A chain-of-custody followed the samples.

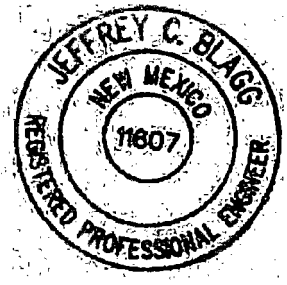
REMEDIATION CLOSURE

The summary laboratory analytical results of the closure sampling, maps showing composite sampling areas, and laboratory data reports are attached. All sampling indicates that site closure of soil impacts has been achieved at all perimeter areas of the remediation, including the historical 1995 release area.

It is Blagg Engineering, Inc's professional opinion that the sampling and analytical testing conducted for the release closure was sufficient to determine that no significant soil impacts exceeding site closure standards remain. Future site groundwater monitoring is indicated pursuant to standard regulatory protocol.

Blagg Engineering, Inc.

Jeffrey C. Blagg, P.E.
President



APPENDIX A
BP America
GCU 170
(K) Sec 35 – T29N – R12W
San Juan County, New Mexico
API: 30-045-07658

Summary Record of Impact Remediation

July 21, 2016 A release of approximately 253 barrels of produced water and condensate from overflow at a 300 barrel stock tank occurred due to significant and unexpected water inflow from the GCU 170 natural gas well. The release was contained on-site within the tank perimeter containment. Approximately 71 barrels was recovered via vac-truck.

The site closure standard was determined at 100 ppm TPH based on:

Known depth to groundwater less than 10' from ground surface.

July 25, 2016 Three pre-existing site groundwater monitor wells (installed to monitor natural attenuation of a prior 1995 site remediation) were inspected. Monitor wells MW-3R and MW-5, both located at down-gradient areas from the release, were found to be free of visual hydrocarbon impacts. Monitor well MW-4, located adjacent to and down-gradient from the tank containment ring, was found to have 7.9 feet of free product floating on the water table.

July 26, 2016 A pump was placed into monitor well MW-4 to recover product. A total of approximately 1,300 gallons of water and 13 gallons of condensate was removed from the well and discharged into the 95 barrel on-site low profile tank.

July 27, 2016 Site remediation via excavation was authorized by BP and approved by the New Mexico Oil Conservation Division (NMOCD). Initial operational plans were developed and removal of site surface equipment was initiated.

July 28 – July 29, 2016 Site remediation via excavation commenced. The initial source area impacted soils in the area of the 300 barrel stock tank and 95 barrel low profile tank were removed to a depth of 11 feet below grade, below the estimated static top of the water table. Apply 250 gallons of 17.5% hydrogen peroxide to the open excavation base (35' x 30' x 11' deep) to augment remediation.

August 1 – August 12, 2016 Continued site remediation via excavation.

August 3 and August 5, 2016 Conduct NMOCD witnessed excavation closure sampling.

August 8 – 9, 2016 Conduct off site hand augering/sampling in the private pasture south of the location to delineate potential off-site impacts.

August 12, 2016 Remediation via excavation suspended to allow workover rig access to permanently plug and abandon the natural gas well.

August 17 – September 13, 2017 Gas well plugged and abandoned.

September 19 – October 14, 2016 Resume site remediation via soil shredding (on-site soil remediation via chemical oxidation of excavated hydrocarbon impacts). Shredding was pre-approved by both NMOCD and the private surface owner. Begin removal of impacts in private pasture south of well pad.

September 20, 2016 Conduct NMOCD witnessed excavation closure sampling of remediated areas in private pasture south of well pad. Begin treating excavated impacted soil with the shredding process.

September 21, 2016 Apply 1,375 gallons of 35% hydrogen peroxide to the west half of the south pasture open excavation base to augment remediation.

September 22, 2016 Apply 2,200 gallons of 35% hydrogen peroxide to the east half of the south pasture open excavation base to augment remediation.

September 26, 2016 Install horizontal slotted PVC treatment piping in remediated areas of the off-site pasture. Install geo-textile fabric and rock covering to protect piping.

September 28, 2016 Conduct NMOCD witnessed closure sampling of shredded soils. Discover historic landowner buried trash at northwest corner of remedial excavation.

October 14, 2016 Conduct NMOCD witnessed excavation closure sampling.

October 17, 2016 Private landowner rejects PVC treatment piping, geo-textile fabric and rock covering processes. Remediation contractor instructed by BP to remove all these materials and transport shredded soils to a commercial landfarm.

October 18, 2016 Conduct investigation of surface soils in the private pasture west of the location to identify a potential presence of chlorides from the plugged and abandoned Benson, Montin Greer operated GCU #2 well.

October 26, 2016 Remediation contractor continues with site remediation via excavation. Excavation extends into remediation area of 1995 excavation. BP instructs excavation crew to remove all residual impacts from 1995 excavation.

October 31, 2016 Conduct NMOCD witnessed excavation closure sampling (in 1995 remedial area).

November 7, 2016 Corrpro of Farmington, New Mexico completes abandonment of the cathodic protection well on the well pad.

November 8, 2016 Conduct NMOCD witnessed excavation closure sampling (in 1995 remedial area).

November 13, 2016 1995 remedial area found to extend into private pasture north of well pad.

November 14, 2016 Conduct NMOCD witnessed excavation closure sampling (in 1995 remedial area).

November 15, 2016 Conduct NMOCD witnessed excavation closure sampling (in 1995 remedial area).

November 17, 2016 Conduct non-witnessed excavation closure sampling (in 1995 remedial area).

November 23, 2016 Conduct NMOCD witnessed excavation closure sampling (in 1995 remedial area).

December 5, 2016 Conduct hand augering in the pasture east of the well pad. Determine that 1995 impacts extend into the east pasture.

December 13, 2016 Conduct final NMOCD witnessed excavation closure sampling (in 1995 remedial area). Complete remediation via excavation. Commence with final backfilling and surface restoration.

January 10, 2017 Complete final site restoration.

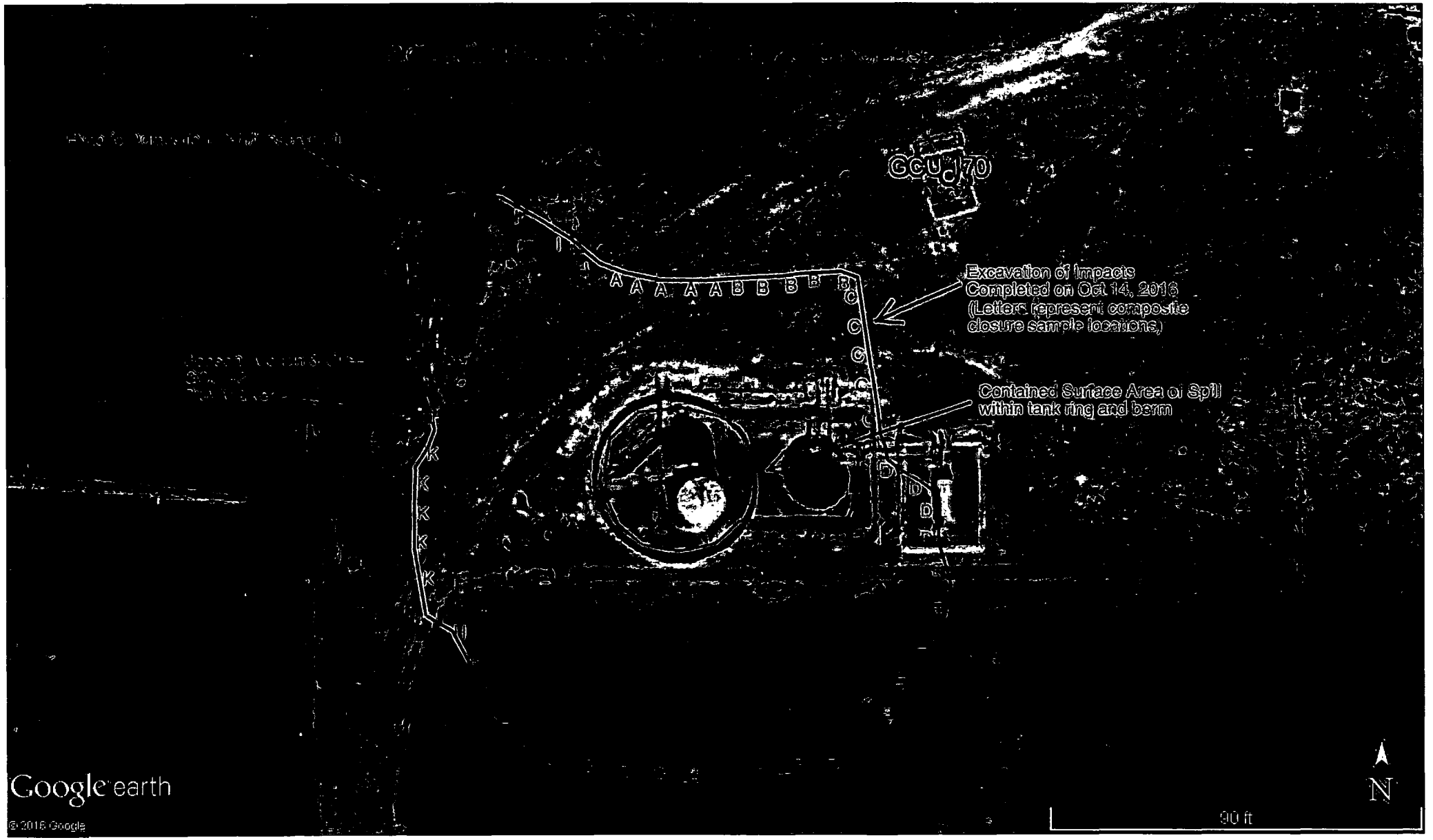
Sidewall Closure Sampling Summary Test Results

Sample ID	Map ID	Date Sampled	Field OVM (ppm)	BTEX (mg/Kg)	TPH GRO (mg/Kg)	TPH DRO (mg/Kg)	TPH MRO (mg/Kg)	TPH Total (mg/Kg)	Chloride (mg/Kg)
North Wall-West End 5-pt (3'-9')	A	8/3/2016	0.0	ND	ND	ND	ND	ND	81
North Wall-East End 5-pt (3'-9')	B	8/5/2016	0.9	ND	ND	ND	ND	ND	ND
East Wall-North End 5-pt (3'-9')	C	8/5/2016	0.4	ND	ND	ND	ND	ND	52
East Wall-South End 5-pt (3'-9')	D	8/5/2016	0.0	ND	ND	ND	ND	ND	170
Off-Pad SE Sidewall 5-pt	E	9/20/2016	3.0	ND	ND	ND	ND	ND	44
Off-Pad South Wall – East Half 5-pt	F	9/20/2016	2.7	ND	ND	ND	ND	ND	ND
Off-Pad South Wall – West Half 5-pt	G	9/20/2016	0.7	ND	ND	ND	ND	ND	ND
Off-Pad SW Sidewall 5-pt	H	9/20/2016	23.4	ND	ND	ND	ND	ND	ND
NW Extension – N Wall 5-pt (4'-8')	I	10/14/2016		ND	ND	ND	ND	ND	85
NW Extension – W Wall North Half 5-pt(4'-8')	J	10/14/2016		ND	ND	ND	ND	ND	402
NW Extension – W Wall South Half 5-pt(4'-8')	K	10/14/2016		ND	ND	ND	ND	ND	326
	1995	Historical	Area	Remedial	Sampling	Results	Follow		
1995 Impacts SW Corner 4-pt (4'-10')	L	10/31/2016	1.2	ND	ND	ND	ND	ND	ND
1995 Impacts South Wall Center 5-pt	M	11/8/2016	0.0	ND	ND	ND	ND	ND	ND
1995 Impacts South Wall East Side 5-pt	N	11/8/2016	0.0	ND	ND	ND	ND	ND	ND
1995 Impacts South Wall SE Corner 3-pt	O	11/8/2016	0.0	ND	ND	ND	ND	ND	ND
1995 Impacts East Wall South 4-pt	P	11/14/2016	1.2	ND	ND	ND	ND	ND	ND
1995 Impacts East Wall South 4-pt	Q	11/14/2016	1.0	ND	ND	ND	ND	ND	ND

Sample ID	Map ID	Date Sampled	Field OVM (ppm)	BTEX (mg/Kg)	TPH GRO (mg/Kg)	TPH DRO (mg/Kg)	TPH MRO (mg/Kg)	TPH Total (mg/Kg)	Chloride (mg/Kg)
1995 Impacts W Corner 5-pt	R	11/15/2016	1.2	ND	ND	ND	ND	ND	ND
1995 Impacts NW Wall South End 5-pt	S	11/15/2016	0.7	ND	ND	ND	ND	ND	ND
1995 Impacts NW Wall North End 5-pt	T	11/15/2016	0.7	ND	ND	ND	ND	ND	31
1995 Impacts North Wall @ Shed 6-pt	U	11/17/2016	254	ND	38	ND	ND	38	47
1995 Impacts North Wall Center 6-pt	V	11/17/2016	3.5	ND	ND	ND	ND	ND	49
1995 Impacts North Wall West End 6-pt	W	11/17/2016	1.2	ND	ND	ND	ND	ND	ND
1995 Impacts North Wall East Corner 6-pt	X	11/23/2016	6.3	ND	ND	ND	ND	ND	ND
1995 Impacts North Wall East of Sheds 6-pt	Y	11/23/2016	1.4	ND	ND	ND	ND	ND	93
1995 Impacts North Wall @ Sheds 6-pt	Z	11/23/2016	3.8	ND	ND	ND	ND	ND	63
1995 Impacts East Pasture #1 Grab at 2'	1	12/13/2016	2.5	ND	ND	ND	ND	ND	ND
1995 Impacts East Pasture #2 6-pt (4'-8')	2	12/13/2016	0.9	ND	ND	ND	ND	ND	33
1995 Impacts East Pasture #3 6-pt (4'-8')	3	12/13/2016	0.8	ND	ND	ND	ND	ND	ND
1995 Impacts East Pasture #4 6-pt (4'-8')	4	12/13/2016	1.1	ND	ND	ND	ND	ND	ND
1995 Impacts East Pasture #5 6-pt (4'-8')	5	12/13/2016	1.0	ND	ND	ND	ND	ND	ND

APPENDIX B

GCU 170
Excavation Diagrams
&
Closure Sampling Locations


GCU C 70
Excavation of Impacts
Completed on Oct 14, 2016
(Letters represent composite
closure sample locations)
Contained Surface Area of Spill
within tank ring and berm
A A A A A B B B B C
C
C
C
D
D
D
Google earth
© 2016 Google
N
90 ft


Excavation complete
for remediation on July 2016
Google earth
© 2016 Google
N
100 ft

APPENDIX C

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

August 05, 2016

Jeff Blagg
Blagg Engineering
P. O. Box 87
Bloomfield, NM 87413
TEL:
FAX

RE: GCU 170 OrderNo.: 1608196

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory received 1 sample(s) on 8/4/2016 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 qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1608196**
Date Reported: **8/5/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 170
Lab ID: 1608196-001

Client Sample ID: North Wall-West End 5-pt (3'-9')
Collection Date: 8/3/2016 2:30:00 PM
Matrix: MEOH (SOIL) **Received Date:** 8/4/2016 6:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	81	30		mg/Kg	20	8/4/2016 2:22:14 PM	26787
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/4/2016 11:26:04 AM	26779
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/4/2016 11:26:04 AM	26779
Surr: DNOP	107	70-130		%Rec	1	8/4/2016 11:26:04 AM	26779
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.3		mg/Kg	1	8/4/2016 1:20:29 PM	26763
Surr: BFB	97.2	49.4-163		%Rec	1	8/4/2016 1:20:29 PM	26763
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.016		mg/Kg	1	8/4/2016 1:20:29 PM	26763
Toluene	ND	0.033		mg/Kg	1	8/4/2016 1:20:29 PM	26763
Ethylbenzene	ND	0.033		mg/Kg	1	8/4/2016 1:20:29 PM	26763
Xylenes, Total	ND	0.065		mg/Kg	1	8/4/2016 1:20:29 PM	26763
Surr: 4-Bromofluorobenzene	89.5	80-120		%Rec	1	8/4/2016 1:20:29 PM	26763

