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 April 3, 2017

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

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company: BP America Production Co.	Contact: Steve Moskal
Address: 380 Airport Road, Durango, CO 81303	Telephone No.: 505-330-9179
Facility Name: Leeper Gas Com 001	Facility Type: Natural Gas Well

Surface Owner: Fee	Mineral Owner: Fee	API No.: 30-045-11142

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
L	34	32N	10W	1340	South	790	West	San Juan

Latitude 36.93858° **Longitude** -107.875794° NAD83

NATURE OF RELEASE

Type of Release - Hydrocarbons	Volume of Release - Unknown	Volume Recovered - none
Source of Release -Unknown – Historical – suspect earthen pit (original)	Date and Hour of Occurrence - Unknown	Date and Hour of Discovery – July 28, 1998
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
During routine excavation at the site, observations indicated what appeared to be hydrocarbon impacts to the soil, likely associated with a former earthen pit from previously accepted operating practices. The site was excavated on three separate occasions and several groundwater monitoring wells were installed from 1998 through 2006. The site was excavated once more in the area of two underground pipelines. This area had not been previously excavated and completes the full remediation of the site. Two additional groundwater monitoring wells were installed in June of 2018; one in the area of excavation of the pipelines and one immediate downgradient of the recent excavation.

Describe Area Affected and Cleanup Action Taken.*
The site was excavated in 1998 and 1999. Groundwater was determined to have impacts, at which time, several monitoring wells were drilled and installed in 1998 through 2000. The site was monitored until 2006 when it was determined that groundwater impacts were below standards for analyzed constituents. Three nearby domestic water wells were also sampled during this time. BP recently excavated approximately 1,370 cubic yards of impacted soil that was hauled off site for landfarm treatment. During the excavation, concerns of groundwater contamination were observed by the NMOCD. The attached report details the installation of monitoring wells, sampling and laboratory result. The attached report demonstrates no groundwater impacts are present. BP request final closure of this site and the associated 3RP project #36-0.

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: Environmental Coordinator	Approval Date: 9/10/2018 Expiration Date:
E-mail Address: steven.moskal@bpx.cpm	Conditions of Approval: Attached ☐
Date: July 11, 2018 Phone: 505-330-9179	

* Attach Additional Sheets If Necessary

NMOCD
JUL 13 2018
DISTRICT III

Final Remediation
of
Hydrocarbon Impacts

Leeper GC 1
(L) Sec 34 – T32N – R10W
API: 30-045-11142
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

July 11
2018

FINAL REMEDIATION
OF
HYDROCARBON IMPACTS

LEEPER GC 1

TABLE OF CONTENTS

APPENDICES

FINAL REMEDIATION OF
HYDROCARBON IMPACTS
LEEPER GC 1

INTRODUCTION and REMEDIATION ACTIVITIES

Blagg Engineering Inc. (BEI) has been retained by BP America Production Co. (BP) to monitor, sample and document environmental remediation of residual hydrocarbon impacts at the Leeper GC 1, a natural gas well located in rural San Juan County, New Mexico at (L) Sec. 34 – T32N – R10W (Figure 1). Documentation of prior known impacts removed from the site has been documented in the report "Remediation of Hydrocarbon Impacts, Leeper GC 1", dated January 22, 2018. Additional hydrocarbon impacts were discovered on April 10, 2018 during investigative work at the site. The source of impacts could not be positively identified but may have resulted from an integrity issue with a fiberglass 6-inch diameter natural gas flow line.

Initial investigation of potential impacts began on March 14, 2018 when a hand auger investigation was attempted. Shallow river cobbles prevented the collection of any soil samples. Using a hydrovac to advance test borings for soil sampling was attempted between March 19 - April 6, 2018, again with no success due to substantial river cobbles.

Investigative work using a backhoe began on April 10, 2018 by digging test holes to sample soil on the southern extent of the well pad in the area not previously remediated or investigated due to interference from several high pressure gas pipelines. The backhoe investigation concluded on April 16, 2018 with additional sampling to confirm the presence of soil impacts (Figure 2). Laboratory data reports for this investigation are included in Appendix C.

Remediation of soil impacts via excavation was commenced on May 18, 2018 using an excavator. This work included temporarily removing the previously mentioned 6-inch fiberglass line, removal of all identified impacted soils, sampling to confirm closure and backfilling with clean imported soil. This remedial work was completed on May 30, 2018 (Figure 3).

Closure sampling was progressive as the excavation advanced and was witnessed by a representative of the New Mexico Oil Conservation Division (NMOCD). Representative composite portions of soil sample were placed into a gallon sized Ziploc® baggie for field headspace analysis of organic vapors with a calibrated IonScience Tiger model photo-ionization detector (PID) containing a 11.2 eV lamp. Split samples were placed into a 4-ounce laboratory supplied jar with Teflon® lid, labeled and placed on ice in an ice chest for further laboratory testing. The jarred samples were hand delivered to a representative of Hall Environmental Analytical Laboratories for analysis via U.S. EPA Method 8021B (volatile organics limited to benzene, toluene, ethyl benzene and total xylenes), U.S. EPA Method 8015 (gasoline range (GRO), diesel range (DRO) and motor oil range (MRO) organics), and chlorides via U.S. EPA Method 300. A chain-of-custody followed the samples. Laboratory data reports are included in Appendix D.

Shallow groundwater at the site is present at a depth of approximately 5 feet below grade. Two monitor wells to confirm water quality in the remediation area (MW-14 and MW-15) were installed on June 13, 2018 (see Appendix F for well logs). The new wells were developed on June 18, 2018 by hand bailing water from each until stable parameters (pH, Conductivity and Temperature) were achieved. A new, unopened, dedicated disposable bailer was used for development of each well. The wells were sampled (again by hand bailing using a new, dedicated disposable bailer until stable parameters were achieved) on June 19, 2019 with a NMOCD representative present to witness. Samples were placed into laboratory supplied containers with appropriate preservatives, labeled, placed on ice in an ice chest, then hand delivered to a Hall Laboratories representative with chain-of-custody

documentation. Laboratory samples were analyzed via U.S EPA Method 8260 for volatile organics and cation/anion balance.

Analytical test results for the new monitor wells, included in Appendix E, demonstrate that no hydrocarbon impacts in excess of New Mexico Water Quality Control Commission regulations are present. Additionally, previously existing monitor wells MW-12 and MW-13, sampled on May 23, 2018, also confirm the absence of residual hydrocarbon impacts at the site (laboratory reports included in Appendix E).

A chronological summary of site remedial activities is presented in Appendix A.

CONCLUSIONS AND RECOMMENDATIONS

1) Residual hydrocarbon impacted soil at the BP operated Leeper GC 1 has been successfully excavated. Remediation sampling and analytical testing has confirmed that all identified impacts have been excavated and removed from the site.

2) Groundwater analytical data collected from pre-existing and newly installed monitor wells indicate that all wells meet NMOCD water quality standards.

4) Site closure is recommended. There are no known hydrocarbon impacts to shallow soil or groundwater exceeding NMOCD standards at the site.

CLOSURE AND LIMITATIONS

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

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

Submitted by:
Blagg Engineering, Inc.

Jeffrey C. Blagg, PE
NMPE 11607

Appendix A

Summary Activity Record of Impact Remediation

BP America

Leeper GC 1
(L) Sec 34 – T32N – R10W
San Juan County, New Mexico
API: 30-045-11142

Summary Activity Record
of
Final Impact Remediation

March 14, 2018 Attempt hand auger investigation, unsuccessful due to river cobble interference.

March 19 – April 6, 2018 Attempt hydro-vac investigation, unsuccessful due to river cobble interference.

April 10, 2018 Commence investigation of potential residual impacts at southern extent of well pad using a backhoe to collect soil samples.

April 16, 2018 Complete follow-up investigation of potential residual impacts using a backhoe to collect soil samples.

May 18, 2018 Commence site remediation via excavation using a trackhoe to remove shallow soil impacts.

May 21, 2018 Conduct closure sampling at the southwest corner of the remedial excavation.

May 22, 2018 Conduct closure sampling along the southern wall of the remedial excavation.

May 23, 2018 Sample pre-existing monitor wells MW-12 and MW-13 for analytical testing.
Conduct closure sampling along the south, southeast and east walls of the remedial excavation.

May 25, 2018 Conduct closure sampling along the east and north walls of the remedial excavation.

May 29, 2018 Conduct closure sampling along north wall of the remedial excavation.

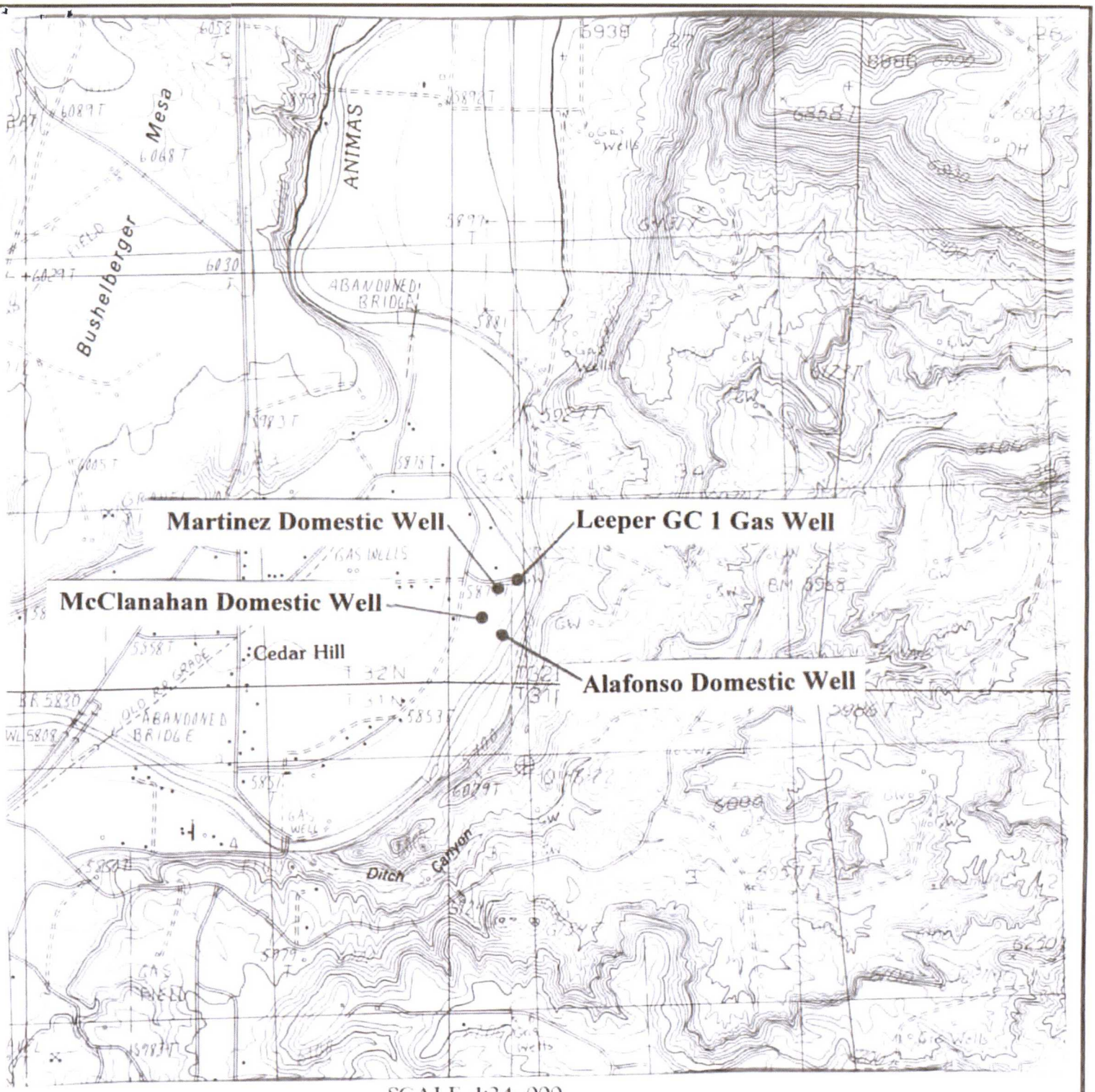
May 30, 2018 Conduct closure sampling along west wall of the remedial excavation.

May 31, 2018 Complete backfilling remedial excavation with clean imported material.

June 13, 2018 Install groundwater monitor wells MW-14 and MW-15.

June 18, 2018 Develop groundwater monitor wells MW-14 and MW-15.

June 19, 2018 Sample groundwater monitor wells MW-14 and MW-15.

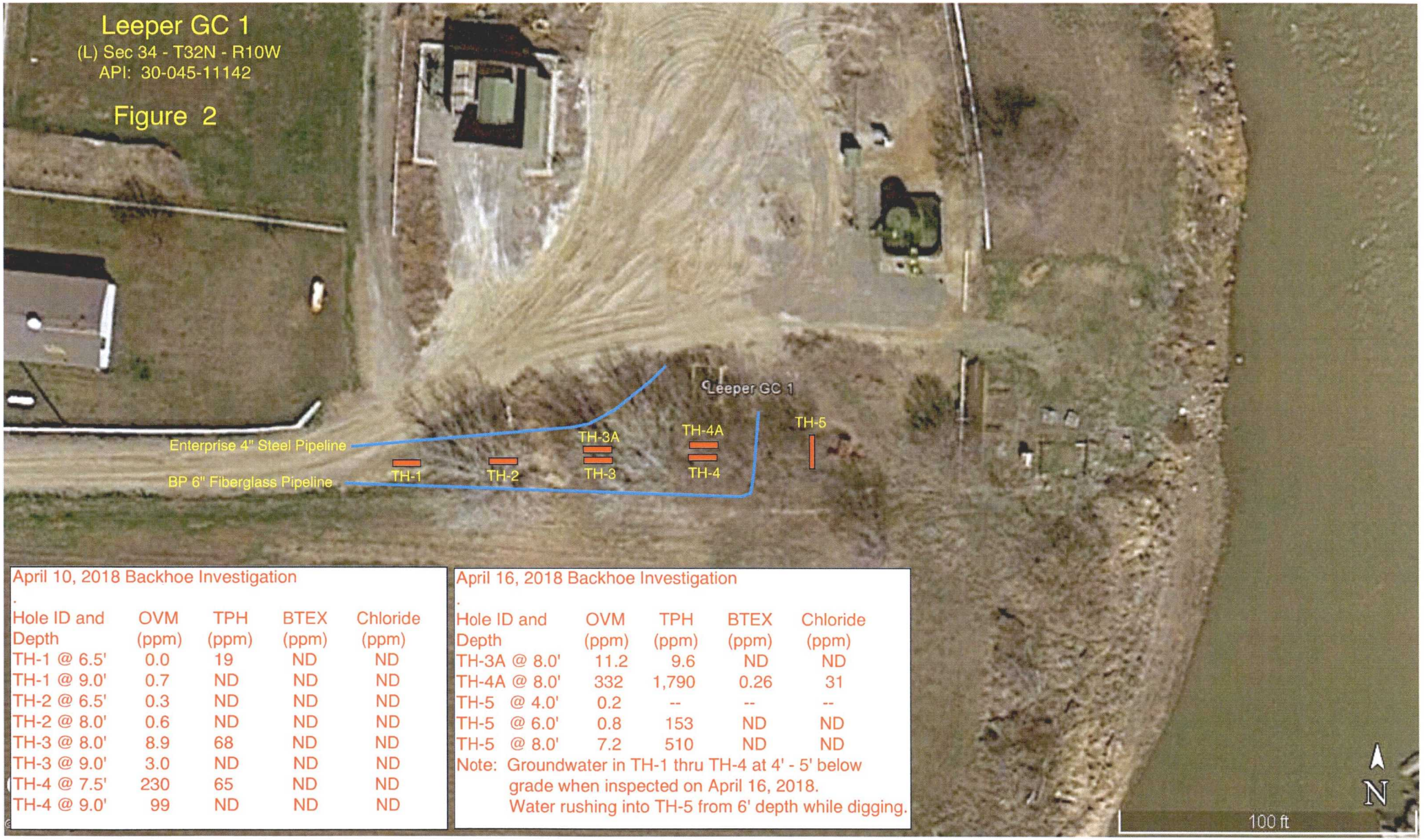


SITE LOCATION MAP – DOMESTIC WELLS AMOCO PRODUCTION CO – LEEPER GC 1			*BLAGG ENGINEERING, INC.*
DATE: 8/99	FIGURE 1	BY: JCB	*P.O. BOX 87, BLOOMFIELD, NM* *PHONE: (505)632-1199*