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1608196**

05-Aug-16

Client: Blagg Engineering
Project: GCU 170

Sample ID	MB-26787	SampType:	MBLK		TestCode:	EPA Method 300.0: Anions				
Client ID:	PBS	Batch ID:	26787		RunNo:	36231				
Prep Date:	8/4/2016	Analysis Date:	8/4/2016		SeqNo:	1122323	Units:	mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-26787	SampType:	LCS		TestCode:	EPA Method 300.0: Anions				
Client ID:	LCSS	Batch ID:	26787		RunNo:	36231				
Prep Date:	8/4/2016	Analysis Date:	8/4/2016		SeqNo:	1122324	Units:	mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	91.5	90	110			

Sample ID	MB-26787	SampType:	MBLK		TestCode:	EPA Method 300.0: Anions				
Client ID:	PBS	Batch ID:	26787		RunNo:	36257				
Prep Date:	8/4/2016	Analysis Date:	8/4/2016		SeqNo:	1123236	Units:	mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-26787	SampType:	LCS		TestCode:	EPA Method 300.0: Anions				
Client ID:	LCSS	Batch ID:	26787		RunNo:	36257				
Prep Date:	8/4/2016	Analysis Date:	8/4/2016		SeqNo:	1123237	Units:	mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.9	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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1608196**

05-Aug-16

Client: Blagg Engineering
Project: GCU 170

Sample ID **MB-26779**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **26779**	RunNo: **36220**
Prep Date: **8/3/2016**	Analysis Date: **8/4/2016**	SeqNo: **1122005** 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	9.9		10.00		98.8	70	130			

Sample ID **LCS-26779**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **26779**	RunNo: **36220**
Prep Date: **8/3/2016**	Analysis Date: **8/4/2016**	SeqNo: **1122006** 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	97.0	62.6	124			
Surr: DNOP	5.2		5.000		104	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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1608196**

05-Aug-16

Client: Blagg Engineering
Project: GCU 170

Sample ID **MB-26763**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **26763**	RunNo: **36215**
Prep Date: **8/3/2016**	Analysis Date: **8/4/2016**	SeqNo: **1122450** 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	970		1000		97.0	49.4	163			

Sample ID **LCS-26763**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **26763**	RunNo: **36215**
Prep Date: **8/3/2016**	Analysis Date: **8/4/2016**	SeqNo: **1122452** 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	102	80	120			
Surr: BFB	1000		1000		105	49.4	163			

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1608196**

05-Aug-16

Client: Blagg Engineering
Project: GCU 170

Sample ID **MB-26763**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **26763**	RunNo: **36215**
Prep Date: **8/3/2016**	Analysis Date: **8/4/2016**	SeqNo: **1122473** 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	0.92		1.000		91.5	80	120			

Sample ID **LCS-26763**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **26763**	RunNo: **36215**
Prep Date: **8/3/2016**	Analysis Date: **8/4/2016**	SeqNo: **1122474** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.025	1.000	0	94.4	75.3	123			
Toluene	0.92	0.050	1.000	0	91.9	80	124			
Ethylbenzene	0.96	0.050	1.000	0	95.8	82.8	121			
Xylenes, Total	2.9	0.10	3.000	0	96.4	83.9	122			
Surr: 4-Bromofluorobenzene	0.95		1.000		95.0	80	120			

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

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: **1608196** RcptNo: 1

Received by/date: AJ 08/04/16

Logged By: **Ashley Gallegos** 8/4/2016 6:30:00 AM AJ

Completed By: **Ashley Gallegos** 8/4/2016 7:05:37 AM AJ

Reviewed By: aJ 08/4/16

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 ☐	# of preserved bottles checked for pH: (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted?
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by:

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ 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	2.5	Good	Yes			

Chain-of-Custody Record

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Client: BP America	Turn-Around Time: ASAP SAME DAY
BLAGG ENGINEERING INC	☐ Standard ☒ Rush
Mailing Address:	Project Name: GCU 170
	Project #:
Phone #: 505-320-1183	
Email or Fax#:	Project Manager: J. BLAGG
QA/QC Package: ☒ Standard ☐ Level 4 (Full Validation)	
Accreditation ☐ NELAP ☐ Other	Sampler: J. BLAGG
EDD (Type)	On Ice: ☒ Yes ☐ No
	Sample Temperature: 2.5

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	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)
8/3/2016	1430	SOIL	NORTH WALL - WEST END 5-PT (3'-9')	4 oz x 1	COOL	1608196-001	X		X									X				

Date	Time	Relinquished by:	Received by:	Date	Time
8/3/2016	1819			8/3/16	1819
8/3/16	1904			08/04/16	0630

Remarks: BILL BP
CONTACT: STEVE MOSCAL
VID: VMOSGHQFEC

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

August 10, 2016

Jeff Blagg
Blagg Engineering
P. O. Box 87
Bloomfield, NM 87413
TEL:
FAX

RE: GCU 170 OrderNo.: 1608401

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory received 3 sample(s) on 8/6/2016 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 qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1608401**
Date Reported: **8/10/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 170
Lab ID: 1608401-001
Matrix: MEOH (SOIL)
Client Sample ID: North Wall-East End 5-pt (3'-9')
Collection Date: 8/5/2016 11:29:00 AM
Received Date: 8/6/2016 7:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	8/8/2016 12:23:29 PM	26851
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	8/8/2016 10:22:21 AM	26824
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	8/8/2016 10:22:21 AM	26824
Surr: DNOP	84.9	70-130		%Rec	1	8/8/2016 10:22:21 AM	26824
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	8/8/2016 5:49:13 PM	26818
Surr: BFB	108	49.4-163		%Rec	1	8/8/2016 5:49:13 PM	26818
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.017		mg/Kg	1	8/8/2016 5:49:13 PM	26818
Toluene	ND	0.034		mg/Kg	1	8/8/2016 5:49:13 PM	26818
Ethylbenzene	ND	0.034		mg/Kg	1	8/8/2016 5:49:13 PM	26818
Xylenes, Total	ND	0.068		mg/Kg	1	8/8/2016 5:49:13 PM	26818
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	8/8/2016 5:49:13 PM	26818

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1608401**
Date Reported: **8/10/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 170
Lab ID: 1608401-002 **Matrix:** MEOH (SOIL)

Client Sample ID: East Wall-North End 5-pt (3'-9')
Collection Date: 8/5/2016 11:34:00 AM
Received Date: 8/6/2016 7:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	52	30		mg/Kg	20	8/8/2016 12:35:53 PM	26851
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	8/8/2016 10:44:05 AM	26824
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	8/8/2016 10:44:05 AM	26824
Surr: DNOP	85.2	70-130		%Rec	1	8/8/2016 10:44:05 AM	26824
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.3		mg/Kg	1	8/8/2016 6:12:34 PM	26818
Surr: BFB	108	49.4-163		%Rec	1	8/8/2016 6:12:34 PM	26818
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.016		mg/Kg	1	8/8/2016 6:12:34 PM	26818
Toluene	ND	0.033		mg/Kg	1	8/8/2016 6:12:34 PM	26818
Ethylbenzene	ND	0.033		mg/Kg	1	8/8/2016 6:12:34 PM	26818
Xylenes, Total	ND	0.065		mg/Kg	1	8/8/2016 6:12:34 PM	26818
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	8/8/2016 6:12:34 PM	26818

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 170
Lab ID: 1608401-003
Matrix: MEOH (SOIL)
Client Sample ID: East Wall-South End 5-pt (3'-9')
Collection Date: 8/5/2016 11:39:00 AM
Received Date: 8/6/2016 7:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	170	30		mg/Kg	20	8/8/2016 12:48:18 PM	26851
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/8/2016 11:05:57 AM	26824
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	8/8/2016 11:05:57 AM	26824
Surr: DNOP	87.0	70-130		%Rec	1	8/8/2016 11:05:57 AM	26824
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.2		mg/Kg	1	8/8/2016 6:36:01 PM	26818
Surr: BFB	108	49.4-163		%Rec	1	8/8/2016 6:36:01 PM	26818
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.016		mg/Kg	1	8/8/2016 6:36:01 PM	26818
Toluene	ND	0.032		mg/Kg	1	8/8/2016 6:36:01 PM	26818
Ethylbenzene	ND	0.032		mg/Kg	1	8/8/2016 6:36:01 PM	26818
Xylenes, Total	ND	0.064		mg/Kg	1	8/8/2016 6:36:01 PM	26818
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	8/8/2016 6:36:01 PM	26818

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1608401**

10-Aug-16

Client: Blagg Engineering
Project: GCU 170

Sample ID	**MB-26851**	SampType:	**mblk**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**PBS**	Batch ID:	**26851**		RunNo:	**36324**				
Prep Date:	**8/8/2016**	Analysis Date:	**8/8/2016**		SeqNo:	**1125060**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-26851**	SampType:	**lcs**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**LCSS**	Batch ID:	**26851**		RunNo:	**36324**				
Prep Date:	**8/8/2016**	Analysis Date:	**8/8/2016**		SeqNo:	**1125061**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.9	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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1608401**

10-Aug-16

Client: Blagg Engineering
Project: GCU 170

Sample ID **MB-26824**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **26824**	RunNo: **36290**
Prep Date: **8/8/2016**	Analysis Date: **8/8/2016**	SeqNo: **1124202** 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	8.7		10.00		86.6	70	130			

Sample ID **LCS-26824**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **26824**	RunNo: **36290**
Prep Date: **8/8/2016**	Analysis Date: **8/8/2016**	SeqNo: **1124203** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	40	10	50.00	0	80.6	62.6	124			
Surr: DNOP	4.1		5.000		81.9	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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1608401**

10-Aug-16

Client: Blagg Engineering
Project: GCU 170

Sample ID **MB-26818**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **26818**	RunNo: **36301**
Prep Date: **8/5/2016**	Analysis Date: **8/8/2016**	SeqNo: **1124720** 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	1100		1000		105	49.4	163			

Sample ID **LCS-26818**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **26818**	RunNo: **36301**
Prep Date: **8/5/2016**	Analysis Date: **8/8/2016**	SeqNo: **1124721** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	108	80	120			
Surr: BFB	1200		1000		119	49.4	163			

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1608401**

10-Aug-16

Client: Blagg Engineering
Project: GCU 170

Sample ID **MB-26818**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **26818**	RunNo: **36301**
Prep Date: **8/5/2016**	Analysis Date: **8/8/2016**	SeqNo: **1124736** 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	1.0		1.000		99.5	80	120			

Sample ID **LCS-26818**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **26818**	RunNo: **36301**
Prep Date: **8/5/2016**	Analysis Date: **8/8/2016**	SeqNo: **1124737** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.025	1.000	0	96.2	75.3	123			
Toluene	1.0	0.050	1.000	0	102	80	124			
Ethylbenzene	1.1	0.050	1.000	0	109	82.8	121			
Xylenes, Total	3.2	0.10	3.000	0	106	83.9	122			
Surr: 4-Bromofluorobenzene	1.1		1.000		108	80	120			

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

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: **1608401** RcptNo: **1**

Received by/date: 08/06/16

Logged By: **Lindsay Mangin** **8/6/2016 7:45:00 AM**

Completed By: **Lindsay Mangin** **8/6/2016 12:22:24 PM**

Reviewed By: 08/08/16

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 ☑	# of preserved bottles checked for pH: (<2 or >12 unless noted)
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 ☐	Adjusted?
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by:

Special Handling (if applicable)

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	2.0	Good	Yes			

Chain-of-Custody Record

ent: BP AMERICA

BLAGG ENGINEERING INC.

ailing Address:

one #: 505-320-1183

ail or Fax#:

/QC Package:

Standard ☐ Level 4 (Full Validation)

creditation

NELAP ☐ Other

EDD (Type)

Turn-Around Time: ASAP SAME DAY

☐ Standard ☒ Rush

Project Name: GCU 170

Project #:

Project Manager: J. BLAGG

Sampler: J. BLAGG

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.0

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 #	Preservative Type	HEAL No. 1608409	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)
8/5/2016	1129	SOIL	NORTH WALL - EAST END 5-pt (3'-9')	4 oz x 1	COOL	-001	X		X									X				
	1134	"	EAST WALL - NORTH END 5-pt (3'-9')	"	"	-002	X		X									X				
	1139	"	EAST WALL - SOUTH END 5-pt (3'-9')	"	"	-003	X		X									X				

Date	Time	Relinquished by:	Received by:	Date	Time
8/5/2016	1332	Jeff Blagg	Chad Wall	8/5/2016	1332
8/6/16	1840	Chad Wall		08/06/16	0745

Remarks: BILL BP
CONTACT: STEVE MOSKAL
VID: VMOSGHQFEC

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 23, 2016

Jeff Blagg
Blagg Engineering
P. O. Box 87
Bloomfield, NM 87413
TEL:
FAX

RE: GCU 170 OrderNo.: 1609B49

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory received 4 sample(s) on 9/21/2016 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 qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1609B49**
Date Reported: **9/23/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: Off-Pad SE Sidewall 5-pt
Project: GCU 170
Collection Date: 9/20/2016 2:53:00 PM
Lab ID: 1609B49-001
Matrix: MEOH (SOIL)
Received Date: 9/21/2016 7:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	44	30		mg/Kg	20	9/21/2016 12:08:16 PM	27630
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	9/21/2016 9:57:38 AM	27624
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/21/2016 9:57:38 AM	27624
Surr: DNOP	98.2	70-130		%Rec	1	9/21/2016 9:57:38 AM	27624
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.7		mg/Kg	1	9/21/2016 9:38:14 AM	27604
Surr: BFB	81.6	68.3-144		%Rec	1	9/21/2016 9:38:14 AM	27604
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.019		mg/Kg	1	9/21/2016 9:38:14 AM	27604
Toluene	ND	0.037		mg/Kg	1	9/21/2016 9:38:14 AM	27604
Ethylbenzene	ND	0.037		mg/Kg	1	9/21/2016 9:38:14 AM	27604
Xylenes, Total	ND	0.075		mg/Kg	1	9/21/2016 9:38:14 AM	27604
Surr: 4-Bromofluorobenzene	96.0	80-120		%Rec	1	9/21/2016 9:38:14 AM	27604

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1609B49**
Date Reported: **9/23/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: Off-Pad South Wall-East Half 5-
Project: GCU 170
Collection Date: 9/20/2016 2:58:00 PM
Lab ID: 1609B49-002 **Matrix:** MEOH (SOIL) **Received Date:** 9/21/2016 7:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	ND	30		mg/Kg	20	9/21/2016 11:31:02 AM	27630
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/21/2016 10:19:17 AM	27624
Motor Oil Range Organics (MRO)	ND	51		mg/Kg	1	9/21/2016 10:19:17 AM	27624
Surr: DNOP	103	70-130		%Rec	1	9/21/2016 10:19:17 AM	27624
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	9/21/2016 10:01:39 AM	27604
Surr: BFB	81.2	68.3-144		%Rec	1	9/21/2016 10:01:39 AM	27604
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.017		mg/Kg	1	9/21/2016 10:01:39 AM	27604
Toluene	ND	0.035		mg/Kg	1	9/21/2016 10:01:39 AM	27604
Ethylbenzene	ND	0.035		mg/Kg	1	9/21/2016 10:01:39 AM	27604
Xylenes, Total	ND	0.069		mg/Kg	1	9/21/2016 10:01:39 AM	27604
Surr: 4-Bromofluorobenzene	95.7	80-120		%Rec	1	9/21/2016 10:01:39 AM	27604

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1609B49**
Date Reported: **9/23/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: Off-Pad South Wall-West Half 5-
Project: GCU 170
Collection Date: 9/20/2016 3:00:00 PM
Lab ID: 1609B49-003 **Matrix:** MEOH (SOIL) **Received Date:** 9/21/2016 7:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	ND	30		mg/Kg	20	9/21/2016 11:43:27 AM	27630
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	ND	3.2		mg/Kg	1	9/21/2016 10:58:06 AM	M37365
Surr: BFB	99.8	70-130		%Rec	1	9/21/2016 10:58:06 AM	M37365
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	9/21/2016 10:40:56 AM	27624
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/21/2016 10:40:56 AM	27624
Surr: DNOP	100	70-130		%Rec	1	9/21/2016 10:40:56 AM	27624
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	0.016		mg/Kg	1	9/21/2016 10:58:06 AM	S37365
Toluene	ND	0.032		mg/Kg	1	9/21/2016 10:58:06 AM	S37365
Ethylbenzene	ND	0.032		mg/Kg	1	9/21/2016 10:58:06 AM	S37365
Xylenes, Total	ND	0.064		mg/Kg	1	9/21/2016 10:58:06 AM	S37365
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	9/21/2016 10:58:06 AM	S37365
Surr: 4-Bromofluorobenzene	91.2	70-130		%Rec	1	9/21/2016 10:58:06 AM	S37365
Surr: Dibromofluoromethane	108	70-130		%Rec	1	9/21/2016 10:58:06 AM	S37365
Surr: Toluene-d8	95.8	70-130		%Rec	1	9/21/2016 10:58:06 AM	S37365

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: Off-Pad SW SideWall Half 5-pt
Project: GCU 170
Collection Date: 9/20/2016 3:08:00 PM
Lab ID: 1609B49-004
Matrix: MEOH (SOIL)
Received Date: 9/21/2016 7:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	ND	30		mg/Kg	20	9/21/2016 11:55:51 AM	27630
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	9/21/2016 11:27:04 AM	M37365
Surr: BFB	101	70-130		%Rec	1	9/21/2016 11:27:04 AM	M37365
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	9/21/2016 11:02:47 AM	27624
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/21/2016 11:02:47 AM	27624
Surr: DNOP	99.8	70-130		%Rec	1	9/21/2016 11:02:47 AM	27624
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	0.017		mg/Kg	1	9/21/2016 11:27:04 AM	S37365
Toluene	ND	0.035		mg/Kg	1	9/21/2016 11:27:04 AM	S37365
Xylenes, Total	ND	0.069		mg/Kg	1	9/21/2016 11:27:04 AM	S37365
Surr: 1,2-Dichloroethane-d4	96.0	70-130		%Rec	1	9/21/2016 11:27:04 AM	S37365
Surr: 4-Bromofluorobenzene	92.2	70-130		%Rec	1	9/21/2016 11:27:04 AM	S37365
Surr: Dibromofluoromethane	113	70-130		%Rec	1	9/21/2016 11:27:04 AM	S37365
Surr: Toluene-d8	94.3	70-130		%Rec	1	9/21/2016 11:27:04 AM	S37365

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1609B49**

23-Sep-16

Client: Blagg Engineering
Project: GCU 170

Sample ID	**MB-27630**	SampType:	**MBLK**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**PBS**	Batch ID:	**27630**		RunNo:	**37376**				
Prep Date:	**9/21/2016**	Analysis Date:	**9/21/2016**		SeqNo:	**1161518**	Units:	**mg/Kg**		

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

Sample ID	**LCS-27630**	SampType:	**LCS**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**LCSS**	Batch ID:	**27630**		RunNo:	**37376**				
Prep Date:	**9/21/2016**	Analysis Date:	**9/21/2016**		SeqNo:	**1161520**	Units:	**mg/Kg**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.1	90	110			

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1609B49**

23-Sep-16

Client: Blagg Engineering
Project: GCU 170

Sample ID **LCS-27624**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **27624**	RunNo: **37357**
Prep Date: **9/21/2016**	Analysis Date: **9/21/2016**	SeqNo: **1160681** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	94.0	62.6	124			
Surr: DNOP	4.7		5.000		93.9	70	130			

Sample ID **MB-27624**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **27624**	RunNo: **37357**
Prep Date: **9/21/2016**	Analysis Date: **9/21/2016**	SeqNo: **1160682** 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	9.8		10.00		98.0	70	130			

Sample ID **1609B49-001AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **Off-Pad SE Sidewall**	Batch ID: **27624**	RunNo: **37357**
Prep Date: **9/21/2016**	Analysis Date: **9/21/2016**	SeqNo: **1160891** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	9.8	49.12	0	94.2	33.9	141			
Surr: DNOP	4.7		4.912		95.7	70	130			

Sample ID **1609B49-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **Off-Pad SE Sidewall**	Batch ID: **27624**	RunNo: **37357**
Prep Date: **9/21/2016**	Analysis Date: **9/21/2016**	SeqNo: **1160892** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	9.6	47.85	0	94.6	33.9	141	2.17	20	
Surr: DNOP	4.6		4.785		95.2	70	130	0	0	

Sample ID **LCS-27605**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **27605**	RunNo: **37357**
Prep Date: **9/20/2016**	Analysis Date: **9/21/2016**	SeqNo: **1161362** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.3		5.000		86.9	70	130			

Sample ID **MB-27605**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **27605**	RunNo: **37357**
Prep Date: **9/20/2016**	Analysis Date: **9/21/2016**	SeqNo: **1161363** Units: **%Rec**

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

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1609B49**

23-Sep-16

Client: Blagg Engineering
Project: GCU 170

Sample ID **MB-27605**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **27605**	RunNo: **37357**
Prep Date: **9/20/2016**	Analysis Date: **9/21/2016**	SeqNo: **1161363** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.5		10.00		94.9	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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1609B49**

23-Sep-16

Client: Blagg Engineering
Project: GCU 170

Sample ID **MB-27604**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **27604**	RunNo: **37362**
Prep Date: **9/20/2016**	Analysis Date: **9/21/2016**	SeqNo: **1161649** 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	*820*		*1000*		*82.3*	*68.3*	*144*			

Sample ID **LCS-27604**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **27604**	RunNo: **37362**
Prep Date: **9/20/2016**	Analysis Date: **9/21/2016**	SeqNo: **1161650** 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	95.0	74.6	123			
Surr: BFB	900		1000		90.2	68.3	144			

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1609B49**

23-Sep-16

Client: Blagg Engineering
Project: GCU 170

Sample ID **MB-27604**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **27604**	RunNo: **37362**
Prep Date: **9/20/2016**	Analysis Date: **9/21/2016**	SeqNo: **1161660** 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	0.98		1.000		98.4	80	120			

Sample ID **LCS-27604**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **27604**	RunNo: **37362**
Prep Date: **9/20/2016**	Analysis Date: **9/21/2016**	SeqNo: **1161661** 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	102	75.3	123			
Toluene	0.98	0.050	1.000	0	98.3	80	124			
Ethylbenzene	0.98	0.050	1.000	0	98.2	82.8	121			
Xylenes, Total	2.9	0.10	3.000	0	97.6	83.9	122			
Surr: 4-Bromofluorobenzene	1.0		1.000		102	80	120			

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1609B49**

23-Sep-16

Client: Blagg Engineering
Project: GCU 170

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **LCSS**	Batch ID: **S37365**	RunNo: **37365**
Prep Date:	Analysis Date: **9/21/2016**	SeqNo: **1160917** 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	70	130			
Toluene	0.93	0.050	1.000	0	92.7	70	130			
Surr: 1,2-Dichloroethane-d4	0.51		0.5000		103	70	130			
Surr: 4-Bromofluorobenzene	0.48		0.5000		96.0	70	130			
Surr: Dibromofluoromethane	0.48		0.5000		96.7	70	130			
Surr: Toluene-d8	0.49		0.5000		98.0	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS**	Batch ID: **S37365**	RunNo: **37365**
Prep Date:	Analysis Date: **9/21/2016**	SeqNo: **1160918** 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	0.50		0.5000		100	70	130			
Surr: 4-Bromofluorobenzene	0.49		0.5000		98.1	70	130			
Surr: Dibromofluoromethane	0.50		0.5000		99.6	70	130			
Surr: Toluene-d8	0.49		0.5000		97.5	70	130			

Sample ID **1609b49-003ams**	SampType: **MS**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **Off-Pad South Wall-**	Batch ID: **S37365**	RunNo: **37365**
Prep Date:	Analysis Date: **9/21/2016**	SeqNo: **1161832** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.65	0.016	0.6402	0	101	49.2	155			
Toluene	0.58	0.032	0.6402	0	90.4	52	154			
Surr: 1,2-Dichloroethane-d4	0.32		0.3201		101	70	130			
Surr: 4-Bromofluorobenzene	0.29		0.3201		89.1	70	130			
Surr: Dibromofluoromethane	0.36		0.3201		113	70	130			
Surr: Toluene-d8	0.30		0.3201		92.5	70	130			

Sample ID **1609b49-003amsd**	SampType: **MSD**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **Off-Pad South Wall-**	Batch ID: **S37365**	RunNo: **37365**
Prep Date:	Analysis Date: **9/21/2016**	SeqNo: **1161833** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.63	0.016	0.6402	0	98.5	49.2	155	2.47	20	
Toluene	0.57	0.032	0.6402	0	89.4	52	154	1.05	20	

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1609B49**

23-Sep-16

Client: Blagg Engineering
Project: GCU 170

Sample ID **1609b49-003amsd** SampType: **MSD** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **Off-Pad South Wall-** Batch ID: **S37365** RunNo: **37365**
Prep Date: Analysis Date: **9/21/2016** SeqNo: **1161833** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	0.34		0.3201		107	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.28		0.3201		86.5	70	130	0	0	
Surr: Dibromofluoromethane	0.36		0.3201		112	70	130	0	0	
Surr: Toluene-d8	0.31		0.3201		95.5	70	130	0	0	

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1609B49**

23-Sep-16

Client: Blagg Engineering
Project: GCU 170

Sample ID **2.5ug gro lcs**	SampType: **LCS**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS**	Batch ID: **M37365**	RunNo: **37365**
Prep Date:	Analysis Date: **9/21/2016**	SeqNo: **1160923** 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	95.2	62.9	123			
Surr: BFB	500		500.0		100	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS**	Batch ID: **M37365**	RunNo: **37365**
Prep Date:	Analysis Date: **9/21/2016**	SeqNo: **1160924** 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	490		500.0		97.3	70	130			

Sample ID **1609B49-003AMS**	SampType: **MS**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **Off-Pad South Wall-**	Batch ID: **M37365**	RunNo: **37365**
Prep Date:	Analysis Date: **9/21/2016**	SeqNo: **1161680** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	14	3.2	16.00	0.6018	85.8	52.3	132			
Surr: BFB	330		320.1		102	70	130			

Sample ID **1609B49-003AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **Off-Pad South Wall-**	Batch ID: **M37365**	RunNo: **37365**
Prep Date:	Analysis Date: **9/21/2016**	SeqNo: **1161681** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	14	3.2	16.00	0.6018	82.9	52.3	132	3.27	20	
Surr: BFB	340		320.1		105	70	130	0	0	

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

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: 1609B49 RcptNo: 1

Received by/date: 09/21/16

Logged By: Lindsay Mangin 9/21/2016 7:45:00 AM

Completed By: Lindsay Mangin 9/21/2016 8:20:16 AM

Reviewed By: 09/21/16

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: ☐ Standard ☒ Rush ASAP SAME DAY
Project Name: GCU 170
Project #:
Project Manager: J. BLAGG
Sampler: J. BLAGG
On Ice: ☒ Yes ☐ No
Sample Temperature: 18

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

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1609B19	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)
9/2016	1453	SOIL	OFF-PAD SE SIDEWALL 5-pt	4oz x 1	COOL	-001	X		X									X	
"	1458	"	OFF-PAD South Wall-East Half 5-pt	"	"	-002	X		X									X	
"	1500	"	OFF-PAD South Wall-West Half 5-pt	"	"	-003	X		X									X	
"	1508	"	OFF-PAD SW Sidewall 5-pt	"	"	-004	X		X									X	

Date:	Time:	Relinquished by:	Received by:	Date	Time
9/2016	1832			9/20/16	1832
9/20/16	2014			09/21/16	0715

Remarks: BILL BP
CONTACT: STEVE MOSKAL
VID: VHIXONEVRM

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

October 18, 2016

Jeff Blagg
Blagg Engineering
P. O. Box 87
Bloomfield, NM 87413
TEL:
FAX

RE: GCU 170 OrderNo.: 1610735

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory received 3 sample(s) on 10/15/2016 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 qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1610735**
Date Reported: **10/18/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: NW Extension N Wall 5-pt (4'-8'
Project: GCU 170
Collection Date: 10/14/2016 2:45:00 PM
Lab ID: 1610735-001
Matrix: MEOH (SOIL)
Received Date: 10/15/2016 1:15:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	86	30		mg/Kg	20	10/17/2016 11:56:25 AM	28108
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/17/2016 12:43:24 PM	28084
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/17/2016 12:43:24 PM	28084
Surr: DNOP	87.7	70-130		%Rec	1	10/17/2016 12:43:24 PM	28084
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.3		mg/Kg	1	10/17/2016 10:07:13 AM	G37989
Surr: BFB	96.4	68.3-144		%Rec	1	10/17/2016 10:07:13 AM	G37989
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.017		mg/Kg	1	10/17/2016 10:07:13 AM	B37989
Toluene	ND	0.033		mg/Kg	1	10/17/2016 10:07:13 AM	B37989
Ethylbenzene	ND	0.033		mg/Kg	1	10/17/2016 10:07:13 AM	B37989
Xylenes, Total	ND	0.067		mg/Kg	1	10/17/2016 10:07:13 AM	B37989
Surr: 4-Bromofluorobenzene	109	80-120		%Rec	1	10/17/2016 10:07:13 AM	B37989

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 170
Lab ID: 1610735-002 **Matrix:** MEOH (SOIL)

Client Sample ID: NW Extension N Half W Wall 5-
Collection Date: 10/14/2016 2:49:00 PM
Received Date: 10/15/2016 1:15:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	400	30		mg/Kg	20	10/17/2016 12:08:50 PM	28108
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	10/17/2016 1:06:21 PM	28084
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/17/2016 1:06:21 PM	28084
Surr: DNOP	93.7	70-130		%Rec	1	10/17/2016 1:06:21 PM	28084
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.1		mg/Kg	1	10/17/2016 10:31:39 AM	G37989
Surr: BFB	92.7	68.3-144		%Rec	1	10/17/2016 10:31:39 AM	G37989
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.016		mg/Kg	1	10/17/2016 10:31:39 AM	B37989
Toluene	ND	0.031		mg/Kg	1	10/17/2016 10:31:39 AM	B37989
Ethylbenzene	ND	0.031		mg/Kg	1	10/17/2016 10:31:39 AM	B37989
Xylenes, Total	ND	0.062		mg/Kg	1	10/17/2016 10:31:39 AM	B37989
Surr: 4-Bromofluorobenzene	108	80-120		%Rec	1	10/17/2016 10:31:39 AM	B37989

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: NW Extension S Half 5-pt (4'-8')
Project: GCU 170
Collection Date: 10/14/2016 2:55:00 PM
Lab ID: 1610735-003
Matrix: MEOH (SOIL)
Received Date: 10/15/2016 1:15:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	330	30		mg/Kg	20	10/17/2016 12:21:15 PM	28108
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	10/17/2016 1:29:20 PM	28084
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	10/17/2016 1:29:20 PM	28084
Surr: DNOP	93.8	70-130		%Rec	1	10/17/2016 1:29:20 PM	28084
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.6		mg/Kg	1	10/17/2016 10:56:01 AM	G37989
Surr: BFB	92.6	68.3-144		%Rec	1	10/17/2016 10:56:01 AM	G37989
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.018		mg/Kg	1	10/17/2016 10:56:01 AM	B37989
Toluene	ND	0.036		mg/Kg	1	10/17/2016 10:56:01 AM	B37989
Ethylbenzene	ND	0.036		mg/Kg	1	10/17/2016 10:56:01 AM	B37989
Xylenes, Total	ND	0.072		mg/Kg	1	10/17/2016 10:56:01 AM	B37989
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	10/17/2016 10:56:01 AM	B37989

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1610735**

18-Oct-16

Client: Blagg Engineering
Project: GCU 170

Sample ID	**MB-28108**	SampType:	**MBLK**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**28108**	RunNo:	**38011**					
Prep Date:	**10/17/2016**	Analysis Date:	**10/17/2016**	SeqNo:	**1184848**	Units:	**mg/Kg**			