Leeper GC 1

(L) Sec 34 - T32N - R10W
API: 30-045-11142

Figure 2



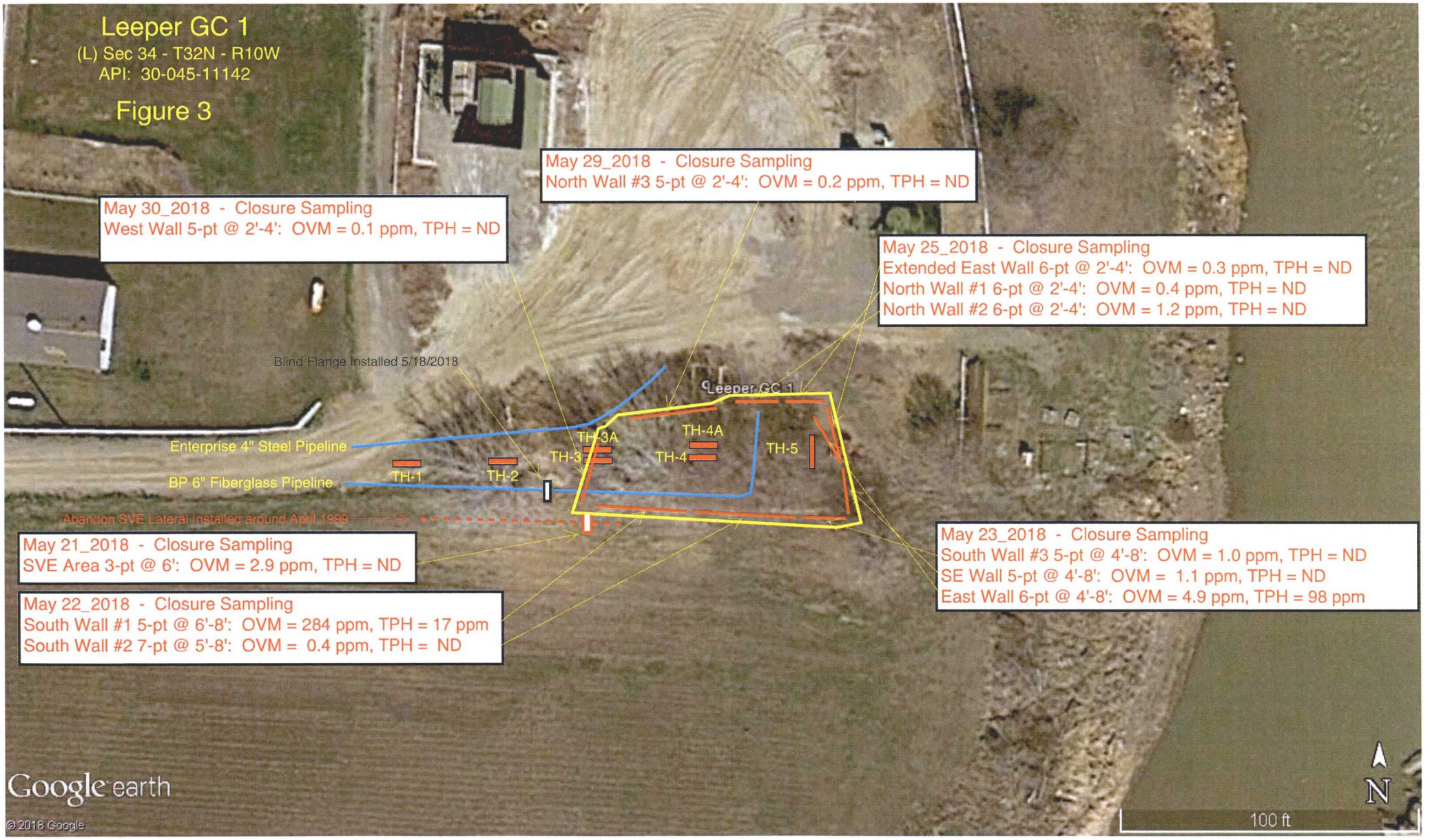
April 10, 2018 Backhoe Investigation

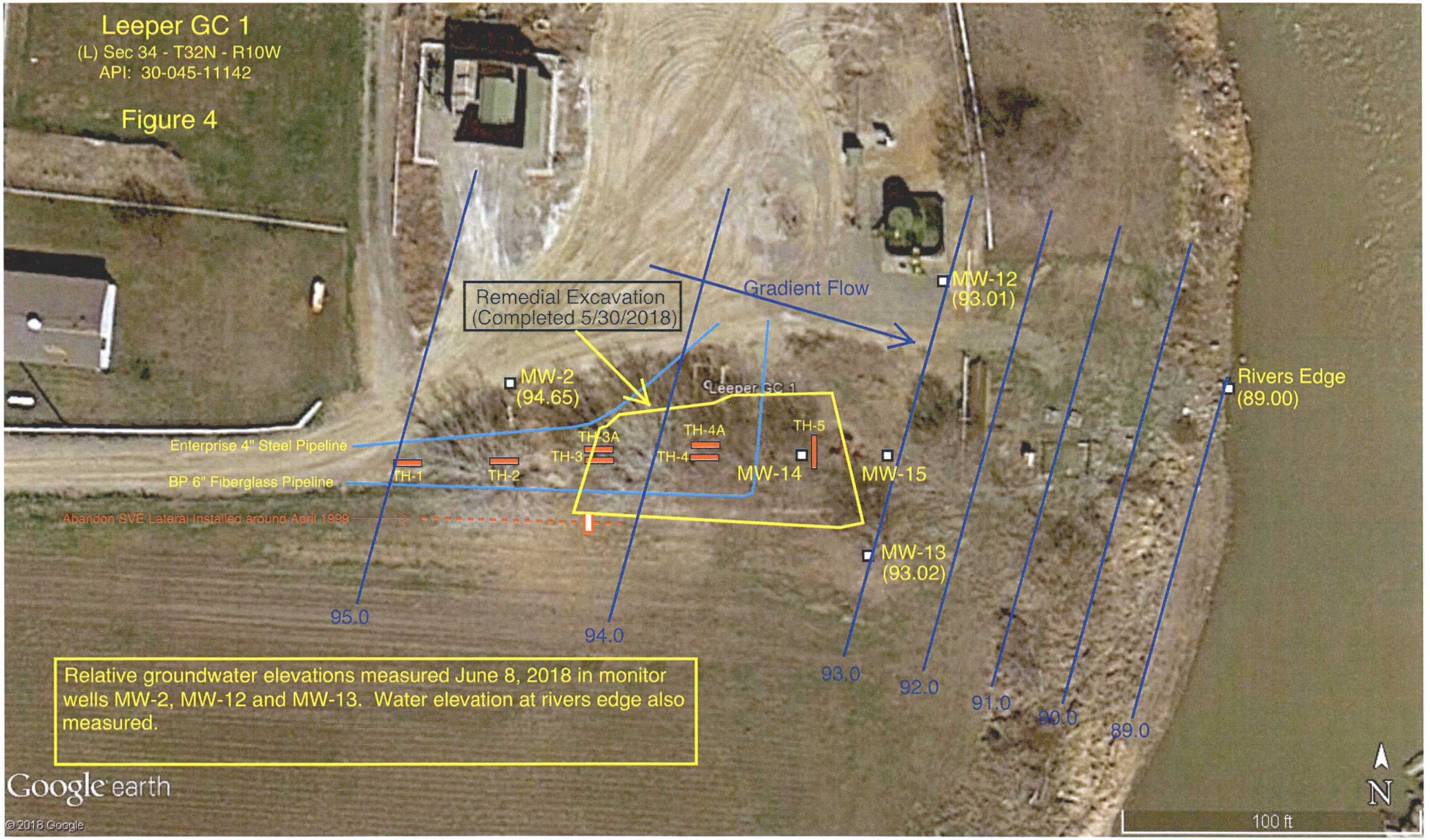
Hole ID and Depth	OVM (ppm)	TPH (ppm)	BTEX (ppm)	Chloride (ppm)
TH-1 @ 6.5'	0.0	19	ND	ND
TH-1 @ 9.0'	0.7	ND	ND	ND
TH-2 @ 6.5'	0.3	ND	ND	ND
TH-2 @ 8.0'	0.6	ND	ND	ND
TH-3 @ 8.0'	8.9	68	ND	ND
TH-3 @ 9.0'	3.0	ND	ND	ND
TH-4 @ 7.5'	230	65	ND	ND
TH-4 @ 9.0'	99	ND	ND	ND

April 16, 2018 Backhoe Investigation

Hole ID and Depth	OVM (ppm)	TPH (ppm)	BTEX (ppm)	Chloride (ppm)
TH-3A @ 8.0'	11.2	9.6	ND	ND
TH-4A @ 8.0'	332	1,790	0.26	31
TH-5 @ 4.0'	0.2	--	--	--
TH-5 @ 6.0'	0.8	153	ND	ND
TH-5 @ 8.0'	7.2	510	ND	ND

Note: Groundwater in TH-1 thru TH-4 at 4' - 5' below grade when inspected on April 16, 2018.
Water rushing into TH-5 from 6' depth while digging.


Leeper GC 1
(L) Sec 34 - T32N - R10W
API: 30-045-11142
Figure 3
May 29_2018 - Closure Sampling
North Wall #3 5-pt @ 2'-4': OVM = 0.2 ppm, TPH = ND
May 30_2018 - Closure Sampling
West Wall 5-pt @ 2'-4': OVM = 0.1 ppm, TPH = ND
May 25_2018 - Closure Sampling
Extended East Wall 6-pt @ 2'-4': OVM = 0.3 ppm, TPH = ND
North Wall #1 6-pt @ 2'-4': OVM = 0.4 ppm, TPH = ND
North Wall #2 6-pt @ 2'-4': OVM = 1.2 ppm, TPH = ND
Blind Flange Installed 5/18/2018
Leeper GC 1
Enterprise 4" Steel Pipeline
BP 6" Fiberglass Pipeline
TH-1
TH-2
TH-3
TH-3A
TH-4
TH-4A
TH-5
Abandon SVE Lateral Installed around April 1999
May 21_2018 - Closure Sampling
SVE Area 3-pt @ 6': OVM = 2.9 ppm, TPH = ND
May 22_2018 - Closure Sampling
South Wall #1 5-pt @ 6'-8': OVM = 284 ppm, TPH = 17 ppm
South Wall #2 7-pt @ 5'-8': OVM = 0.4 ppm, TPH = ND
May 23_2018 - Closure Sampling
South Wall #3 5-pt @ 4'-8': OVM = 1.0 ppm, TPH = ND
SE Wall 5-pt @ 4'-8': OVM = 1.1 ppm, TPH = ND
East Wall 6-pt @ 4'-8': OVM = 4.9 ppm, TPH = 98 ppm
Google earth
© 2018 Google
N
100 ft


Leeper GC 1
(L) Sec 34 - T32N - R10W
API: 30-045-11142
Figure 4
Remedial Excavation
(Completed 5/30/2018)
Gradient Flow
MW-12
(93.01)
MW-2
(94.65)
Leeper GC 1
Rivers Edge
(89.00)
Enterprise 4" Steel Pipeline
BP 6" Fiberglass Pipeline
Abandon SVE Lateral Installed around April 1999
TH-1
TH-2
TH-3
TH-3A
TH-4
TH-4A
TH-5
MW-14
MW-15
MW-13
(93.02)
95.0
94.0
93.0
92.0
91.0
90.0
89.0
Relative groundwater elevations measured June 8, 2018 in monitor wells MW-2, MW-12 and MW-13. Water elevation at rivers edge also measured.
Google earth
© 2018 Google
N
100 ft

Appendix C

Test Hole 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

April 13, 2018

Steve Moskal

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

RE: Leeper GC 1 OrderNo.: 1804548

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 8 sample(s) on 4/11/2018 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Leeper GC 1
Lab ID: 1804548-001

Client Sample ID: TH-1 @ 6.5'
Collection Date: 4/10/2018 1:23:00 PM
Matrix: MEOH (SOIL)
Received Date: 4/11/2018 7:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	4/11/2018 9:47:56 PM	37549
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	19	9.5		mg/Kg	1	4/12/2018 1:39:06 PM	37557
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/12/2018 1:39:06 PM	37557
Surr: DNOP	95.3	70-130		%Rec	1	4/12/2018 1:39:06 PM	37557
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.7		mg/Kg	1	4/11/2018 11:17:47 AM	G50469
Surr: BFB	92.4	15-316		%Rec	1	4/11/2018 11:17:47 AM	G50469
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.019		mg/Kg	1	4/11/2018 11:17:47 AM	B50469
Toluene	ND	0.037		mg/Kg	1	4/11/2018 11:17:47 AM	B50469
Ethylbenzene	ND	0.037		mg/Kg	1	4/11/2018 11:17:47 AM	B50469
Xylenes, Total	ND	0.075		mg/Kg	1	4/11/2018 11:17:47 AM	B50469
Surr: 4-Bromofluorobenzene	87.8	80-120		%Rec	1	4/11/2018 11:17:47 AM	B50469

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Leeper GC 1
Lab ID: 1804548-002
Matrix: MEOH (SOIL)
Client Sample ID: TH-1 @ 9'
Collection Date: 4/10/2018 1:29:00 PM
Received Date: 4/11/2018 7:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	4/11/2018 10:00:22 PM	37549
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.0		mg/Kg	1	4/12/2018 10:46:59 AM	37557
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	4/12/2018 10:46:59 AM	37557
Surr: DNOP	88.2	70-130		%Rec	1	4/12/2018 10:46:59 AM	37557
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.0		mg/Kg	1	4/11/2018 11:41:04 AM	G50469
Surr: BFB	100	15-316		%Rec	1	4/11/2018 11:41:04 AM	G50469
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.015		mg/Kg	1	4/11/2018 11:41:04 AM	B50469
Toluene	ND	0.030		mg/Kg	1	4/11/2018 11:41:04 AM	B50469
Ethylbenzene	ND	0.030		mg/Kg	1	4/11/2018 11:41:04 AM	B50469
Xylenes, Total	ND	0.060		mg/Kg	1	4/11/2018 11:41:04 AM	B50469
Surr: 4-Bromofluorobenzene	90.2	80-120		%Rec	1	4/11/2018 11:41:04 AM	B50469

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Leeper GC 1
Lab ID: 1804548-003
Matrix: MEOH (SOIL)
Client Sample ID: TH-2 @ 6.5'
Collection Date: 4/10/2018 1:41:00 PM
Received Date: 4/11/2018 7:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	4/11/2018 10:12:47 PM	37549
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	8.9		mg/Kg	1	4/12/2018 11:11:38 AM	37557
Motor Oil Range Organics (MRO)	ND	44		mg/Kg	1	4/12/2018 11:11:38 AM	37557
Surr: DNOP	97.7	70-130		%Rec	1	4/12/2018 11:11:38 AM	37557
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.3		mg/Kg	1	4/11/2018 12:04:26 PM	G50469
Surr: BFB	98.8	15-316		%Rec	1	4/11/2018 12:04:26 PM	G50469
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.017		mg/Kg	1	4/11/2018 12:04:26 PM	B50469
Toluene	ND	0.033		mg/Kg	1	4/11/2018 12:04:26 PM	B50469
Ethylbenzene	ND	0.033		mg/Kg	1	4/11/2018 12:04:26 PM	B50469
Xylenes, Total	ND	0.066		mg/Kg	1	4/11/2018 12:04:26 PM	B50469
Surr: 4-Bromofluorobenzene	91.0	80-120		%Rec	1	4/11/2018 12:04:26 PM	B50469

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Leeper GC 1
Lab ID: 1804548-004
Client Sample ID: TH-2 @ 8'
Collection Date: 4/10/2018 1:45:00 PM
Matrix: MEOH (SOIL)
Received Date: 4/11/2018 7:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	4/11/2018 10:25:12 PM	37549
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	4/12/2018 11:36:09 AM	37557
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/12/2018 11:36:09 AM	37557
Surr: DNOP	91.4	70-130		%Rec	1	4/12/2018 11:36:09 AM	37557
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.3		mg/Kg	1	4/11/2018 12:27:59 PM	G50469
Surr: BFB	98.8	15-316		%Rec	1	4/11/2018 12:27:59 PM	G50469
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.017		mg/Kg	1	4/11/2018 12:27:59 PM	B50469
Toluene	ND	0.033		mg/Kg	1	4/11/2018 12:27:59 PM	B50469
Ethylbenzene	ND	0.033		mg/Kg	1	4/11/2018 12:27:59 PM	B50469
Xylenes, Total	ND	0.066		mg/Kg	1	4/11/2018 12:27:59 PM	B50469
Surr: 4-Bromofluorobenzene	90.4	80-120		%Rec	1	4/11/2018 12:27:59 PM	B50469

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
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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Leeper GC 1
Lab ID: 1804548-005
Matrix: MEOH (SOIL)
Client Sample ID: TH-3 @ 8'
Collection Date: 4/10/2018 1:55:00 PM
Received Date: 4/11/2018 7:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	4/11/2018 10:37:37 PM	37549
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	68	8.7		mg/Kg	1	4/12/2018 12:00:46 PM	37557
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	4/12/2018 12:00:46 PM	37557
Surr: DNOP	90.4	70-130		%Rec	1	4/12/2018 12:00:46 PM	37557
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	16		mg/Kg	5	4/11/2018 12:51:20 PM	37525
Surr: BFB	94.7	15-316		%Rec	5	4/11/2018 12:51:20 PM	37525
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.078		mg/Kg	5	4/11/2018 12:51:20 PM	37525
Toluene	ND	0.16		mg/Kg	5	4/11/2018 12:51:20 PM	37525
Ethylbenzene	ND	0.16		mg/Kg	5	4/11/2018 12:51:20 PM	37525
Xylenes, Total	ND	0.31		mg/Kg	5	4/11/2018 12:51:20 PM	37525
Surr: 4-Bromofluorobenzene	91.3	80-120		%Rec	5	4/11/2018 12:51:20 PM	37525

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Leeper GC 1
Lab ID: 1804548-006
Matrix: MEOH (SOIL)
Client Sample ID: TH-3 @ 9'
Collection Date: 4/10/2018 1:57:00 PM
Received Date: 4/11/2018 7:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	4/11/2018 10:50:01 PM	37549
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	8.7		mg/Kg	1	4/12/2018 12:25:13 PM	37557
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	4/12/2018 12:25:13 PM	37557
Surr: DNOP	86.0	70-130		%Rec	1	4/12/2018 12:25:13 PM	37557
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	15		mg/Kg	5	4/11/2018 1:14:47 PM	37525
Surr: BFB	94.6	15-316		%Rec	5	4/11/2018 1:14:47 PM	37525
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.076		mg/Kg	5	4/11/2018 1:14:47 PM	37525
Toluene	ND	0.15		mg/Kg	5	4/11/2018 1:14:47 PM	37525
Ethylbenzene	ND	0.15		mg/Kg	5	4/11/2018 1:14:47 PM	37525
Xylenes, Total	ND	0.30		mg/Kg	5	4/11/2018 1:14:47 PM	37525
Surr: 4-Bromofluorobenzene	89.8	80-120		%Rec	5	4/11/2018 1:14:47 PM	37525

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Leeper GC 1
Lab ID: 1804548-007
Matrix: MEOH (SOIL)
Client Sample ID: TH-4 @ 7.5'
Collection Date: 4/10/2018 2:13:00 PM
Received Date: 4/11/2018 7:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	4/11/2018 11:02:25 PM	37549
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	14	9.1		mg/Kg	1	4/12/2018 12:49:56 PM	37557
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	4/12/2018 12:49:56 PM	37557
Surr: DNOP	82.7	70-130		%Rec	1	4/12/2018 12:49:56 PM	37557
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	51	17		mg/Kg	5	4/11/2018 1:38:10 PM	37525
Surr: BFB	136	15-316		%Rec	5	4/11/2018 1:38:10 PM	37525
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.084		mg/Kg	5	4/11/2018 1:38:10 PM	37525
Toluene	ND	0.17		mg/Kg	5	4/11/2018 1:38:10 PM	37525
Ethylbenzene	ND	0.17		mg/Kg	5	4/11/2018 1:38:10 PM	37525
Xylenes, Total	ND	0.33		mg/Kg	5	4/11/2018 1:38:10 PM	37525
Surr: 4-Bromofluorobenzene	91.8	80-120		%Rec	5	4/11/2018 1:38:10 PM	37525

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Leeper GC 1
Lab ID: 1804548-008
Client Sample ID: TH-4 @ 9'
Collection Date: 4/10/2018 2:16:00 PM
Matrix: MEOH (SOIL)
Received Date: 4/11/2018 7:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	4/11/2018 11:14:50 PM	37549
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	4/12/2018 1:14:27 PM	37557
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/12/2018 1:14:27 PM	37557
Surr: DNOP	87.8	70-130		%Rec	1	4/12/2018 1:14:27 PM	37557
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	16		mg/Kg	5	4/11/2018 2:01:43 PM	37525
Surr: BFB	100	15-316		%Rec	5	4/11/2018 2:01:43 PM	37525
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.078		mg/Kg	5	4/11/2018 2:01:43 PM	37525
Toluene	ND	0.16		mg/Kg	5	4/11/2018 2:01:43 PM	37525
Ethylbenzene	ND	0.16		mg/Kg	5	4/11/2018 2:01:43 PM	37525
Xylenes, Total	ND	0.31		mg/Kg	5	4/11/2018 2:01:43 PM	37525
Surr: 4-Bromofluorobenzene	88.7	80-120		%Rec	5	4/11/2018 2:01:43 PM	37525

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1804548**

13-Apr-18

Client: Blagg Engineering
Project: Leeper GC 1

Sample ID	**MB-37549**	SampType:	**mblk**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**PBS**	Batch ID:	**37549**		RunNo:	**50519**				
Prep Date:	**4/11/2018**	Analysis Date:	**4/11/2018**		SeqNo:	**1638413**	Units:	**mg/Kg**		