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

Sample ID	**LCS-28108**	SampType:	**LCS**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**28108**	RunNo:	**38011**					
Prep Date:	**10/17/2016**	Analysis Date:	**10/17/2016**	SeqNo:	**1184849**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.2	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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1610735**

18-Oct-16

Client: Blagg Engineering
Project: GCU 170

Sample ID **LCS-28084**	SampType: **LCS**			TestCode: **EPA Method 8015M/D: Diesel Range Organics**					
Client ID: **LCSS**	Batch ID: **28084**			RunNo: **37981**					
Prep Date: **10/17/2016**	Analysis Date: **10/17/2016**			SeqNo: **1183848**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	10	50.00	0	100	62.6	124			
Surr: DNOP	4.6		5.000		91.8	70	130			

Sample ID **MB-28084**	SampType: **MBLK**			TestCode: **EPA Method 8015M/D: Diesel Range Organics**					
Client ID: **PBS**	Batch ID: **28084**			RunNo: **37981**					
Prep Date: **10/17/2016**	Analysis Date: **10/17/2016**			SeqNo: **1183849**		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	9.9		10.00		98.8	70	130			

Sample ID **MB-28076**	SampType: **MBLK**			TestCode: **EPA Method 8015M/D: Diesel Range Organics**					
Client ID: **PBS**	Batch ID: **28076**			RunNo: **37981**					
Prep Date: **10/14/2016**	Analysis Date: **10/17/2016**			SeqNo: **1184449**		Units: **%Rec**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.6		10.00		85.7	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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1610735**

18-Oct-16

Client: Blagg Engineering
Project: GCU 170

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **G37989**	RunNo: **37989**
Prep Date:	Analysis Date: **10/17/2016**	SeqNo: **1184431** 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	910		1000		91.4	68.3	144			

Sample ID **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **G37989**	RunNo: **37989**
Prep Date:	Analysis Date: **10/17/2016**	SeqNo: **1184432** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	107	74.6	123			
Surr: BFB	950		1000		95.4	68.3	144			

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1610735**

18-Oct-16

Client: Blagg Engineering
Project: GCU 170

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **B37989**	RunNo: **37989**
Prep Date:	Analysis Date: **10/17/2016**	SeqNo: **1184496** 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	1.0		1.000		104	80	120			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **B37989**	RunNo: **37989**
Prep Date:	Analysis Date: **10/17/2016**	SeqNo: **1184497** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.025	1.000	0	97.6	75.2	115			
Toluene	0.99	0.050	1.000	0	99.2	80.7	112			
Ethylbenzene	0.97	0.050	1.000	0	96.7	78.9	117			
Xylenes, Total	3.0	0.10	3.000	0	101	79.2	115			
Surr: 4-Bromofluorobenzene	1.0		1.000		103	80	120			

Sample ID **1610735-001AMS**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **NW Extension N Wa**	Batch ID: **B37989**	RunNo: **37989**
Prep Date:	Analysis Date: **10/17/2016**	SeqNo: **1184498** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.62	0.017	0.6684	0	93.1	71.5	122			
Toluene	0.60	0.033	0.6684	0.005615	89.2	71.2	123			
Ethylbenzene	0.60	0.033	0.6684	0.006951	89.2	75.2	130			
Xylenes, Total	1.9	0.067	2.005	0.04204	94.5	72.4	131			
Surr: 4-Bromofluorobenzene	0.67		0.6684		101	80	120			

Sample ID **1610735-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **NW Extension N Wa**	Batch ID: **B37989**	RunNo: **37989**
Prep Date:	Analysis Date: **10/17/2016**	SeqNo: **1184499** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.65	0.017	0.6684	0	97.0	71.5	122	4.12	20	
Toluene	0.63	0.033	0.6684	0.005615	93.0	71.2	123	4.16	20	
Ethylbenzene	0.61	0.033	0.6684	0.006951	90.4	75.2	130	1.39	20	
Xylenes, Total	2.0	0.067	2.005	0.04204	95.4	72.4	131	0.955	20	
Surr: 4-Bromofluorobenzene	0.68		0.6684		102	80	120	0	0	

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

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: **1610735** RcptNo: **1**

Received by/date: 10/15/16

Logged By: **Lindsay Mangin** **10/15/2016 1:15:00 PM**

Completed By: **Lindsay Mangin** **10/15/2016 2:06:14 PM**

Reviewed By: AT 10/17/16

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	4.4	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: ASAP SAME DAY
☐ Standard ☒ Rush
Project Name: GCU 170
Project #:
Project Manager: J. BLAGG
Sampler: J. BLAGG
On Ice: ☒ Yes ☐ No
Sample Temperature: 4.1

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

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1610735	BTEX + MTBE + TMBs (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)
10/14/2016	1445	SOIL	NW Extension - N. Wall 5-pt (4'-8') AT 10/17/14	4 oz x1	COOL	-001	X		X									X				
"	1449	"	NW Extension - N HALF 5-pt (4'-8') W Wall	"	"	-002	X		X									X				
"	1455	"	NW Extension - S. HALF 5-pt (4'-8')	"	"	-003	X		X									X				

Remarks: BILL BP
CONTACT : STEVE MOSKAL
VID : VHIXONEVRM

Date	Time	Relinquished by:	Received by:	Date	Time
10/14/2016	1718	Jeff Blagg			
10/14/2016	2014			10/15/16	1315

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

November 03, 2016

Jeff Blagg
Blagg Engineering
P. O. Box 87
Bloomfield, NM 87413
TEL:
FAX

RE: GCU 170 OrderNo.: 1611002

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory received 1 sample(s) on 11/1/2016 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 qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1611002**
Date Reported: **11/3/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 170
Lab ID: 1611002-001
Matrix: MEOH (SOIL)
Client Sample ID: 1995 Impacts SW Corner 4-pt (4'
Collection Date: 10/31/2016 3:15:00 PM
Received Date: 11/1/2016 8:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	ND	30		mg/Kg	20	11/1/2016 3:05:02 PM	28393
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	11/1/2016 10:36:18 AM	28391
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/1/2016 10:36:18 AM	28391
Surr: DNOP	89.9	70-130		%Rec	1	11/1/2016 10:36:18 AM	28391
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.2		mg/Kg	1	11/1/2016 9:34:43 AM	28377
Surr: BFB	91.1	68.3-144		%Rec	1	11/1/2016 9:34:43 AM	28377
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.016		mg/Kg	1	11/1/2016 9:34:43 AM	28377
Toluene	ND	0.032		mg/Kg	1	11/1/2016 9:34:43 AM	28377
Ethylbenzene	ND	0.032		mg/Kg	1	11/1/2016 9:34:43 AM	28377
Xylenes, Total	ND	0.064		mg/Kg	1	11/1/2016 9:34:43 AM	28377
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	11/1/2016 9:34:43 AM	28377

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1611002**

03-Nov-16

Client: Blagg Engineering
Project: GCU 170

Sample ID	**MB-28393**	SampType:	**mblk**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**28393**	RunNo:	**38370**					
Prep Date:	**11/1/2016**	Analysis Date:	**11/1/2016**	SeqNo:	**1198745**	Units:	**mg/Kg**			

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

Sample ID	**LCS-28393**	SampType:	**lcs**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**28393**	RunNo:	**38370**					
Prep Date:	**11/1/2016**	Analysis Date:	**11/1/2016**	SeqNo:	**1198746**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.0	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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1611002**

03-Nov-16

Client: Blagg Engineering
Project: GCU 170

Sample ID **LCS-28391**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **28391**	RunNo: **38355**
Prep Date: **11/1/2016**	Analysis Date: **11/1/2016**	SeqNo: **1197442** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	50.00	0	92.0	62.6	124			
Surr: DNOP	4.1		5.000		82.4	70	130			

Sample ID **MB-28391**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **28391**	RunNo: **38355**
Prep Date: **11/1/2016**	Analysis Date: **11/1/2016**	SeqNo: **1197443** 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	8.7		10.00		87.3	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1611002**

03-Nov-16

Client: Blagg Engineering
Project: GCU 170

Sample ID **MB-28377**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **28377**	RunNo: **38364**
Prep Date: **10/31/2016**	Analysis Date: **11/1/2016**	SeqNo: **1198102** 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	910		1000		90.5	68.3	144			

Sample ID **LCS-28377**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **28377**	RunNo: **38364**
Prep Date: **10/31/2016**	Analysis Date: **11/1/2016**	SeqNo: **1198103** 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	74.6	123			
Surr: BFB	980		1000		98.2	68.3	144			

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1611002**

03-Nov-16

Client: Blagg Engineering
Project: GCU 170

Sample ID **MB-28377**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **28377**	RunNo: **38364**
Prep Date: **10/31/2016**	Analysis Date: **11/1/2016**	SeqNo: **1198129** 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	1.1		1.000		107	80	120			

Sample ID **LCS-28377**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **28377**	RunNo: **38364**
Prep Date: **10/31/2016**	Analysis Date: **11/1/2016**	SeqNo: **1198130** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.025	1.000	0	91.1	75.2	115			
Toluene	0.93	0.050	1.000	0	93.1	80.7	112			
Ethylbenzene	0.97	0.050	1.000	0	97.3	78.9	117			
Xylenes, Total	2.9	0.10	3.000	0	95.6	79.2	115			
Surr: 4-Bromofluorobenzene	1.1		1.000		113	80	120			

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

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: 1611002 | RcptNo: 1

Received by/date: LC 11/01/16

Logged By: Lindsay Mangin 11/1/2016 8:15:00 AM

Completed By: Lindsay Mangin 11/1/2016 8:38:08 AM

Reviewed By: aJ 11/01/16

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	4.2	Good	Yes			

Chain-of-Custody Record

Client: BP AMERICA
BLAGG ENGINEERING
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: ASAP SAME DAY
☐ Standard ☒ Rush
Project Name: GCU 170
Project #:
Project Manager: J. BLAGG
Sampler: J. BLAGG
On Ice: ☒ Yes ☐ No
Sample Temperature: 4.0

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

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1611602	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)
31/16	1515	SOIL	1995 Impacts SW Corner 4-pt (4'-10')	4 oz x 1	cool	-001	X		X									X				

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Date	Time
31/16	1651	Jeff Blagg	Clint Wade	10/31/16	1651
31/16	1847	Christine Walker	Lindsey Concha	11/01/16	0815

Remarks: BILL BP CONTACT: STEVE MOSKAL
VID: VBEEBSOPLG
GL: 745277
SIO: 190040007679
AFE: X7-006RW-E:REST

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

November 11, 2016

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

RE: GCU 170 OrderNo.: 1611441

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory received 3 sample(s) on 11/9/2016 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 qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1611441**
Date Reported: **11/11/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 170
Lab ID: 1611441-001 **Matrix:** SOIL

Client Sample ID: South Wall (Center) 5-pt
Collection Date: 11/8/2016 2:24:00 PM
Received Date: 11/9/2016 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	ND	30		mg/Kg	20	11/9/2016 10:51:10 AM	28575
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	11/9/2016 10:19:51 AM	28566
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	11/9/2016 10:19:51 AM	28566
Surr: DNOP	100	70-130		%Rec	1	11/9/2016 10:19:51 AM	28566
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.0		mg/Kg	1	11/9/2016 9:53:52 AM	G38567
Surr: BFB	84.3	68.3-144		%Rec	1	11/9/2016 9:53:52 AM	G38567
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.030		mg/Kg	1	11/9/2016 9:53:52 AM	B38567
Toluene	ND	0.030		mg/Kg	1	11/9/2016 9:53:52 AM	B38567
Ethylbenzene	ND	0.030		mg/Kg	1	11/9/2016 9:53:52 AM	B38567
Xylenes, Total	ND	0.060		mg/Kg	1	11/9/2016 9:53:52 AM	B38567
Surr: 4-Bromofluorobenzene	99.6	80-120		%Rec	1	11/9/2016 9:53:52 AM	B38567

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 170
Lab ID: 1611441-002 **Matrix:** SOIL

Client Sample ID: South Wall (East Side) 5-pt
Collection Date: 11/8/2016 2:34:00 PM
Received Date: 11/9/2016 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	ND	30		mg/Kg	20	11/9/2016 11:03:34 AM	28575
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	11/9/2016 10:42:28 AM	28566
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	11/9/2016 10:42:28 AM	28566
Surr: DNOP	99.1	70-130		%Rec	1	11/9/2016 10:42:28 AM	28566
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	11/9/2016 10:17:22 AM	G38567
Surr: BFB	82.9	68.3-144		%Rec	1	11/9/2016 10:17:22 AM	G38567
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.018		mg/Kg	1	11/9/2016 10:17:22 AM	B38567
Toluene	ND	0.035		mg/Kg	1	11/9/2016 10:17:22 AM	B38567
Ethylbenzene	ND	0.035		mg/Kg	1	11/9/2016 10:17:22 AM	B38567
Xylenes, Total	ND	0.071		mg/Kg	1	11/9/2016 10:17:22 AM	B38567
Surr: 4-Bromofluorobenzene	96.9	80-120		%Rec	1	11/9/2016 10:17:22 AM	B38567

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 170
Lab ID: 1611441-003 **Matrix:** SOIL

Client Sample ID: East Wall (SE Corner) 3-pt
Collection Date: 11/8/2016 2:39:00 PM
Received Date: 11/9/2016 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	ND	30		mg/Kg	20	11/9/2016 11:15:58 AM	28575
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	11/9/2016 11:05:15 AM	28566
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	11/9/2016 11:05:15 AM	28566
Surr: DNOP	101	70-130		%Rec	1	11/9/2016 11:05:15 AM	28566
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	11/9/2016 10:40:59 AM	G38567
Surr: BFB	83.9	68.3-144		%Rec	1	11/9/2016 10:40:59 AM	G38567
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.017		mg/Kg	1	11/9/2016 10:40:59 AM	B38567
Toluene	ND	0.034		mg/Kg	1	11/9/2016 10:40:59 AM	B38567
Ethylbenzene	ND	0.034		mg/Kg	1	11/9/2016 10:40:59 AM	B38567
Xylenes, Total	ND	0.068		mg/Kg	1	11/9/2016 10:40:59 AM	B38567
Surr: 4-Bromofluorobenzene	97.6	80-120		%Rec	1	11/9/2016 10:40:59 AM	B38567

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1611441**

11-Nov-16

Client: Blagg Engineering

Project: GCU 170

Sample ID	**MB-28575**	SampType:	**MBLK**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**28575**	RunNo:	**38595**					
Prep Date:	**11/9/2016**	Analysis Date:	**11/9/2016**	SeqNo:	**1205514**	Units:	**mg/Kg**			

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

Sample ID	**LCS-28575**	SampType:	**LCS**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**28575**	RunNo:	**38595**					
Prep Date:	**11/9/2016**	Analysis Date:	**11/9/2016**	SeqNo:	**1205516**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.4	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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1611441**

11-Nov-16

Client: Blagg Engineering
Project: GCU 170

Sample ID **LCS-28566**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **28566**	RunNo: **38561**
Prep Date: **11/9/2016**	Analysis Date: **11/9/2016**	SeqNo: **1204626** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	94.1	62.6	124			
Surr: DNOP	4.6		5.000		92.7	70	130			

Sample ID **MB-28566**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **28566**	RunNo: **38561**
Prep Date: **11/9/2016**	Analysis Date: **11/9/2016**	SeqNo: **1204627** 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	9.6		10.00		96.0	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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1611441**

11-Nov-16

Client: Blagg Engineering
Project: GCU 170

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **G38567**	RunNo: **38567**
Prep Date:	Analysis Date: **11/9/2016**	SeqNo: **1205218** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	840		1000		84.1	68.3	144			

Sample ID **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **G38567**	RunNo: **38567**
Prep Date:	Analysis Date: **11/9/2016**	SeqNo: **1205219** 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	94.6	74.6	123			
Surr: BFB	910		1000		90.8	68.3	144			