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

Sample ID	**LCS-37549**	SampType:	**lcs**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**LCSS**	Batch ID:	**37549**		RunNo:	**50519**				
Prep Date:	**4/11/2018**	Analysis Date:	**4/11/2018**		SeqNo:	**1638414**	Units:	**mg/Kg**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	97.1	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
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1804548**

13-Apr-18

Client: Blagg Engineering
Project: Leeper GC 1

Sample ID **MB-37557**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **37557**	RunNo: **50495**
Prep Date: **4/11/2018**	Analysis Date: **4/12/2018**	SeqNo: **1637383** 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	8.0		10.00		79.8	70	130			

Sample ID **LCS-37557**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **37557**	RunNo: **50495**
Prep Date: **4/11/2018**	Analysis Date: **4/12/2018**	SeqNo: **1638236** 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	90.9	70	130			
Surr: DNOP	4.2		5.000		84.6	70	130			

Sample ID **1804548-001AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **TH-1 @ 6.5'**	Batch ID: **37557**	RunNo: **50495**
Prep Date: **4/11/2018**	Analysis Date: **4/12/2018**	SeqNo: **1638662** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	63	12	58.69	18.73	75.3	55.8	125			
Surr: DNOP	5.0		5.869		85.6	70	130			

Sample ID **1804548-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **TH-1 @ 6.5'**	Batch ID: **37557**	RunNo: **50495**
Prep Date: **4/11/2018**	Analysis Date: **4/12/2018**	SeqNo: **1638663** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	56	10	51.07	18.73	73.6	55.8	125	11.0	20	
Surr: DNOP	4.5		5.107		88.6	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
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1804548**

13-Apr-18

Client: Blagg Engineering
Project: Leeper GC 1

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **G50469**	RunNo: **50469**
Prep Date:	Analysis Date: **4/11/2018**	SeqNo: **1637080** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	960		1000		95.8	15	316			

Sample ID **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **G50469**	RunNo: **50469**
Prep Date:	Analysis Date: **4/11/2018**	SeqNo: **1637081** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	5.0	25.00	0	111	75.9	131			
Surr: BFB	1100		1000		107	15	316			

Sample ID **1804548-001AMS**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **TH-1 @ 6.5'**	Batch ID: **G50469**	RunNo: **50469**
Prep Date:	Analysis Date: **4/11/2018**	SeqNo: **1637083** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	20	3.7	18.74	0	109	77.8	128			
Surr: BFB	810		749.6		108	15	316			

Sample ID **1804548-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **TH-1 @ 6.5'**	Batch ID: **G50469**	RunNo: **50469**
Prep Date:	Analysis Date: **4/11/2018**	SeqNo: **1637084** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	20	3.7	18.74	0	107	77.8	128	1.70	20	
Surr: BFB	820		749.6		110	15	316	0	0	

Sample ID **MB-37525**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **37525**	RunNo: **50469**
Prep Date: **4/10/2018**	Analysis Date: **4/11/2018**	SeqNo: **1637088** 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		97.3	15	316			

Sample ID **LCS-37525**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **37525**	RunNo: **50469**
Prep Date: **4/10/2018**	Analysis Date: **4/11/2018**	SeqNo: **1637089** Units: **mg/Kg**

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1804548**

13-Apr-18

Client: Blagg Engineering

Project: Leeper GC 1

Sample ID	**LCS-37525**	SampType:	**LCS**	TestCode:	**EPA Method 8015D: Gasoline Range**
Client ID:	**LCSS**	Batch ID:	**37525**	RunNo:	**50469**
Prep Date:	**4/10/2018**	Analysis Date:	**4/11/2018**	SeqNo:	**1637089** 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	110	75.9	131			
Surr: BFB	1100		1000		108	15	316			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1804548**

13-Apr-18

Client: Blagg Engineering
Project: Leeper GC 1

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **B50469**	RunNo: **50469**
Prep Date:	Analysis Date: **4/11/2018**	SeqNo: **1637117** 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	0.88		1.000		88.2	80	120			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **B50469**	RunNo: **50469**
Prep Date:	Analysis Date: **4/11/2018**	SeqNo: **1637118** 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	94.3	77.3	128			
Toluene	0.94	0.050	1.000	0	94.0	79.2	125			
Ethylbenzene	0.94	0.050	1.000	0	94.4	80.7	127			
Xylenes, Total	2.9	0.10	3.000	0	96.5	81.6	129			
Surr: 4-Bromofluorobenzene	0.91		1.000		91.5	80	120			

Sample ID **1804548-002AMS**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **TH-1 @ 9'**	Batch ID: **B50469**	RunNo: **50469**
Prep Date:	Analysis Date: **4/11/2018**	SeqNo: **1637122** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.55	0.015	0.5984	0	92.0	68.5	133			
Toluene	0.55	0.030	0.5984	0	92.1	75	130			
Ethylbenzene	0.54	0.030	0.5984	0	90.7	79.4	128			
Xylenes, Total	1.7	0.060	1.795	0	93.6	77.3	131			
Surr: 4-Bromofluorobenzene	0.54		0.5984		90.8	80	120			

Sample ID **1804548-002AMSD**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **TH-1 @ 9'**	Batch ID: **B50469**	RunNo: **50469**
Prep Date:	Analysis Date: **4/11/2018**	SeqNo: **1637123** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.53	0.015	0.5984	0	88.2	68.5	133	4.30	20	
Toluene	0.53	0.030	0.5984	0	89.0	75	130	3.41	20	
Ethylbenzene	0.53	0.030	0.5984	0	88.0	79.4	128	3.05	20	
Xylenes, Total	1.6	0.060	1.795	0	90.1	77.3	131	3.87	20	
Surr: 4-Bromofluorobenzene	0.54		0.5984		90.4	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
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1804548**

13-Apr-18

Client: Blagg Engineering
Project: Leeper GC 1

Sample ID **MB-37525**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **37525**	RunNo: **50469**
Prep Date: **4/10/2018**	Analysis Date: **4/11/2018**	SeqNo: **1637126** 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	0.89		1.000		89.3	80	120			

Sample ID **LCS-37525**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **37525**	RunNo: **50469**
Prep Date: **4/10/2018**	Analysis Date: **4/11/2018**	SeqNo: **1637127** 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	94.2	77.3	128			
Toluene	0.93	0.050	1.000	0	93.2	79.2	125			
Ethylbenzene	0.92	0.050	1.000	0	91.9	80.7	127			
Xylenes, Total	2.8	0.10	3.000	0	94.2	81.6	129			
Surr: 4-Bromofluorobenzene	0.92		1.000		91.8	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
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: BLAGG | Work Order Number: 1804548 | RcptNo: 1

Received By: Erin Melendrez 4/11/2018 7:50:00 AM

Completed By: Ashley Gallegos 4/11/2018 8:31:21 AM

Reviewed By: JMO 4/11/18

Labeled by: MW 4/11/18

Chain of Custody

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

Log In

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

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

Adjusted? MW 4/11/18

Checked by: ____

Special Handling (if applicable)

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

Person Notified: ____ Date: ____

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

Regarding: ____

Client Instructions: ____

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.5	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: By Thursday 4/12/2018
☐ Standard ☒ Rush
Project Name: LEEPER GC 1
Project #:
Project Manager: Steve Moskal
Sampler: Jeff Blagg
On Ice: ☒ Yes ☐ No
Sample Temperature: 2.5

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. 1804548	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)
4/10/2018	1323	Soil	TH-1 @ 6½'	4 oz x 1	Cool	-001	X		X									X				
	1329		TH-1 @ 9'			-002																
	1341		TH-2 @ 6½'			-003																
	1345		TH-2 @ 8'			-004																
	1355		TH-3 @ 8'			-005																
	1357		TH-3 @ 9'			-006																
	1413		TH-4 @ 7½'			-007																
	1416		TH-4 @ 9'			-008																

Date	Time	Relinquished by	Received by	Date	Time
4/10/2018	1543	Jeff Blagg	Christin Wade	4/10/2018	1543
4/10/18	1856	Christin Wade	courier 4/11/18 Emily	4/11/18	0750

Remarks: Bill BP
CONTACT: Steve Moskal
WBS Element: L1-001CR-E:LEEPER001
USE PO Provided by BP

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

April 20, 2018

Steve Moskal

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

RE: Leeper GC 1 OrderNo.: 1804836

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 4 sample(s) on 4/17/2018 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Leeper GC 1
Lab ID: 1804836-001 **Matrix:** SOIL

Client Sample ID: TH-3A@8
Collection Date: 4/16/2018 10:04:00 AM
Received Date: 4/17/2018 7:20:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	4/18/2018 12:22:38 PM	37669
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	9.6	9.4		mg/Kg	1	4/18/2018 5:12:39 PM	37658
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/18/2018 5:12:39 PM	37658
Surr: DNOP	96.2	70-130		%Rec	1	4/18/2018 5:12:39 PM	37658
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/18/2018 1:54:22 PM	37653
Surr: BFB	91.7	15-316		%Rec	1	4/18/2018 1:54:22 PM	37653
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	4/18/2018 1:54:22 PM	37653
Toluene	ND	0.047		mg/Kg	1	4/18/2018 1:54:22 PM	37653
Ethylbenzene	ND	0.047		mg/Kg	1	4/18/2018 1:54:22 PM	37653
Xylenes, Total	ND	0.094		mg/Kg	1	4/18/2018 1:54:22 PM	37653
Surr: 4-Bromofluorobenzene	81.1	80-120		%Rec	1	4/18/2018 1:54:22 PM	37653