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1611441**

11-Nov-16

Client: Blagg Engineering
Project: GCU 170

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **B38567**	RunNo: **38567**
Prep Date:	Analysis Date: **11/9/2016**	SeqNo: **1205233** 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	0.99		1.000		98.6	80	120			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **B38567**	RunNo: **38567**
Prep Date:	Analysis Date: **11/9/2016**	SeqNo: **1205234** 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	118	75.2	115			S
Toluene	1.1	0.050	1.000	0	108	80.7	112			
Ethylbenzene	1.0	0.050	1.000	0	102	78.9	117			
Xylenes, Total	3.1	0.10	3.000	0	102	79.2	115			
Surr: 4-Bromofluorobenzene	1.1		1.000		106	80	120			

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

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: 1611441 | RcptNo: 1

Received by/date: LC 11/09/16

Logged By: Anne Thorne 11/9/2016 8:00:00 AM Anne Thorne

Completed By: Anne Thorne 11/9/2016 Anne Thorne

Reviewed By: aJ 11/09/16

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	1.6	Good	Yes			

Chain-of-Custody Record

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

Client:	BP America
	Blagg Engineering
Mailing Address:	
Phone #:	505-320-1193
Email or Fax#:	
QA/QC Package:	☑ Standard ☐ Level 4 (Full Validation)
Accreditation	☐ NELAP ☐ Other
	☐ EDD (Type)
Turn-Around Time:	☐ Standard ☒ Rush ASAP SAME DAY
Project Name:	GCU 170
Project #:	1995 Remediation Excavation
Project Manager:	J. Blagg
Sampler:	J. Blagg
On Ice:	☒ Yes ☐ No
Sample Temperature:	1.6

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1611444	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)
2016	1424	SOIL	South Wall (center) 5-pt	4 oz x 1	Cool	001	X		X									X				
"	1434	"	South Wall (East Side) 5-pt	"	"	002	X		X									X				
"	1439	"	East Wall (SE Corner) 3-pt	"	"	003	X		X									X				

Date	Time	Relinquished by	Received by	Date	Time
2016	1543	Jeff Blagg		11/8/2016	1543
8/16	1811	Christine Walker	Ramona Conchas	11/9/16	0840

Remarks: Bill BP Contact: Steve Moskal
VID: VBEEBSOPLG
AFE: X7-006RW-E:REST

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

November 18, 2016

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

RE: GCU 170 OrderNo.: 1611716

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory received 2 sample(s) on 11/15/2016 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 qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1611716**
Date Reported: **11/18/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: East Wall - South 4 pt
Project: GCU 170
Collection Date: 11/14/2016 2:02:00 PM
Lab ID: 1611716-001
Matrix: MEOH (SOIL)
Received Date: 11/15/2016 7:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	ND	30		mg/Kg	20	11/15/2016 11:10:13 AM	28678
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	11/15/2016 10:21:50 AM	28664
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	11/15/2016 10:21:50 AM	28664
Surr: DNOP	85.0	70-130		%Rec	1	11/15/2016 10:21:50 AM	28664
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.3		mg/Kg	1	11/15/2016 10:57:45 AM	G38713
Surr: BFB	83.5	68.3-144		%Rec	1	11/15/2016 10:57:45 AM	G38713
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.017		mg/Kg	1	11/15/2016 10:57:45 AM	B38713
Toluene	ND	0.033		mg/Kg	1	11/15/2016 10:57:45 AM	B38713
Ethylbenzene	ND	0.033		mg/Kg	1	11/15/2016 10:57:45 AM	B38713
Xylenes, Total	ND	0.066		mg/Kg	1	11/15/2016 10:57:45 AM	B38713
Surr: 4-Bromofluorobenzene	98.7	80-120		%Rec	1	11/15/2016 10:57:45 AM	B38713

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 170
Lab ID: 1611716-002
Matrix: MEOH (SOIL)
Client Sample ID: East wall - Center 4 pt
Collection Date: 11/14/2016 2:12:00 PM
Received Date: 11/15/2016 7:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	ND	30		mg/Kg	20	11/15/2016 11:22:38 AM	28678
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	11/15/2016 10:48:52 AM	28664
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	11/15/2016 10:48:52 AM	28664
Surr: DNOP	82.8	70-130		%Rec	1	11/15/2016 10:48:52 AM	28664
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	11/15/2016 11:21:20 AM	G38713
Surr: BFB	82.5	68.3-144		%Rec	1	11/15/2016 11:21:20 AM	G38713
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.017		mg/Kg	1	11/15/2016 11:21:20 AM	B38713
Toluene	ND	0.034		mg/Kg	1	11/15/2016 11:21:20 AM	B38713
Ethylbenzene	ND	0.034		mg/Kg	1	11/15/2016 11:21:20 AM	B38713
Xylenes, Total	ND	0.067		mg/Kg	1	11/15/2016 11:21:20 AM	B38713
Surr: 4-Bromofluorobenzene	96.0	80-120		%Rec	1	11/15/2016 11:21:20 AM	B38713

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1611716**

18-Nov-16

Client: Blagg Engineering
Project: GCU 170

Sample ID	**MB-28678**	SampType:	**MBLK**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**PBS**	Batch ID:	**28678**		RunNo:	**38732**				
Prep Date:	**11/15/2016**	Analysis Date:	**11/15/2016**		SeqNo:	**1210162**	Units:	**mg/Kg**		

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

Sample ID	**LCS-28678**	SampType:	**LCS**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**LCSS**	Batch ID:	**28678**		RunNo:	**38732**				
Prep Date:	**11/15/2016**	Analysis Date:	**11/15/2016**		SeqNo:	**1210163**	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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1611716**

18-Nov-16

Client: Blagg Engineering
Project: GCU 170

Sample ID **MB-28664**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **28664**	RunNo: **38705**
Prep Date: **11/15/2016**	Analysis Date: **11/15/2016**	SeqNo: **1209099** 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	8.2		10.00		82.2	70	130			

Sample ID **LCS-28664**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **28664**	RunNo: **38705**
Prep Date: **11/15/2016**	Analysis Date: **11/15/2016**	SeqNo: **1209100** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	94.6	62.6	124			
Surr: DNOP	4.5		5.000		89.9	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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1611716**

18-Nov-16

Client: Blagg Engineering
Project: GCU 170

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **G38713**	RunNo: **38713**
Prep Date:	Analysis Date: **11/15/2016**	SeqNo: **1209486** 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	880		1000		87.7	68.3	144			

Sample ID **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **G38713**	RunNo: **38713**
Prep Date:	Analysis Date: **11/15/2016**	SeqNo: **1209487** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	25.00	0	82.7	74.6	123			
Surr: BFB	910		1000		90.9	68.3	144			

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1611716**

18-Nov-16

Client: Blagg Engineering
Project: GCU 170

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **B38713**	RunNo: **38713**
Prep Date:	Analysis Date: **11/15/2016**	SeqNo: **1209497** 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	1.0		1.000		105	80	120			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **B38713**	RunNo: **38713**
Prep Date:	Analysis Date: **11/15/2016**	SeqNo: **1209499** 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	117	75.2	115			S
Toluene	1.0	0.050	1.000	0	103	80.7	112			
Ethylbenzene	0.97	0.050	1.000	0	97.4	78.9	117			
Xylenes, Total	2.9	0.10	3.000	0	97.9	79.2	115			
Surr: 4-Bromofluorobenzene	1.1		1.000		108	80	120			

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

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: **1611716** RcptNo: **1**

Received by/date: AT 11/15/16

Logged By: **Anne Thorne** 11/15/2016 7:50:00 AM Anne Thorne

Completed By: **Anne Thorne** 11/15/2016 8:38:55 AM Anne Thorne

Reviewed By: JC 11/15/16

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 ☐	# of preserved bottles checked for pH: (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted?
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by:

Special Handling (if applicable)

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

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ 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

Turn-Around Time: ASAP SAME DAY

☐ Standard ☒ Rush

ient: BP AMERICA

BLAGG ENGINEERING INC.

ailing Address:

hone #: 505-320-1183

nail or Fax#:

A/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

ccreditation

NELAP ☐ Other

EDD (Type)

Project Name: GCU 170

Project #: 1995 REMEDIATION EXCAVATION

Project Manager: J. BLAGG

Sampler: J. BLAGG

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.0 CF 1.0 = 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 #	Preservative Type	HEAL No. 1611716	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)
2016	1402	SOIL	EAST WALL - South 4 pt	4 oz x 1	COOL	-001	X		X									X				
11	1412	11	EAST WALL - Center 4 pt	11	11	-002	X		X									X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
2016	1435			11/14/2016	1435
1/16	1830			11/15/16	0750

Remarks: BILL BP CONTACT: STEVE MORAL

VID: VBEEBSOPLG

AFE: X7-006RW-E:REST

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

November 17, 2016

Jeff Blagg
Blagg Engineering
P. O. Box 87
Bloomfield, NM 87413
TEL:
FAX

RE: GCU 170 OrderNo.: 1611788

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory received 3 sample(s) on 11/16/2016 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 qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1611788**
Date Reported: **11/17/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 170
Lab ID: 1611788-001
Client Sample ID: NW Corner 5-pt
Collection Date: 11/15/2016 4:18:00 PM
Matrix: MEOH (SOIL)
Received Date: 11/16/2016 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	11/16/2016 10:39:09 AM	28702
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	11/16/2016 10:28:54 AM	28697
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/16/2016 10:28:54 AM	28697
Surr: DNOP	87.0	70-130		%Rec	1	11/16/2016 10:28:54 AM	28697
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	11/16/2016 10:20:26 AM	28653
Surr: BFB	84.6	68.3-144		%Rec	1	11/16/2016 10:20:26 AM	28653
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.050		mg/Kg	1	11/16/2016 10:20:26 AM	28653
Toluene	ND	0.050		mg/Kg	1	11/16/2016 10:20:26 AM	28653
Ethylbenzene	ND	0.050		mg/Kg	1	11/16/2016 10:20:26 AM	28653
Xylenes, Total	ND	0.10		mg/Kg	1	11/16/2016 10:20:26 AM	28653
Surr: 4-Bromofluorobenzene	98.6	80-120		%Rec	1	11/16/2016 10:20:26 AM	28653

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1611788**
Date Reported: **11/17/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 170
Lab ID: 1611788-002
Matrix: MEOH (SOIL)
Client Sample ID: NW Wall South End 5-pt
Collection Date: 11/15/2016 4:27:00 PM
Received Date: 11/16/2016 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	11/16/2016 10:51:34 AM	28702
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	11/16/2016 10:50:34 AM	28697
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/16/2016 10:50:34 AM	28697
Surr: DNOP	83.3	70-130		%Rec	1	11/16/2016 10:50:34 AM	28697
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	11/16/2016 10:43:56 AM	28653
Surr: BFB	83.0	68.3-144		%Rec	1	11/16/2016 10:43:56 AM	28653
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.050		mg/Kg	1	11/16/2016 10:43:56 AM	28653
Toluene	ND	0.050		mg/Kg	1	11/16/2016 10:43:56 AM	28653
Ethylbenzene	ND	0.050		mg/Kg	1	11/16/2016 10:43:56 AM	28653
Xylenes, Total	ND	0.10		mg/Kg	1	11/16/2016 10:43:56 AM	28653
Surr: 4-Bromofluorobenzene	95.8	80-120		%Rec	1	11/16/2016 10:43:56 AM	28653

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 170
Lab ID: 1611788-003
Matrix: MEOH (SOIL)
Client Sample ID: NW Wall-North End 5-pt
Collection Date: 11/15/2016 4:33:00 PM
Received Date: 11/16/2016 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: **MRA**
Chloride	31	30		mg/Kg	20	11/16/2016 11:03:58 AM	28702
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **JME**
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	11/16/2016 11:12:10 AM	28697
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	11/16/2016 11:12:10 AM	28697
Surr: DNOP	84.5	70-130		%Rec	1	11/16/2016 11:12:10 AM	28697
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	11/16/2016 11:07:36 AM	28653
Surr: BFB	84.9	68.3-144		%Rec	1	11/16/2016 11:07:36 AM	28653
EPA METHOD 8021B: VOLATILES							Analyst: **NSB**
Benzene	ND	0.050		mg/Kg	1	11/16/2016 11:07:36 AM	28653
Toluene	ND	0.050		mg/Kg	1	11/16/2016 11:07:36 AM	28653
Ethylbenzene	ND	0.050		mg/Kg	1	11/16/2016 11:07:36 AM	28653
Xylenes, Total	ND	0.10		mg/Kg	1	11/16/2016 11:07:36 AM	28653
Surr: 4-Bromofluorobenzene	98.7	80-120		%Rec	1	11/16/2016 11:07:36 AM	28653

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1611788**

17-Nov-16

Client: Blagg Engineering
Project: GCU 170

Sample ID	**MB-28702**	SampType:	**mblk**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**PBS**	Batch ID:	**28702**		RunNo:	**38771**				
Prep Date:	**11/16/2016**	Analysis Date:	**11/16/2016**		SeqNo:	**1211314**	Units:	**mg/Kg**		

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

Sample ID	**LCS-28702**	SampType:	**lcs**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**LCSS**	Batch ID:	**28702**		RunNo:	**38771**				
Prep Date:	**11/16/2016**	Analysis Date:	**11/16/2016**		SeqNo:	**1211315**	Units:	**mg/Kg**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.0	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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1611788**

17-Nov-16

Client: Blagg Engineering
Project: GCU 170

Sample ID **MB-28682**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **28682**	RunNo: **38735**
Prep Date: **11/15/2016**	Analysis Date: **11/16/2016**	SeqNo: **1210301** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.0		10.00		80.2	70	130			

Sample ID **LCS-28682**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **28682**	RunNo: **38735**
Prep Date: **11/15/2016**	Analysis Date: **11/16/2016**	SeqNo: **1210302** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.2		5.000		83.4	70	130			

Sample ID **MB-28697**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **28697**	RunNo: **38734**
Prep Date: **11/16/2016**	Analysis Date: **11/16/2016**	SeqNo: **1210312** 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	8.3		10.00		83.2	70	130			

Sample ID **LCS-28697**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **28697**	RunNo: **38734**
Prep Date: **11/16/2016**	Analysis Date: **11/16/2016**	SeqNo: **1210313** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	10	50.00	0	86.0	62.6	124			
Surr: DNOP	4.3		5.000		85.2	70	130			

Sample ID **MB-28686**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **28686**	RunNo: **38735**
Prep Date: **11/15/2016**	Analysis Date: **11/16/2016**	SeqNo: **1210466** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	7.8		10.00		77.9	70	130			

Sample ID **LCS-28686**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **28686**	RunNo: **38735**
Prep Date: **11/15/2016**	Analysis Date: **11/16/2016**	SeqNo: **1210467** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.1		5.000		81.4	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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1611788**

17-Nov-16

Client: Blagg Engineering
Project: GCU 170

Sample ID **MB-28653**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **28653**	RunNo: **38746**
Prep Date: **11/14/2016**	Analysis Date: **11/16/2016**	SeqNo: **1210935** 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		83.2	68.3	144			

Sample ID **LCS-28653**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **28653**	RunNo: **38746**
Prep Date: **11/14/2016**	Analysis Date: **11/16/2016**	SeqNo: **1210936** 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	88.0	74.6	123			
Surr: BFB	880		1000		88.2	68.3	144			

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1611788**

17-Nov-16

Client: Blagg Engineering
Project: GCU 170

Sample ID **MB-28653**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **28653**	RunNo: **38746**
Prep Date: **11/14/2016**	Analysis Date: **11/16/2016**	SeqNo: **1210951** 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	0.98		1.000		97.7	80	120			

Sample ID **LCS-28653**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **28653**	RunNo: **38746**
Prep Date: **11/14/2016**	Analysis Date: **11/16/2016**	SeqNo: **1210952** 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	101	75.2	115			
Toluene	0.97	0.050	1.000	0	96.6	80.7	112			
Ethylbenzene	0.93	0.050	1.000	0	93.5	78.9	117			
Xylenes, Total	2.8	0.10	3.000	0	93.3	79.2	115			
Surr: 4-Bromofluorobenzene	1.0		1.000		104	80	120			

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

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: 1611788 | RcptNo: 1

Received by/date: AJ 11/16/16

Logged By: Ashley Gallegos 11/16/2016 8:00:00 AM

Completed By: Ashley Gallegos 11/16/2016 8:20:26 AM

Reviewed By: JC 11/16/16

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	1.6	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: ASAP SAME DAY
☐ Standard ☒ Rush

Project Name: GCU 170
Project #: 1995 REMEDIATION EXCAVATION
Project Manager: J. BLAGG
Sampler: J. BLAGG
On Ice: ☑ Yes ☐ No
Sample Temperature: 1.6°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. 1611788	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)
11/5/2016	1618	SOIL	NW CORNER 5-pt	4 oz x 1	CLR	-001	X		X									X				
"	1627	"	NW WALL- SOUTH END 5-pt	"	"	-002	X		X									X				
"	1633	"	NW WALL- NORTH END 5-pt	"	"	-003	X		X									X				

Date: 11/15/16 Time: 1802 Relinquished by: J. Blagg
Received by: Christine Walters Date: 11/15/16 Time: 1802

Date: 11/15/16 Time: 1827 Relinquished by: Christine Walters
Received by: [signature] Date: 11/16/16 Time: 0800

Remarks: BILL BP CONTACT: STEVE MOSKAL
VID: VBEEBSOPLG
AFE: X7-006RW-E:REST

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

November 21, 2016

Jeff Blagg
Blagg Engineering
P. O. Box 87
Bloomfield, NM 87413
TEL:
FAX

RE: GCU 170 OrderNo.: 1611984

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory received 3 sample(s) on 11/18/2016 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 qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1611984**
Date Reported: **11/21/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 170
Lab ID: 1611984-001
Client Sample ID: North Wall @ Shed 6-Point
Collection Date: 11/17/2016 1:22:00 PM
Matrix: MEOH (SOIL)
Received Date: 11/18/2016 7:55:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	47	30		mg/Kg	20	11/18/2016 11:02:13 AM	28764
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	11/18/2016 10:06:30 AM	28746
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	11/18/2016 10:06:30 AM	28746
Surr: DNOP	86.8	70-130		%Rec	1	11/18/2016 10:06:30 AM	28746
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	38	18		mg/Kg	5	11/18/2016 10:44:21 AM	28740
Surr: BFB	136	68.3-144		%Rec	5	11/18/2016 10:44:21 AM	28740
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.18		mg/Kg	5	11/18/2016 10:44:21 AM	28740
Toluene	ND	0.18		mg/Kg	5	11/18/2016 10:44:21 AM	28740
Ethylbenzene	ND	0.18		mg/Kg	5	11/18/2016 10:44:21 AM	28740
Xylenes, Total	ND	0.36		mg/Kg	5	11/18/2016 10:44:21 AM	28740
Surr: 4-Bromofluorobenzene	109	80-120		%Rec	5	11/18/2016 10:44:21 AM	28740

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 170
Lab ID: 1611984-002
Matrix: MEOH (SOIL)
Client Sample ID: North Wall-Center 6-Point
Collection Date: 11/17/2016 1:28:00 PM
Received Date: 11/18/2016 7:55:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	49	30		mg/Kg	20	11/18/2016 11:14:38 AM	28764
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	11/18/2016 10:33:13 AM	28746
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/18/2016 10:33:13 AM	28746
Surr: DNOP	86.7	70-130		%Rec	1	11/18/2016 10:33:13 AM	28746
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.2		mg/Kg	1	11/18/2016 11:07:49 AM	28740
Surr: BFB	85.0	68.3-144		%Rec	1	11/18/2016 11:07:49 AM	28740
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.021		mg/Kg	1	11/18/2016 11:07:49 AM	28740
Toluene	ND	0.042		mg/Kg	1	11/18/2016 11:07:49 AM	28740
Ethylbenzene	ND	0.042		mg/Kg	1	11/18/2016 11:07:49 AM	28740
Xylenes, Total	ND	0.084		mg/Kg	1	11/18/2016 11:07:49 AM	28740
Surr: 4-Bromofluorobenzene	99.9	80-120		%Rec	1	11/18/2016 11:07:49 AM	28740

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 170
Lab ID: 1611984-003
Matrix: MEOH (SOIL)
Client Sample ID: North Wall-West End 6-Point
Collection Date: 11/17/2016 1:34:00 PM
Received Date: 11/18/2016 7:55:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	ND	30		mg/Kg	20	11/18/2016 11:27:02 AM	28764
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	11/18/2016 10:59:53 AM	28746
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/18/2016 10:59:53 AM	28746
Surr: DNOP	85.7	70-130		%Rec	1	11/18/2016 10:59:53 AM	28746
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.3		mg/Kg	1	11/18/2016 11:31:15 AM	28740
Surr: BFB	84.6	68.3-144		%Rec	1	11/18/2016 11:31:15 AM	28740
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.016		mg/Kg	1	11/18/2016 11:31:15 AM	28740
Toluene	ND	0.033		mg/Kg	1	11/18/2016 11:31:15 AM	28740
Ethylbenzene	ND	0.033		mg/Kg	1	11/18/2016 11:31:15 AM	28740
Xylenes, Total	ND	0.065		mg/Kg	1	11/18/2016 11:31:15 AM	28740
Surr: 4-Bromofluorobenzene	99.5	80-120		%Rec	1	11/18/2016 11:31:15 AM	28740

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1611984**

21-Nov-16

Client: Blagg Engineering
Project: GCU 170

Sample ID	**MB-28764**	SampType:	**mblk**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**28764**	RunNo:	**38831**					
Prep Date:	**11/18/2016**	Analysis Date:	**11/18/2016**	SeqNo:	**1213308**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-28764**	SampType:	**lcs**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**28764**	RunNo:	**38831**					
Prep Date:	**11/18/2016**	Analysis Date:	**11/18/2016**	SeqNo:	**1213309**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.5	90	110			

Sample ID	**MB-28764**	SampType:	**MBLK**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**28764**	RunNo:	**38856**					
Prep Date:	**11/18/2016**	Analysis Date:	**11/18/2016**	SeqNo:	**1214304**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-28764**	SampType:	**LCS**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**28764**	RunNo:	**38856**					
Prep Date:	**11/18/2016**	Analysis Date:	**11/18/2016**	SeqNo:	**1214305**	Units:	**mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.5	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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1611984**

21-Nov-16

Client: Blagg Engineering
Project: GCU 170

Sample ID **MB-28696**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **28696**	RunNo: **38803**
Prep Date: **11/16/2016**	Analysis Date: **11/18/2016**	SeqNo: **1212490** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.4		10.00		83.7	70	130			

Sample ID **LCS-28696**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **28696**	RunNo: **38803**
Prep Date: **11/16/2016**	Analysis Date: **11/18/2016**	SeqNo: **1212491** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.3		5.000		86.1	70	130			

Sample ID **MB-28746**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **28746**	RunNo: **38802**
Prep Date: **11/18/2016**	Analysis Date: **11/18/2016**	SeqNo: **1212493** 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	8.8		10.00		87.9	70	130			

Sample ID **LCS-28746**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **28746**	RunNo: **38802**
Prep Date: **11/18/2016**	Analysis Date: **11/18/2016**	SeqNo: **1212494** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	41	10	50.00	0	81.5	62.6	124			
Surr: DNOP	4.2		5.000		84.8	70	130			

Sample ID **1611984-001AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **North Wall @ Shed**	Batch ID: **28746**	RunNo: **38803**
Prep Date: **11/18/2016**	Analysis Date: **11/18/2016**	SeqNo: **1213606** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	9.5	47.53	1.920	90.4	51.6	130			
Surr: DNOP	3.6		4.753		76.7	70	130			

Sample ID **1611984-001AMSD**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **North Wall @ Shed**	Batch ID: **28746**	RunNo: **38803**
Prep Date: **11/18/2016**	Analysis Date: **11/18/2016**	SeqNo: **1213607** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	9.3	46.30	1.920	88.1	51.6	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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1611984**

21-Nov-16

Client: Blagg Engineering

Project: GCU 170

Sample ID	**1611984-001AMSD**	SampType:	**MS**	TestCode:	**EPA Method 8015M/D: Diesel Range Organics**
Client ID:	**North Wall @ Shed**	Batch ID:	**28746**	RunNo:	**38803**
Prep Date:	**11/18/2016**	Analysis Date:	**11/18/2016**	SeqNo:	**1213607** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	3.6		4.630		78.0	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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1611984**

21-Nov-16

Client: Blagg Engineering
Project: GCU 170

Sample ID **MB-28740**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **28740**	RunNo: **38819**
Prep Date: **11/17/2016**	Analysis Date: **11/18/2016**	SeqNo: **1213564** 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	800		1000		79.8	68.3	144			

Sample ID **LCS-28740**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **28740**	RunNo: **38819**
Prep Date: **11/17/2016**	Analysis Date: **11/18/2016**	SeqNo: **1213565** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	91.3	74.6	123			
Surr: BFB	860		1000		85.8	68.3	144			

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1611984**

21-Nov-16

Client: Blagg Engineering
Project: GCU 170

Sample ID **MB-28740**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **28740**	RunNo: **38819**
Prep Date: **11/17/2016**	Analysis Date: **11/18/2016**	SeqNo: **1213581** 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	0.93		1.000		93.4	80	120			

Sample ID **LCS-28740**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **28740**	RunNo: **38819**
Prep Date: **11/17/2016**	Analysis Date: **11/18/2016**	SeqNo: **1213582** 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	106	75.2	115			
Toluene	0.95	0.050	1.000	0	94.9	80.7	112			
Ethylbenzene	0.91	0.050	1.000	0	91.4	78.9	117			
Xylenes, Total	2.7	0.10	3.000	0	89.6	79.2	115			
Surr: 4-Bromofluorobenzene	0.97		1.000		97.4	80	120			

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

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: 1611984 | RcptNo: 1

Received by/date: 11/18/16

Logged By: Lindsay Mangin 11/18/2016 7:55:00 AM

Completed By: Lindsay Mangin 11/18/2016 8:02:10 AM

Reviewed By: 11/18/16

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. Cooler Information

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

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: ASAP SAME DAY

☐ Standard ☒ Rush

Project Name: GCU 170

Project #: 1995 REMEDIATION EXCAVATION

Project Manager: J. BLAGG

Sampler: J. BLAGG

On Ice: ☑ Yes ☐ No

Sample Temperature: 1.4

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. 1611984	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)
7/2016	13:22	SOIL	NORTH WALL @ SHED 6-POINT	4 oz x 1	COOL	-001	X		X									X				
"	13:28	"	NORTH WALL - CENTER 6-POINT	"	"	-002	X		X									X				
"	13:34	"	NORTH WALL - WEST END 6-POINT	"	"	-003	X		X									X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
7/2016	16:19	Jill Blagg	Misty Waters	11/7/16	16:19
7/16	1804	Misty Waters		11/18/16	0755

Remarks: BILL BP CONTACT: STEVE MOSKAL

VID: VBEEBSDPLG

AFE: X7-006RW-E:REST

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

November 29, 2016

Jeff Blagg
Blagg Engineering
P. O. Box 87
Bloomfield, NM 87413
TEL:
FAX

RE: GCU 170 OrderNo.: 1611C74

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory received 3 sample(s) on 11/26/2016 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 qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1611C74**
Date Reported: **11/29/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 170
Lab ID: 1611C74-001

Client Sample ID: North Wall-East Corner 6-pt
Collection Date: 11/23/2016 11:06:00 AM
Matrix: MEOH (SOIL) **Received Date:** 11/26/2016 12:20:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	11/28/2016 10:39:57 AM	28861
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	11/28/2016 11:05:33 AM	28856
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	11/28/2016 11:05:33 AM	28856
Surr: DNOP	93.4	70-130		%Rec	1	11/28/2016 11:05:33 AM	28856
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/28/2016 9:59:40 AM	28848
Surr: BFB	93.6	68.3-144		%Rec	1	11/28/2016 9:59:40 AM	28848
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	11/28/2016 9:59:40 AM	28848
Toluene	ND	0.049		mg/Kg	1	11/28/2016 9:59:40 AM	28848
Ethylbenzene	ND	0.049		mg/Kg	1	11/28/2016 9:59:40 AM	28848
Xylenes, Total	ND	0.098		mg/Kg	1	11/28/2016 9:59:40 AM	28848
Surr: 4-Bromofluorobenzene	99.5	80-120		%Rec	1	11/28/2016 9:59:40 AM	28848

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: North Wall-East of Sheds-6pt
Project: GCU 170
Collection Date: 11/23/2016 11:14:00 AM
Lab ID: 1611C74-002
Matrix: MEOH (SOIL)
Received Date: 11/26/2016 12:20:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	93	30		mg/Kg	20	11/28/2016 10:52:22 AM	28861
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	11/28/2016 11:28:40 AM	28856
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	11/28/2016 11:28:40 AM	28856
Surr: DNOP	89.2	70-130		%Rec	1	11/28/2016 11:28:40 AM	28856
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.4		mg/Kg	1	11/28/2016 10:23:42 AM	28848
Surr: BFB	96.8	68.3-144		%Rec	1	11/28/2016 10:23:42 AM	28848
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.022		mg/Kg	1	11/28/2016 10:23:42 AM	28848
Toluene	ND	0.044		mg/Kg	1	11/28/2016 10:23:42 AM	28848
Ethylbenzene	ND	0.044		mg/Kg	1	11/28/2016 10:23:42 AM	28848
Xylenes, Total	ND	0.088		mg/Kg	1	11/28/2016 10:23:42 AM	28848
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	11/28/2016 10:23:42 AM	28848

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 170
Lab ID: 1611C74-003
Matrix: MEOH (SOIL)
Client Sample ID: North Wall @ Sheds 6-pt
Collection Date: 11/23/2016 11:21:00 AM
Received Date: 11/26/2016 12:20:00 PM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	63	30		mg/Kg	20	11/28/2016 11:04:46 AM	28861
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	11/28/2016 11:51:49 AM	28856
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	11/28/2016 11:51:49 AM	28856
Surr: DNOP	94.1	70-130		%Rec	1	11/28/2016 11:51:49 AM	28856
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.1		mg/Kg	1	11/28/2016 10:47:46 AM	28848
Surr: BFB	113	68.3-144		%Rec	1	11/28/2016 10:47:46 AM	28848
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.020		mg/Kg	1	11/28/2016 10:47:46 AM	28848
Toluene	ND	0.041		mg/Kg	1	11/28/2016 10:47:46 AM	28848
Ethylbenzene	ND	0.041		mg/Kg	1	11/28/2016 10:47:46 AM	28848
Xylenes, Total	ND	0.082		mg/Kg	1	11/28/2016 10:47:46 AM	28848
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	11/28/2016 10:47:46 AM	28848

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1611C74**

29-Nov-16

Client: Blagg Engineering
Project: GCU 170

Sample ID	**MB-28861**	SampType:	**mblk**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**PBS**	Batch ID:	**28861**		RunNo:	**39009**				
Prep Date:	**11/28/2016**	Analysis Date:	**11/28/2016**		SeqNo:	**1220072**	Units:	**mg/Kg**		

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

Sample ID	**LCS-28861**	SampType:	**lcs**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**LCSS**	Batch ID:	**28861**		RunNo:	**39009**				
Prep Date:	**11/28/2016**	Analysis Date:	**11/28/2016**		SeqNo:	**1220073**	Units:	**mg/Kg**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	91.8	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1611C74**

29-Nov-16

Client: Blagg Engineering
Project: GCU 170

Sample ID **LCS-28856** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **28856** RunNo: **38975**
Prep Date: **11/28/2016** Analysis Date: **11/28/2016** SeqNo: **1218822** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	94.8	62.6	124			
Surr: DNOP	4.5		5.000		89.4	70	130			

Sample ID **MB-28856** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS** Batch ID: **28856** RunNo: **38975**
Prep Date: **11/28/2016** Analysis Date: **11/28/2016** SeqNo: **1218823** 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	9.3		10.00		92.5	70	130			

Sample ID **1611C74-001AMS** SampType: **MS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **North Wall-East Cor** Batch ID: **28856** RunNo: **38975**
Prep Date: **11/28/2016** Analysis Date: **11/28/2016** SeqNo: **1219057** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	9.4	46.95	2.213	87.4	51.6	130			
Surr: DNOP	4.1		4.695		87.5	70	130			