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Leeper GC 1
Lab ID: 1804836-002 **Matrix:** SOIL

Client Sample ID: TH-4A@8
Collection Date: 4/16/2018 10:15:00 AM
Received Date: 4/17/2018 7:20:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	31	30		mg/Kg	20	4/18/2018 12:35:03 PM	37669
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	670	8.7		mg/Kg	1	4/19/2018 3:43:03 PM	37658
Motor Oil Range Organics (MRO)	470	44		mg/Kg	1	4/19/2018 3:43:03 PM	37658
Surr: DNOP	105	70-130		%Rec	1	4/19/2018 3:43:03 PM	37658
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	720	97		mg/Kg	20	4/19/2018 11:54:34 AM	37653
Surr: BFB	274	15-316		%Rec	20	4/19/2018 11:54:34 AM	37653
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	4/18/2018 3:03:58 PM	37653
Toluene	0.26	0.049		mg/Kg	1	4/18/2018 3:03:58 PM	37653
Ethylbenzene	ND	0.049		mg/Kg	1	4/18/2018 3:03:58 PM	37653
Xylenes, Total	ND	0.097		mg/Kg	1	4/18/2018 3:03:58 PM	37653
Surr: 4-Bromofluorobenzene	184	80-120	S	%Rec	1	4/18/2018 3:03:58 PM	37653

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Leeper GC 1
Lab ID: 1804836-003 **Matrix:** SOIL

Client Sample ID: TH-5@6
Collection Date: 4/16/2018 10:24:00 AM
Received Date: 4/17/2018 7:20:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	4/18/2018 12:47:27 PM	37669
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	33	9.8		mg/Kg	1	4/19/2018 2:59:01 PM	37658
Motor Oil Range Organics (MRO)	120	49		mg/Kg	1	4/19/2018 2:59:01 PM	37658
Surr: DNOP	109	70-130		%Rec	1	4/19/2018 2:59:01 PM	37658
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/18/2018 7:20:23 PM	37653
Surr: BFB	84.1	15-316		%Rec	1	4/18/2018 7:20:23 PM	37653
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	4/18/2018 7:20:23 PM	37653
Toluene	ND	0.048		mg/Kg	1	4/18/2018 7:20:23 PM	37653
Ethylbenzene	ND	0.048		mg/Kg	1	4/18/2018 7:20:23 PM	37653
Xylenes, Total	ND	0.095		mg/Kg	1	4/18/2018 7:20:23 PM	37653
Surr: 4-Bromofluorobenzene	77.7	80-120	S	%Rec	1	4/18/2018 7:20:23 PM	37653

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Leeper GC 1
Lab ID: 1804836-004 **Matrix:** SOIL

Client Sample ID: TH-5@8
Collection Date: 4/16/2018 10:30:00 AM
Received Date: 4/17/2018 7:20:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	4/18/2018 12:59:51 PM	37669
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	260	9.6		mg/Kg	1	4/19/2018 2:14:55 PM	37658
Motor Oil Range Organics (MRO)	250	48		mg/Kg	1	4/19/2018 2:14:55 PM	37658
Surr: DNOP	112	70-130		%Rec	1	4/19/2018 2:14:55 PM	37658
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	4/18/2018 7:43:54 PM	37653
Surr: BFB	110	15-316		%Rec	1	4/18/2018 7:43:54 PM	37653
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.023		mg/Kg	1	4/18/2018 7:43:54 PM	37653
Toluene	ND	0.046		mg/Kg	1	4/18/2018 7:43:54 PM	37653
Ethylbenzene	ND	0.046		mg/Kg	1	4/18/2018 7:43:54 PM	37653
Xylenes, Total	ND	0.092		mg/Kg	1	4/18/2018 7:43:54 PM	37653
Surr: 4-Bromofluorobenzene	79.5	80-120	S	%Rec	1	4/18/2018 7:43:54 PM	37653

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1804836**

20-Apr-18

Client: Blagg Engineering
Project: Leeper GC 1

Sample ID	**MB-37669**	SampType:	**mblk**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**PBS**	Batch ID:	**37669**		RunNo:	**50660**				
Prep Date:	**4/18/2018**	Analysis Date:	**4/18/2018**		SeqNo:	**1644150**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-37669**	SampType:	**lcs**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**LCSS**	Batch ID:	**37669**		RunNo:	**50660**				
Prep Date:	**4/18/2018**	Analysis Date:	**4/18/2018**		SeqNo:	**1644151**	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			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1804836**

20-Apr-18

Client: Blagg Engineering
Project: Leeper GC 1

Sample ID **LCS-37658**	SampType: **LCS**			TestCode: **EPA Method 8015M/D: Diesel Range Organics**					
Client ID: **LCSS**	Batch ID: **37658**			RunNo: **50636**					
Prep Date: **4/17/2018**	Analysis Date: **4/18/2018**			SeqNo: **1643198**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	96.2	70	130			
Surr: DNOP	4.3		5.000		85.9	70	130			

Sample ID **MB-37658**	SampType: **MBLK**			TestCode: **EPA Method 8015M/D: Diesel Range Organics**					
Client ID: **PBS**	Batch ID: **37658**			RunNo: **50636**					
Prep Date: **4/17/2018**	Analysis Date: **4/18/2018**			SeqNo: **1643199**		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		99.0	70	130			

Sample ID **LCS-37671**	SampType: **LCS**			TestCode: **EPA Method 8015M/D: Diesel Range Organics**					
Client ID: **LCSS**	Batch ID: **37671**			RunNo: **50692**					
Prep Date: **4/18/2018**	Analysis Date: **4/19/2018**			SeqNo: **1644679**		Units: **%Rec**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.6		5.000		91.1	70	130			

Sample ID **MB-37671**	SampType: **MBLK**			TestCode: **EPA Method 8015M/D: Diesel Range Organics**					
Client ID: **PBS**	Batch ID: **37671**			RunNo: **50692**					
Prep Date: **4/18/2018**	Analysis Date: **4/19/2018**			SeqNo: **1644680**		Units: **%Rec**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	11		10.00		105	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1804836**

20-Apr-18

Client: Blagg Engineering

Project: Leeper GC 1

Sample ID **MB-37653**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **37653**	RunNo: **50648**
Prep Date: **4/17/2018**	Analysis Date: **4/18/2018**	SeqNo: **1643677** 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	930		1000		93.5	15	316			

Sample ID **LCS-37653**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **37653**	RunNo: **50648**
Prep Date: **4/17/2018**	Analysis Date: **4/18/2018**	SeqNo: **1643678** 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	109	75.9	131			
Surr: BFB	950		1000		95.4	15	316			

Sample ID **MB-37656**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **37656**	RunNo: **50648**
Prep Date: **4/17/2018**	Analysis Date: **4/18/2018**	SeqNo: **1643693** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	880		1000		88.5	15	316			

Sample ID **LCS-37656**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **37656**	RunNo: **50648**
Prep Date: **4/17/2018**	Analysis Date: **4/18/2018**	SeqNo: **1643694** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1000		1000		104	15	316			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1804836**

20-Apr-18

Client: Blagg Engineering

Project: Leeper GC 1

Sample ID **MB-37653**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **37653**	RunNo: **50648**
Prep Date: **4/17/2018**	Analysis Date: **4/18/2018**	SeqNo: **1643711** 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	0.81		1.000		81.2	80	120			

Sample ID **LCS-37653**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **37653**	RunNo: **50648**
Prep Date: **4/17/2018**	Analysis Date: **4/18/2018**	SeqNo: **1643712** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.025	1.000	0	95.1	77.3	128			
Toluene	0.95	0.050	1.000	0	95.0	79.2	125			
Ethylbenzene	0.95	0.050	1.000	0	94.9	80.7	127			
Xylenes, Total	2.9	0.10	3.000	0	97.2	81.6	129			
Surr: 4-Bromofluorobenzene	0.82		1.000		81.8	80	120			

Sample ID **MB-37656**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **37656**	RunNo: **50648**
Prep Date: **4/17/2018**	Analysis Date: **4/18/2018**	SeqNo: **1643727** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.82		1.000		81.6	80	120			

Sample ID **LCS-37656**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **37656**	RunNo: **50648**
Prep Date: **4/17/2018**	Analysis Date: **4/18/2018**	SeqNo: **1643728** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.84		1.000		84.0	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
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: BLAGG | Work Order Number: 1804836 | RcptNo: 1

Received By: Isaiah Ortiz 4/17/2018 7:20:00 AM IO

Completed By: Isaiah Ortiz 4/17/2018 7:34:33 AM IO

Reviewed By: DDS 4/17/18

Labeled By: IMO

Chain of Custody

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

Log In

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

4/17/18

Special Handling (if applicable)

15. 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: ____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.4	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: By THURSDAY 4/19/2018
☐ Standard ☒ Rush ~~SAME DAY~~

Project Name: LEEPER GC 1

Project #:

Project Manager: STEVE MOSKAL

Sampler: JEFF BLAGG

On Ice: ☑ Yes ☐ No

Sample Temperature: 0.1+0.3(cf) 0.4

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. 1804836	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)
4/16/2018	1004	SOIL	TH-3A@8'	4 oz x 1	COOL	001	X		X									X				
"	1015	"	TH-4A@8'	"	"	002	"		"									"				
"	1024	"	TH-5@6'	"	"	003	"		"									"				
"	1030	"	TH-5@8'	"	"	004	"		"									"				

Date	Time	Relinquished by:	Received by:	Date	Time
4/16/2018	1610	Jeff Blagg	Christa Walters	4/16/18	1610
4/16/18	1811	Christa Walters		4/17/18	0720

Remarks: BILL BP
CONTACT: STEVE MOSKAL
WBS ELEMENT: L1-001CR-E: LEEPER001

USE PO Provided by BP

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

Excavation Closure 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

June 01, 2018

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

RE: LEEPER GC 1 OrderNo.: 1805F16

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 1 sample(s) on 5/30/2018 for the analyses presented in the following report.