Sample ID **1611C74-001AMSD** SampType: **MSD** TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **North Wall-East Cor** Batch ID: **28856** RunNo: **38975**
Prep Date: **11/28/2016** Analysis Date: **11/28/2016** SeqNo: **1219058** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.30	2.213	91.4	51.6	130	10.8	20	
Surr: DNOP	4.7		5.030		92.7	70	130	0	0	

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1611C74**

29-Nov-16

Client: Blagg Engineering
Project: GCU 170

Sample ID **MB-28848**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **28848**	RunNo: **38984**
Prep Date: **11/23/2016**	Analysis Date: **11/28/2016**	SeqNo: **1219303** 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	910		1000		91.5	68.3	144			

Sample ID **LCS-28848**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **28848**	RunNo: **38984**
Prep Date: **11/23/2016**	Analysis Date: **11/28/2016**	SeqNo: **1219304** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	99.8	74.6	123			
Surr: BFB	990		1000		99.0	68.3	144			

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1611C74**

29-Nov-16

Client: Blagg Engineering
Project: GCU 170

Sample ID **MB-28848**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **28848**	RunNo: **38984**
Prep Date: **11/23/2016**	Analysis Date: **11/28/2016**	SeqNo: **1219341** 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	0.97		1.000		97.0	80	120			

Sample ID **LCS-28848**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **28848**	RunNo: **38984**
Prep Date: **11/23/2016**	Analysis Date: **11/28/2016**	SeqNo: **1219342** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.97	0.025	1.000	0	96.9	75.2	115			
Toluene	0.94	0.050	1.000	0	94.3	80.7	112			
Ethylbenzene	0.88	0.050	1.000	0	87.9	78.9	117			
Xylenes, Total	2.6	0.10	3.000	0	88.3	79.2	115			
Surr: 4-Bromofluorobenzene	1.0		1.000		101	80	120			

Sample ID **1611C74-001AMS**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **North Wall-East Cor**	Batch ID: **28848**	RunNo: **38984**
Prep Date:	Analysis Date: **11/28/2016**	SeqNo: **1219344** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	0.9843	0	106	71.5	122			
Toluene	1.1	0.049	0.9843	0	109	71.2	123			
Ethylbenzene	1.0	0.049	0.9843	0	103	75.2	130			
Xylenes, Total	3.0	0.098	2.953	0	100	72.4	131			
Surr: 4-Bromofluorobenzene	1.2		0.9843		119	-83.4	338			

Sample ID **1611C74-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **North Wall-East Cor**	Batch ID: **28848**	RunNo: **38984**
Prep Date:	Analysis Date: **11/28/2016**	SeqNo: **1219345** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.025	0.9843	0	97.6	71.5	122	8.04	20	
Toluene	0.87	0.049	0.9843	0	88.7	71.2	123	20.3	20	R
Ethylbenzene	0.84	0.049	0.9843	0	85.3	75.2	130	19.0	20	
Xylenes, Total	2.6	0.098	2.953	0	86.7	72.4	131	14.4	20	
Surr: 4-Bromofluorobenzene	0.98		0.9843		99.6	-83.4	338	0	0	

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

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: 1611C74 | RcptNo: 1

Received by/date: 11/26/16

Logged By: Lindsay Mangin 11/26/2016 12:20:00 PM

Completed By: Lindsay Mangin 11/28/2016 7:27:00 AM

Reviewed By: 11/28/16

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 ☐	# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted? _____
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: _____

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ 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	2.3	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: ASAP SAME DAY

☐ Standard ☒ Rush

Project Name: GCU 170

Project #: 1995 REMEDIATION EXCAVATION

Project Manager: J. BLAGG

Sampler: J. BLAGG

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.3

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. 1611C74	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)
11/2/16	1106	SOIL	NORTH WALL - EAST CORNER 6-PT	4 OZ x 1	COOL	-001	X		X									X				
"	1114	"	NORTH WALL - EAST OF SHEDS - 6 PT	"	"	-002	X		X									X				
"	1121	"	NORTH WALL @ SHEDS 6-PT	"	"	-003	X		X									X				

Date: 11/3/16 Time: 1455 Relinquished by: J. Blagg

Received by: Chantel Watt Date Time: 11/5/16 1455

Date: 11/7/16 Time: 1524 Relinquished by: Chantel Watt

Received by: Date Time: 11/26/16 1220

Remarks: BILL BP CONTACT: STEVE MOSKAL

VID: VEEB50P16

AFE: X7-006RW-E:REST

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

December 15, 2016

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

RE: GCU 170 OrderNo.: 1612739

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory received 5 sample(s) on 12/14/2016 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 qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1612739**
Date Reported: **12/15/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 170
Lab ID: 1612739-001 **Matrix:** SOIL

Client Sample ID: East Pasture #1 Grab @ 2'
Collection Date: 12/13/2016 2:19:00 PM
Received Date: 12/14/2016 8:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	ND	30		mg/Kg	20	12/14/2016 10:59:09 AM	29183
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	12/14/2016 11:06:50 AM	29175
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/14/2016 11:06:50 AM	29175
Surr: DNOP	82.4	70-130		%Rec	1	12/14/2016 11:06:50 AM	29175
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	12/14/2016 11:12:31 AM	G39381
Surr: BFB	86.3	68.3-144		%Rec	1	12/14/2016 11:12:31 AM	G39381
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	12/14/2016 11:12:31 AM	B39381
Toluene	ND	0.049		mg/Kg	1	12/14/2016 11:12:31 AM	B39381
Ethylbenzene	ND	0.049		mg/Kg	1	12/14/2016 11:12:31 AM	B39381
Xylenes, Total	ND	0.098		mg/Kg	1	12/14/2016 11:12:31 AM	B39381
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	12/14/2016 11:12:31 AM	B39381

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 170
Lab ID: 1612739-002 **Matrix:** SOIL

Client Sample ID: East Pasture #2 6-pt (4'-8')
Collection Date: 12/13/2016 2:28:00 PM
Received Date: 12/14/2016 8:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	33	30		mg/Kg	20	12/14/2016 11:11:33 AM	29183
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	12/14/2016 10:45:15 AM	29175
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/14/2016 10:45:15 AM	29175
Surr: DNOP	78.7	70-130		%Rec	1	12/14/2016 10:45:15 AM	29175
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.6		mg/Kg	1	12/14/2016 11:37:08 AM	G39381
Surr: BFB	88.2	68.3-144		%Rec	1	12/14/2016 11:37:08 AM	G39381
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.018		mg/Kg	1	12/14/2016 11:37:08 AM	B39381
Toluene	ND	0.036		mg/Kg	1	12/14/2016 11:37:08 AM	B39381
Ethylbenzene	ND	0.036		mg/Kg	1	12/14/2016 11:37:08 AM	B39381
Xylenes, Total	ND	0.072		mg/Kg	1	12/14/2016 11:37:08 AM	B39381
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	12/14/2016 11:37:08 AM	B39381

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 170
Lab ID: 1612739-003 **Matrix:** SOIL

Client Sample ID: East Pasture #3 6pt (4'-8')
Collection Date: 12/13/2016 2:35:00 PM
Received Date: 12/14/2016 8:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	ND	30		mg/Kg	20	12/14/2016 11:23:57 AM	29183
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	12/14/2016 10:23:47 AM	29175
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/14/2016 10:23:47 AM	29175
Surr: DNOP	80.6	70-130		%Rec	1	12/14/2016 10:23:47 AM	29175
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.2		mg/Kg	1	12/14/2016 12:01:51 PM	G39381
Surr: BFB	88.5	68.3-144		%Rec	1	12/14/2016 12:01:51 PM	G39381
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.021		mg/Kg	1	12/14/2016 12:01:51 PM	B39381
Toluene	ND	0.042		mg/Kg	1	12/14/2016 12:01:51 PM	B39381
Ethylbenzene	ND	0.042		mg/Kg	1	12/14/2016 12:01:51 PM	B39381
Xylenes, Total	ND	0.084		mg/Kg	1	12/14/2016 12:01:51 PM	B39381
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	12/14/2016 12:01:51 PM	B39381

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 170
Lab ID: 1612739-004 **Matrix:** SOIL

Client Sample ID: East Pasture #4 6-pt (4'-8')
Collection Date: 12/13/2016 2:41:00 PM
Received Date: 12/14/2016 8:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	ND	30		mg/Kg	20	12/14/2016 11:36:22 AM	29183
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	12/14/2016 10:02:18 AM	29175
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/14/2016 10:02:18 AM	29175
Surr: DNOP	80.4	70-130		%Rec	1	12/14/2016 10:02:18 AM	29175
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.2		mg/Kg	1	12/14/2016 12:26:22 PM	G39381
Surr: BFB	85.2	68.3-144		%Rec	1	12/14/2016 12:26:22 PM	G39381
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.021		mg/Kg	1	12/14/2016 12:26:22 PM	B39381
Toluene	ND	0.042		mg/Kg	1	12/14/2016 12:26:22 PM	B39381
Ethylbenzene	ND	0.042		mg/Kg	1	12/14/2016 12:26:22 PM	B39381
Xylenes, Total	ND	0.085		mg/Kg	1	12/14/2016 12:26:22 PM	B39381
Surr: 4-Bromofluorobenzene	95.4	80-120		%Rec	1	12/14/2016 12:26:22 PM	B39381

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 170
Lab ID: 1612739-005 **Matrix:** SOIL

Client Sample ID: East Pasture #5 6-pt (4'-8')
Collection Date: 12/13/2016 2:48:00 PM
Received Date: 12/14/2016 8:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	ND	30		mg/Kg	20	12/14/2016 11:48:47 AM	29183
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	12/14/2016 9:40:56 AM	29175
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/14/2016 9:40:56 AM	29175
Surr: DNOP	81.0	70-130		%Rec	1	12/14/2016 9:40:56 AM	29175
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	12/14/2016 12:50:38 PM	G39381
Surr: BFB	88.6	68.3-144		%Rec	1	12/14/2016 12:50:38 PM	G39381
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.018		mg/Kg	1	12/14/2016 12:50:38 PM	B39381
Toluene	ND	0.035		mg/Kg	1	12/14/2016 12:50:38 PM	B39381
Ethylbenzene	ND	0.035		mg/Kg	1	12/14/2016 12:50:38 PM	B39381
Xylenes, Total	ND	0.071		mg/Kg	1	12/14/2016 12:50:38 PM	B39381
Surr: 4-Bromofluorobenzene	100	80-120		%Rec	1	12/14/2016 12:50:38 PM	B39381

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1612739**

15-Dec-16

Client: Blagg Engineering
Project: GCU 170

Sample ID	**MB-29183**	SampType: **MBLK**			TestCode: **EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID: **29183**			RunNo: **39400**					
Prep Date:	**12/14/2016**	Analysis Date: **12/14/2016**			SeqNo: **1233612**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-29183**	SampType: **LCS**			TestCode: **EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID: **29183**			RunNo: **39400**					
Prep Date:	**12/14/2016**	Analysis Date: **12/14/2016**			SeqNo: **1233613**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.3	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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1612739**

15-Dec-16

Client: Blagg Engineering
Project: GCU 170

Sample ID **LCS-29175**	SampType: **LCS**			TestCode: **EPA Method 8015M/D: Diesel Range Organics**					
Client ID: **LCSS**	Batch ID: **29175**			RunNo: **39372**					
Prep Date: **12/14/2016**	Analysis Date: **12/14/2016**			SeqNo: **1232663**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	10	50.00	0	89.4	63.8	116			
Surr: DNOP	4.2		5.000		83.2	70	130			

Sample ID **MB-29175**	SampType: **MBLK**			TestCode: **EPA Method 8015M/D: Diesel Range Organics**					
Client ID: **PBS**	Batch ID: **29175**			RunNo: **39372**					
Prep Date: **12/14/2016**	Analysis Date: **12/14/2016**			SeqNo: **1232664**		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	8.3		10.00		83.1	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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1612739**

15-Dec-16

Client: Blagg Engineering
Project: GCU 170

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **G39381**	RunNo: **39381**
Prep Date:	Analysis Date: **12/14/2016**	SeqNo: **1233413** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	860		1000		85.7	68.3	144			

Sample ID **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **G39381**	RunNo: **39381**
Prep Date:	Analysis Date: **12/14/2016**	SeqNo: **1233414** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	108	74.6	123			
Surr: BFB	940		1000		93.7	68.3	144			

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1612739**

15-Dec-16

Client: Blagg Engineering
Project: GCU 170

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **B39381**	RunNo: **39381**
Prep Date:	Analysis Date: **12/14/2016**	SeqNo: **1233459** 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	0.95		1.000		94.8	80	120			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **B39381**	RunNo: **39381**
Prep Date:	Analysis Date: **12/14/2016**	SeqNo: **1233460** 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	101	75.2	115			
Toluene	0.92	0.050	1.000	0	92.0	80.7	112			
Ethylbenzene	0.92	0.050	1.000	0	92.0	78.9	117			
Xylenes, Total	2.8	0.10	3.000	0	91.7	79.2	115			
Surr: 4-Bromofluorobenzene	0.95		1.000		95.5	80	120			

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

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: 1612739 | RcptNo: 1

Received by/date: AT 12/14/16

Logged By: Anne Thorne 12/14/2016 8:05:00 AM

Completed By: Anne Thorne 12/14/2016 8:26:12 AM

Reviewed By: AG 12/14/16

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

ient: BP America

BLAGG ENGINEERING INC

ailing Address:

hone #: (505) 320-1183

nail or Fax#:

VQC Package:

Standard ☐ Level 4 (Full Validation)

ccreditation

NELAP ☐ Other

EDD (Type)

Turn-Around Time: ASAP SAME DAY

☐ Standard ☒ Rush

Project Name: GCU 170

Project #: 1995 REMEDIATION EXCAVATION

Project Manager: J. BLAGG

Sampler: J. 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 # (Mod/Kots) (As 12/14/16)	Preservative Type	HEAL No. 1612739	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)
12/2016	1419	SOIL	EAST PASTURE #1 GRAB @ 2'	4 oz x 1	COOL	-001	X		X									X				
"	1428	"	EAST PASTURE #2 6-PT (4'-8')	"	"	-002	X		X									X				
"	1435	"	EAST PASTURE #3 6-PT (4'-8')	"	"	-003	X		X									X				
"	1441	"	EAST PASTURE #4 6-PT (4'-8')	"	"	-004	X		X									X				
	1448	"	EAST PASTURE #5 6-PT (4'-8')	"	"	-005	X		X									X				

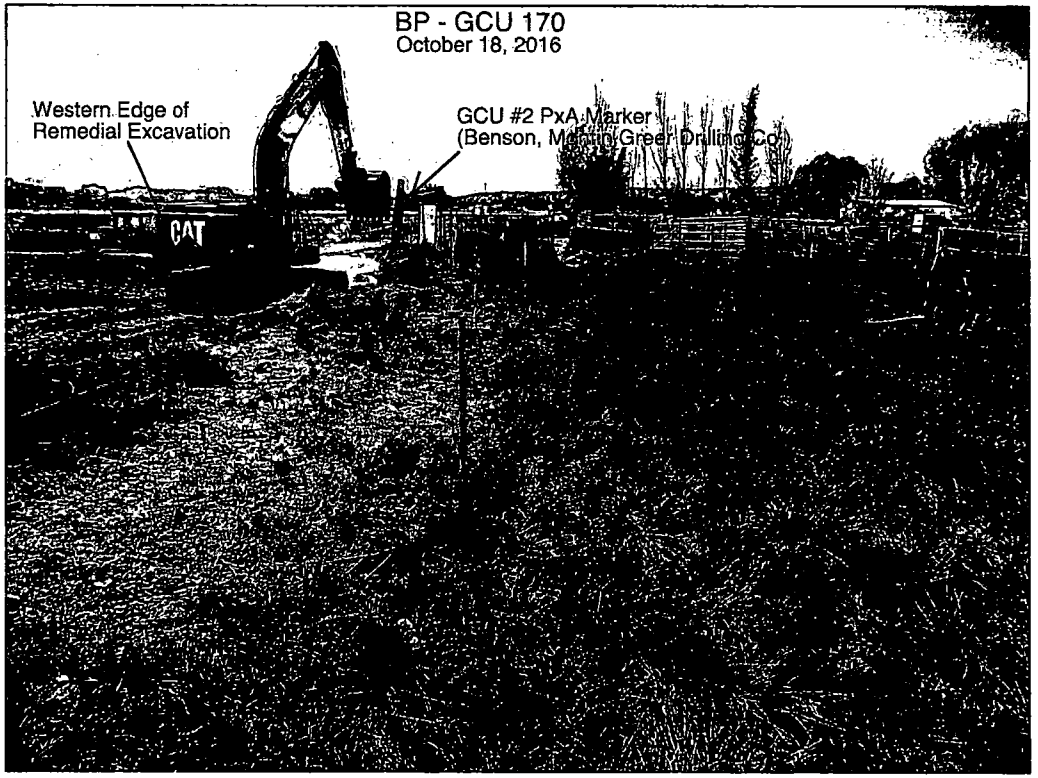
Date	Time	Relinquished by:	Received by:	Date	Time
12/13/2016	1620			12/13/16	1620
12/13/16	1840			12/14/16	0805