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

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1805F16**
Date Reported: **6/1/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: LEEPER GC 1
Lab ID: 1805F16-001 **Matrix:** SOIL

Client Sample ID: North Wall #3
Collection Date: 5/29/2018 10:30:00 AM
Received Date: 5/30/2018 6:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	5/30/2018 12:34:25 PM	38378
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	5/30/2018 10:36:50 AM	38375
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/30/2018 10:36:50 AM	38375
Surr: DNOP	88.2	70-130		%Rec	1	5/30/2018 10:36:50 AM	38375
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.2		mg/Kg	1	5/30/2018 11:06:05 AM	38366
Surr: BFB	91.9	15-316		%Rec	1	5/30/2018 11:06:05 AM	38366
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.016		mg/Kg	1	5/30/2018 11:06:05 AM	38366
Toluene	ND	0.032		mg/Kg	1	5/30/2018 11:06:05 AM	38366
Ethylbenzene	ND	0.032		mg/Kg	1	5/30/2018 11:06:05 AM	38366
Xylenes, Total	ND	0.065		mg/Kg	1	5/30/2018 11:06:05 AM	38366
Surr: 4-Bromofluorobenzene	102	80-120		%Rec	1	5/30/2018 11:06:05 AM	38366

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1805F16**

01-Jun-18

Client: Blagg Engineering
Project: LEEPER GC 1

Sample ID	**MB-38378**	SampType:	**mblk**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**PBS**	Batch ID:	**38378**		RunNo:	**51601**				
Prep Date:	**5/30/2018**	Analysis Date:	**5/30/2018**		SeqNo:	**1683649**	Units:	**mg/Kg**		

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

Sample ID	**LCS-38378**	SampType:	**lcs**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**LCSS**	Batch ID:	**38378**		RunNo:	**51601**				
Prep Date:	**5/30/2018**	Analysis Date:	**5/30/2018**		SeqNo:	**1683650**	Units:	**mg/Kg**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.1	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1805F16**

01-Jun-18

Client: Blagg Engineering
Project: LEEPER GC 1

Sample ID **MB-38375**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **38375**	RunNo: **51598**
Prep Date: **5/30/2018**	Analysis Date: **5/30/2018**	SeqNo: **1682170** 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-38375**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **38375**	RunNo: **51598**
Prep Date: **5/30/2018**	Analysis Date: **5/30/2018**	SeqNo: **1682171** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	10	50.00	0	101	70	130			
Surr: DNOP	3.9		5.000		77.7	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
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1805F16**

01-Jun-18

Client: Blagg Engineering
Project: LEEPER GC 1

Sample ID **MB-38366**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **38366**	RunNo: **51603**
Prep Date: **5/29/2018**	Analysis Date: **5/30/2018**	SeqNo: **1682799** 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	930		1000		92.9	15	316			

Sample ID **LCS-38366**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **38366**	RunNo: **51603**
Prep Date: **5/29/2018**	Analysis Date: **5/30/2018**	SeqNo: **1682800** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	5.0	25.00	0	112	75.9	131			
Surr: BFB	1100		1000		106	15	316			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1805F16**

01-Jun-18

Client: Blagg Engineering

Project: LEEPER GC 1

Sample ID **MB-38366**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **38366**	RunNo: **51603**
Prep Date: **5/29/2018**	Analysis Date: **5/30/2018**	SeqNo: **1682840** 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		102	80	120			

Sample ID **LCS-38366**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **38366**	RunNo: **51603**
Prep Date: **5/29/2018**	Analysis Date: **5/30/2018**	SeqNo: **1682841** 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	94.0	77.3	128			
Toluene	0.96	0.050	1.000	0	96.5	79.2	125			
Ethylbenzene	0.96	0.050	1.000	0	96.0	80.7	127			
Xylenes, Total	3.0	0.10	3.000	0	98.9	81.6	129			
Surr: 4-Bromofluorobenzene	1.1		1.000		109	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
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: BLAGG | Work Order Number: 1805F16 | RcptNo: 1

Received By: Anne Thorne 5/30/2018 6:50:00 AM

Completed By: Anne Thorne 5/30/2018 7:13:06 AM

Reviewed By: IO 5/30/18

Labeled by: A 05/30/18

Chain of Custody

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

Log In

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

15. 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: _____

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.2	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 SAME DAY

Project Name: LEEPER GC 1

Project #:

Project Manager: STEVE MOSKAL

Sampler: Jeff Blagg

On Ice: ☑ Yes ☐ No

Sample Temperature: 1.2

K 05/30/18

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	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)
5/29/18	1030	SOIL	NORTH WALL #3	4oz x1 mcH Kit	COOL	001	X		X									X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
5/29/2018	1121	Jeff Blagg	Christine Walters	5/29/2018	1121
5/29/18	1820	Christine Walters		05/30/18	0650

Remarks: BILL BP
CONTACT: STEVE MOSKAL
WBS Element: LI-001CR-E: LEEPER001

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

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

June 01, 2018

Steve Moskal

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

RE: LEEPER GC 1 OrderNo.: 1805E62

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 2 sample(s) on 5/26/2018 for the analyses presented in the following report.

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

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1805E62**
Date Reported: **6/1/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: LEEPER GC 1
Lab ID: 1805E62-001 **Matrix:** SOIL

Client Sample ID: North Wall 2-pt @ 8'
Collection Date: 5/25/2018 10:20:00 AM
Received Date: 5/26/2018 7:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	35	30		mg/Kg	20	5/31/2018 1:11:15 AM	38393
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	11	9.9		mg/Kg	1	5/31/2018 3:13:45 PM	38390
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/31/2018 3:13:45 PM	38390
Surr: DNOP	117	70-130		%Rec	1	5/31/2018 3:13:45 PM	38390
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/30/2018 4:57:21 PM	38366
Surr: BFB	103	15-316		%Rec	1	5/30/2018 4:57:21 PM	38366
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	5/30/2018 4:57:21 PM	38366
Toluene	ND	0.049		mg/Kg	1	5/30/2018 4:57:21 PM	38366
Ethylbenzene	ND	0.049		mg/Kg	1	5/30/2018 4:57:21 PM	38366
Xylenes, Total	ND	0.099		mg/Kg	1	5/30/2018 4:57:21 PM	38366
Surr: 4-Bromofluorobenzene	106	80-120		%Rec	1	5/30/2018 4:57:21 PM	38366

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: LEEPER GC 1
Lab ID: 1805E62-002 **Matrix:** SOIL

Client Sample ID: Extended East Wall Grab @ 8'
Collection Date: 5/25/2018 10:25:00 AM
Received Date: 5/26/2018 7:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	59	30		mg/Kg	20	5/31/2018 1:23:40 AM	38393
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	32	9.9		mg/Kg	1	5/31/2018 3:35:53 PM	38390
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/31/2018 3:35:53 PM	38390
Surr: DNOP	112	70-130		%Rec	1	5/31/2018 3:35:53 PM	38390
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/30/2018 6:07:26 PM	38366
Surr: BFB	96.0	15-316		%Rec	1	5/30/2018 6:07:26 PM	38366
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	5/30/2018 6:07:26 PM	38366
Toluene	ND	0.049		mg/Kg	1	5/30/2018 6:07:26 PM	38366
Ethylbenzene	ND	0.049		mg/Kg	1	5/30/2018 6:07:26 PM	38366
Xylenes, Total	ND	0.098		mg/Kg	1	5/30/2018 6:07:26 PM	38366
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	5/30/2018 6:07:26 PM	38366

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1805E62**

01-Jun-18

Client: Blagg Engineering
Project: LEEPER GC 1

Sample ID	**MB-38393**	SampType:	**mblk**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**PBS**	Batch ID:	**38393**		RunNo:	**51601**				
Prep Date:	**5/30/2018**	Analysis Date:	**5/31/2018**		SeqNo:	**1683711**	Units:	**mg/Kg**		

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

Sample ID	**LCS-38393**	SampType:	**lcs**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**LCSS**	Batch ID:	**38393**		RunNo:	**51601**				
Prep Date:	**5/30/2018**	Analysis Date:	**5/31/2018**		SeqNo:	**1683712**	Units:	**mg/Kg**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.5	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
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1805E62**

01-Jun-18

Client: Blagg Engineering
Project: LEEPER GC 1

Sample ID **MB-38390**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **38390**	RunNo: **51644**
Prep Date: **5/30/2018**	Analysis Date: **5/31/2018**	SeqNo: **1684060** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		106	70	130			

Sample ID **LCS-38390**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **38390**	RunNo: **51644**
Prep Date: **5/30/2018**	Analysis Date: **5/31/2018**	SeqNo: **1684061** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	53	10	50.00	0	107	70	130			
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
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1805E62**

01-Jun-18

Client: Blagg Engineering

Project: LEEPER GC 1

Sample ID **MB-38366**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **38366**	RunNo: **51603**
Prep Date: **5/29/2018**	Analysis Date: **5/30/2018**	SeqNo: **1682799** 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	930		1000		92.9	15	316			

Sample ID **LCS-38366**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **38366**	RunNo: **51603**
Prep Date: **5/29/2018**	Analysis Date: **5/30/2018**	SeqNo: **1682800** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	5.0	25.00	0	112	75.9	131			
Surr: BFB	1100		1000		106	15	316			

(ifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1805E62**

01-Jun-18

Client: Blagg Engineering
Project: LEEPER GC 1

Sample ID **MB-38366**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **38366**	RunNo: **51603**
Prep Date: **5/29/2018**	Analysis Date: **5/30/2018**	SeqNo: **1682840** 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		102	80	120			