Remarks: BILL BP CONTACT: Steve Moskal
VID: VBEEB50PL6
AFE: X7-006RW-E:REST

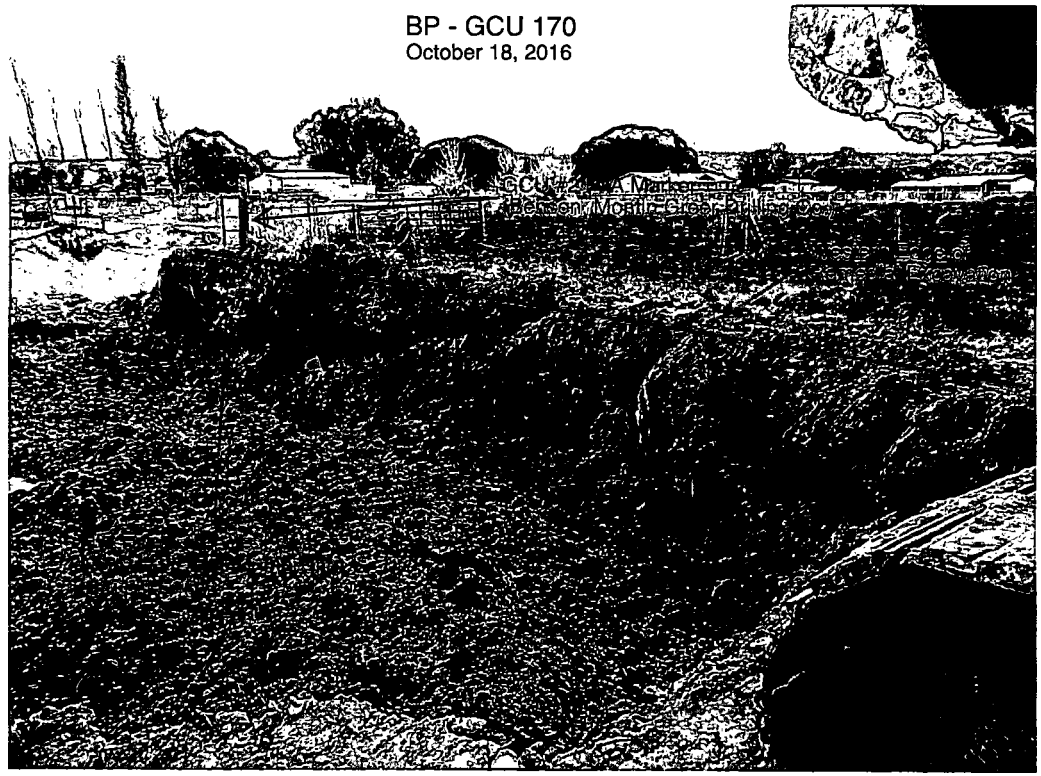
If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

APPENDIX D

Surface Soil Sampling
Benson, Montin Greer
GCU #2 (PxA)


BP - GCU 170
October 18, 2016
Western Edge of
Remedial Excavation
GCU #2 PxA Marker
(Benson, Martin Greer Drilling Co)
CAT

BP - GCU 170
October 18, 2016



HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

October 26, 2016

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

RE: GCU 170 OrderNo.: 1610918

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory received 2 sample(s) on 10/19/2016 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 qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1610918**
Date Reported: **10/26/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 170
Lab ID: 1610918-001 **Matrix:** SOIL

Client Sample ID: West Pasture 3-pt @ 1'
Collection Date: 10/18/2016 11:12:00 AM
Received Date: 10/19/2016 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Fluoride	2.3	0.30		mg/Kg	1	10/22/2016 4:13:20 AM	28220
Chloride	160	30		mg/Kg	20	10/22/2016 4:25:45 AM	28220
Nitrogen, Nitrite (As N)	ND	0.30		mg/Kg	1	10/22/2016 4:13:20 AM	28220
Bromide	ND	0.30		mg/Kg	1	10/22/2016 4:13:20 AM	28220
Nitrogen, Nitrate (As N)	0.31	0.30		mg/Kg	1	10/22/2016 4:13:20 AM	28220
Phosphorus, Orthophosphate (As P)	ND	1.5		mg/Kg	1	10/22/2016 4:13:20 AM	28220
Sulfate	500	30		mg/Kg	20	10/22/2016 4:25:45 AM	28220
RESISTIVITY AND EC SOIL						Analyst: **LGT**	
Conductivity	2050	1.00		µmhos/cm	1	10/24/2016 2:40:00 PM	28245
EPA METHOD 6010B: SOIL METALS						Analyst: **MED**	
Calcium	7400	50		mg/Kg	2	10/25/2016 9:12:06 AM	28249
Magnesium	3200	50		mg/Kg	2	10/25/2016 9:12:06 AM	28249
Potassium	2000	100		mg/Kg	2	10/25/2016 9:12:06 AM	28249
Sodium	620	50		mg/Kg	2	10/25/2016 9:12:06 AM	28249
SM4500-H+B: PH						Analyst: **JRR**	
pH	8.02	1.68		pH Units	1	10/24/2016 12:56:00 PM	R38159

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU 170
Lab ID: 1610918-002 **Matrix:** SOIL

Client Sample ID: NW Extension West Wall N Half
Collection Date: 10/18/2016 11:42:00 AM
Received Date: 10/19/2016 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Fluoride	3.2	0.30		mg/Kg	1	10/22/2016 4:38:10 AM	28220
Chloride	720	30		mg/Kg	20	10/22/2016 4:50:34 AM	28220
Nitrogen, Nitrite (As N)	ND	0.30		mg/Kg	1	10/22/2016 4:38:10 AM	28220
Bromide	0.93	0.30		mg/Kg	1	10/22/2016 4:38:10 AM	28220
Nitrogen, Nitrate (As N)	1.5	0.30		mg/Kg	1	10/22/2016 4:38:10 AM	28220
Phosphorus, Orthophosphate (As P)	ND	1.5		mg/Kg	1	10/22/2016 4:38:10 AM	28220
Sulfate	1000	30		mg/Kg	20	10/22/2016 4:50:34 AM	28220
RESISTIVITY AND EC SOIL						Analyst: **LGT**	
Conductivity	3530	1.00		µmhos/cm	1	10/24/2016 2:40:00 PM	28245
EPA METHOD 6010B: SOIL METALS						Analyst: **MED**	
Calcium	6400	49		mg/Kg	2	10/25/2016 9:13:31 AM	28249
Magnesium	3100	49		mg/Kg	2	10/25/2016 9:13:31 AM	28249
Potassium	1500	98		mg/Kg	2	10/25/2016 9:13:31 AM	28249
Sodium	1800	49		mg/Kg	2	10/25/2016 9:13:31 AM	28249
SM4500-H+B: PH						Analyst: **JRR**	
pH	7.63	1.68		pH Units	1	10/24/2016 12:56:00 PM	R38159

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

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LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Hall Environmental
Project: Not Indicated
Report Date: 10/24/16

Lab ID: B16101544-001
Client Sample ID: 1610918-001B West Pasture 3-pt @ 1 Foot
Collection Date: 10/18/16 11:12
DateReceived: 10/20/16
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
WATER EXTRACTABLE CONSTITUENTS							
Alkalinity, 1:2	100	mg/kg		4		ASA10-3	10/24/16 14:07 / cjm

Lab ID: B16101544-002
Client Sample ID: 1610918-002B NW Ext W Wall N Half 5-pt (4-8 Feet)
Collection Date: 10/18/16 11:42
DateReceived: 10/20/16
Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
WATER EXTRACTABLE CONSTITUENTS							
Alkalinity, 1:2	94	mg/kg		4		ASA10-3	10/24/16 14:34 / cjm

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Hall Environmental
Project: Not Indicated

Report Date: 10/24/16
Work Order: B16101544

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: ASA10-3									Batch: 103842
Lab ID: LCS-103842	Laboratory Control Sample				Run: AR50_161024A				10/24/16 14:06
Alkalinity, 1:2	47.4	mg/kg	4.0	84	70	130			
Lab ID: B16101544-002A DUP	Sample Duplicate				Run: AR50_161024A				10/24/16 14:35
Alkalinity, 1:2	95.3	mg/kg	4.0				1.5	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1610918**

26-Oct-16

Client: Blagg Engineering
Project: GCU 170

Sample ID **MB-28220**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **28220**	RunNo: **38151**
Prep Date: **10/21/2016**	Analysis Date: **10/22/2016**	SeqNo: **1190647** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.30								
Chloride	ND	1.5								
Nitrogen, Nitrite (As N)	ND	0.30								
Bromide	ND	0.30								
Nitrogen, Nitrate (As N)	ND	0.30								
Phosphorus, Orthophosphate (As P	ND	1.5								
Sulfate	ND	1.5								

Sample ID **LCS-28220**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **28220**	RunNo: **38151**
Prep Date: **10/21/2016**	Analysis Date: **10/22/2016**	SeqNo: **1190648** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	1.6	0.30	1.500	0	106	90	110			
Chloride	14	1.5	15.00	0	93.6	90	110			
Nitrogen, Nitrite (As N)	2.8	0.30	3.000	0	93.8	90	110			
Bromide	7.3	0.30	7.500	0	97.5	90	110			
Nitrogen, Nitrate (As N)	7.4	0.30	7.500	0	98.5	90	110			
Phosphorus, Orthophosphate (As P	14	1.5	15.00	0	95.6	90	110			
Sulfate	29	1.5	30.00	0	95.9	90	110			

Sample ID **MB-28220**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **28220**	RunNo: **38161**
Prep Date: **10/21/2016**	Analysis Date: **10/24/2016**	SeqNo: **1191011** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.30								
Chloride	ND	1.5								
Nitrogen, Nitrite (As N)	ND	0.30								
Bromide	ND	0.30								
Nitrogen, Nitrate (As N)	ND	0.30								
Sulfate	ND	1.5								

Sample ID **LCS-28220**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **28220**	RunNo: **38161**
Prep Date: **10/21/2016**	Analysis Date: **10/24/2016**	SeqNo: **1191012** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	1.5	0.30	1.500	0	99.7	90	110			
Chloride	14	1.5	15.00	0	94.0	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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1610918**

26-Oct-16

Client: Blagg Engineering
Project: GCU 170

Sample ID **LCS-28220**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **28220**	RunNo: **38161**
Prep Date: **10/21/2016**	Analysis Date: **10/24/2016**	SeqNo: **1191012** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	2.8	0.30	3.000	0	93.0	90	110			
Bromide	7.1	0.30	7.500	0	94.9	90	110			
Nitrogen, Nitrate (As N)	7.4	0.30	7.500	0	98.1	90	110			
Sulfate	28	1.5	30.00	0	94.9	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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1610918**

26-Oct-16

Client: Blagg Engineering
Project: GCU 170

Sample ID	**MB-28249**	SampType: **MBLK**		TestCode: **EPA Method 6010B: Soil Metals**						
Client ID:	**PBS**	Batch ID: **28249**		RunNo: **38178**						
Prep Date:	**10/24/2016**	Analysis Date: **10/25/2016**		SeqNo: **1191555**		Units: **mg/Kg**				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	25								
Magnesium	ND	25								
Potassium	ND	50								
Sodium	ND	25								

Sample ID	**LCS-28249**	SampType: **LCS**		TestCode: **EPA Method 6010B: Soil Metals**						
Client ID:	**LCSS**	Batch ID: **28249**		RunNo: **38178**						
Prep Date:	**10/24/2016**	Analysis Date: **10/25/2016**		SeqNo: **1191556**		Units: **mg/Kg**				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	2600	25	2500	0	104	80	120			
Magnesium	2600	25	2500	0	103	80	120			
Potassium	2500	50	2500	0	99.8	80	120			
Sodium	2500	25	2500	0	100	80	120			

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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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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: 1610918 RcptNo: 1

Received by/date: LC 10/19/16

Logged By: Lindsay Mangin 10/19/2016 8:00:00 AM

Completed By: Lindsay Mangin 10/19/2016 9:29:48 AM

Reviewed By: MG 10/19/16

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	1.6	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: ASAP 3-DAY
☐ Standard ☒ Rush
Project Name: GCU 170
Project #:
Project Manager: J. BLAGG
Sampler: J. BLAGG
On Ice: ☒ Yes ☐ No
Sample Temperature: 2.6 CF -1.0 = 1.6

HALL ENVIRONMENTAL ANALYSIS LABORATORY
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Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1610918	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)	CATIONS/ANIONS	PLUS ALK, COND, TDS, pH			Air Bubbles (Y or N)
8/2016	1112	SOIL	WEST PASTURE 3-pt @ 1'	8 oz x 1	COOL	-001												X	X			
"	1142	"	NW Extension - West Wall N. Half 5-pt (4'-8')	"	"	-002												X	X			

Date	Time	Relinquished by:	Received by:	Date	Time
8/2016	1605	Jeff Blagg	Chad Waele	10/18/16	1605
10/16	1920	Christopher Waele	Lindsey Correha	10/19/16	0800

Remarks: BILL BP
CONTACT: STEVE MOSKAL
VID: VHIXONEVRM
NOT ABLE TO ANALYZE TDS ON A Solid Sample | AT 10/19/16

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.

APPENDIX E

Cathodic Well Closure Report

corrpro
An Aegion Company
3900 Monroe Road
Farmington, NM 87401
Tel: 505-325-1946 * Fax 505-327-9215

To: Ritchie Hart
BP America Production Company
2906 County Road 307
Durango, CO 81303

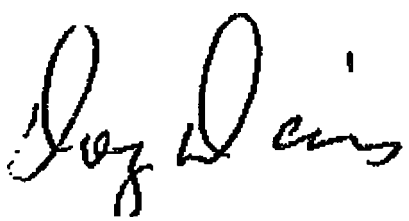
Re: GCU 170 – Plug and Abandon of Cathodic Protection Deep Well Groundbed

Job Description: Corrpro was contracted to plug and abandon the GCU 170 cathodic protection deep well groundbed due to water seepage from the groundbed and P & a of the gas well itself. This job was completed November 7, 2016.

Work Completed:
An area around the well casing and vent pipe was excavated to expose the top of the casing and vent pipe. The depth of this excavation was approximately 14' deep. The casing was previously filled with conducrete by an unknown contractor when the well was drilled. There were 3 1"vent pipes, 2 inside the casing and 1 outside. The casing outside was used to pump concrete down the backside of the casing. The 2 inside the casing were producing water. The vent pipe and casing were both cut off 14' below grade and the 2 vent pipes were terminated into one. A 1" stainless steel valve was installed to stop the leak successfully.
A 10" to 8" pvc Reducer was installed on the 8" casing and a 3' Piece of 10" casing was installed. The 10" casing was then filled with 2 bags of Portland cement and capped.

Materials used:

- 2 -94# bags Portland Cement
- 10" to 8" reducer pvc
- 1" Stainless Steel valve
- 10" pvc Casing



Doug Davis |NACE Certified Cathodic Protection Technician | Corrpro Companies
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ddavis@aegion.com