Sample ID **LCS-38366**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **38366**	RunNo: **51603**
Prep Date: **5/29/2018**	Analysis Date: **5/30/2018**	SeqNo: **1682841** 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	94.0	77.3	128			
Toluene	0.96	0.050	1.000	0	96.5	79.2	125			
Ethylbenzene	0.96	0.050	1.000	0	96.0	80.7	127			
Xylenes, Total	3.0	0.10	3.000	0	98.9	81.6	129			
Surr: 4-Bromofluorobenzene	1.1		1.000		109	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
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: BLAGG Work Order Number: 1805E62 RcptNo: 1

Received By: John Caldwell 5/26/2018 7:50:00 AM John Caldwell

Completed By: Anne Thorne 5/29/2018 7:23:09 AM Anne Thorne

Reviewed By: JC 5.29.18

Labeled by: AT 05/29/18

Chain of Custody

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

Log In

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

15. 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: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.1	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 BY FRIDAY JUNE 1

Project Name: LEEPER GC 1

Project #:

Project Manager: STEVE MOSKAL

Sampler: JEFF BLAGG

On Ice: ☒ Yes ☐ No

Sample Temperature: 5.2-0.1=5.1

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 # (05/29/17 Accolted)	Preservative Type	HEAL No. 1805E62	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)
5/25/18	1020	SOIL	NORTH Wall 2-pt @ 8'	4 oz x 1	COOL	-001	X		X									X				
〃	1025	〃	Extended EAST Wall GRAB @ 8'	〃	〃	-002	X		X									X				

Date	Time	Relinquished by:	Received by:	Date	Time
5/25/18	1740	Jeff Blagg	Christina Waltz	5/25/18	1740
5/25/18	1810	Christina Waltz	[signature]	5.26.18	0750

Remarks: Bill BP
contact: Steve Moskal
WBS Element: L1-001CR-E::LEEPER001

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

May 31, 2018

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

RE: LEEPER GC 1 OrderNo.: 1805E61

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 3 sample(s) on 5/26/2018 for the analyses presented in the following report.

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

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: LEEPER GC 1
Lab ID: 1805E61-001 **Matrix:** SOIL

Client Sample ID: EXTENDED EAST Wall 6-pt (2'
Collection Date: 5/25/2018 9:40:00 AM
Received Date: 5/26/2018 7:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	5/29/2018 12:26:48 PM	38357
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg	1	5/29/2018 10:16:39 AM	A51568
Surr: BFB	126	70-130		%Rec	1	5/29/2018 10:16:39 AM	A51568
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	5/29/2018 10:51:21 AM	38347
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/29/2018 10:51:21 AM	38347
Surr: DNOP	79.8	70-130		%Rec	1	5/29/2018 10:51:21 AM	38347
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	0.020		mg/Kg	1	5/29/2018 10:16:39 AM	B51568
Toluene	ND	0.039		mg/Kg	1	5/29/2018 10:16:39 AM	B51568
Ethylbenzene	ND	0.039		mg/Kg	1	5/29/2018 10:16:39 AM	B51568
Xylenes, Total	ND	0.079		mg/Kg	1	5/29/2018 10:16:39 AM	B51568
Surr: 4-Bromofluorobenzene	128	70-130		%Rec	1	5/29/2018 10:16:39 AM	B51568
Surr: Toluene-d8	93.6	70-130		%Rec	1	5/29/2018 10:16:39 AM	B51568

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: LEEPER GC 1
Lab ID: 1805E61-002 **Matrix:** SOIL

Client Sample ID: NORTH WALL #1 6-pt (2'-4')
Collection Date: 5/25/2018 9:45:00 AM
Received Date: 5/26/2018 7:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	5/29/2018 12:39:13 PM	38357
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	ND	3.6		mg/Kg	1	5/29/2018 10:39:46 AM	A51568
Surr: BFB	116	70-130		%Rec	1	5/29/2018 10:39:46 AM	A51568
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	5/29/2018 11:35:27 AM	38347
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/29/2018 11:35:27 AM	38347
Surr: DNOP	86.1	70-130		%Rec	1	5/29/2018 11:35:27 AM	38347
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	0.018		mg/Kg	1	5/29/2018 10:39:46 AM	B51568
Toluene	ND	0.036		mg/Kg	1	5/29/2018 10:39:46 AM	B51568
Ethylbenzene	ND	0.036		mg/Kg	1	5/29/2018 10:39:46 AM	B51568
Xylenes, Total	ND	0.072		mg/Kg	1	5/29/2018 10:39:46 AM	B51568
Surr: 4-Bromofluorobenzene	118	70-130		%Rec	1	5/29/2018 10:39:46 AM	B51568
Surr: Toluene-d8	91.1	70-130		%Rec	1	5/29/2018 10:39:46 AM	B51568

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: LEEPER GC 1
Lab ID: 1805E61-003 **Matrix:** SOIL

Client Sample ID: NORTH WALL #2 6-pt (2'-4')
Collection Date: 5/25/2018 9:49:00 AM
Received Date: 5/26/2018 7:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	5/29/2018 12:51:38 PM	38357
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	ND	3.2		mg/Kg	1	5/29/2018 11:02:57 AM	A51568
Surr: BFB	120	70-130		%Rec	1	5/29/2018 11:02:57 AM	A51568
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	5/29/2018 11:57:33 AM	38347
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/29/2018 11:57:33 AM	38347
Surr: DNOP	88.2	70-130		%Rec	1	5/29/2018 11:57:33 AM	38347
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	0.016		mg/Kg	1	5/29/2018 11:02:57 AM	B51568
Toluene	ND	0.032		mg/Kg	1	5/29/2018 11:02:57 AM	B51568
Ethylbenzene	ND	0.032		mg/Kg	1	5/29/2018 11:02:57 AM	B51568
Xylenes, Total	ND	0.063		mg/Kg	1	5/29/2018 11:02:57 AM	B51568
Surr: 4-Bromofluorobenzene	121	70-130		%Rec	1	5/29/2018 11:02:57 AM	B51568
Surr: Toluene-d8	82.6	70-130		%Rec	1	5/29/2018 11:02:57 AM	B51568

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1805E61**

31-May-18

Client: Blagg Engineering
Project: LEEPER GC 1

Sample ID	**MB-38357**	SampType:	**mblk**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**PBS**	Batch ID:	**38357**		RunNo:	**51572**				
Prep Date:	**5/29/2018**	Analysis Date:	**5/29/2018**		SeqNo:	**1682543**	Units:	**mg/Kg**		

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

Sample ID	**LCS-38357**	SampType:	**lcs**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**LCSS**	Batch ID:	**38357**		RunNo:	**51572**				
Prep Date:	**5/29/2018**	Analysis Date:	**5/29/2018**		SeqNo:	**1682544**	Units:	**mg/Kg**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.5	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
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1805E61**

31-May-18

Client: Blagg Engineering
Project: LEEPER GC 1

Sample ID **MB-38347**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **38347**	RunNo: **51574**
Prep Date: **5/29/2018**	Analysis Date: **5/29/2018**	SeqNo: **1681217** 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	7.3		10.00		73.1	70	130			

Sample ID **LCS-38347**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **38347**	RunNo: **51574**
Prep Date: **5/29/2018**	Analysis Date: **5/29/2018**	SeqNo: **1681218** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	52	10	50.00	0	104	70	130			
Surr: DNOP	3.5		5.000		70.2	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1805E61**

31-May-18

Client: Blagg Engineering
Project: LEEPER GC 1

Sample ID **100ng btex lcs** SampType: **LCS4** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **BatchQC** Batch ID: **B51568** RunNo: **51568**
Prep Date: Analysis Date: **5/29/2018** SeqNo: **1681141** 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	109	80	120			
Toluene	1.1	0.050	1.000	0	108	80	120			
Ethylbenzene	1.0	0.050	1.000	0	104	80	120			
Xylenes, Total	3.0	0.10	3.000	0	101	80	120			
Surr: 4-Bromofluorobenzene	0.48		0.5000		96.2	70	130			
Surr: Toluene-d8	0.51		0.5000		103	70	130			

Sample ID **rb** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS** Batch ID: **B51568** RunNo: **51568**
Prep Date: Analysis Date: **5/29/2018** SeqNo: **1681147** 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	0.57		0.5000		114	70	130			
Surr: Toluene-d8	0.48		0.5000		96.4	70	130			

Sample ID **1805e61-002ams** SampType: **MS4** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **NORTH WALL #1 6-** Batch ID: **B51568** RunNo: **51568**
Prep Date: Analysis Date: **5/29/2018** SeqNo: **1681588** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.65	0.018	0.7163	0	91.3	80	120			
Toluene	0.67	0.036	0.7163	0	93.0	80	120			
Ethylbenzene	0.70	0.036	0.7163	0	97.4	82	121			
Xylenes, Total	2.0	0.072	2.149	0	94.9	80.2	120			
Surr: 4-Bromofluorobenzene	0.36		0.3582		101	70	130			
Surr: Toluene-d8	0.33		0.3582		90.8	70	130			

Sample ID **1805e61-002amsd** SampType: **MSD4** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **NORTH WALL #1 6-** Batch ID: **B51568** RunNo: **51568**
Prep Date: Analysis Date: **5/29/2018** SeqNo: **1681589** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.66	0.018	0.7163	0	91.9	80	120	0.656	20	
Toluene	0.66	0.036	0.7163	0	92.7	80	120	0.389	20	
Ethylbenzene	0.70	0.036	0.7163	0	97.7	82	121	0.320	20	
Xylenes, Total	2.1	0.072	2.149	0	97.7	80.2	120	2.94	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
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1805E61**

31-May-18

Client: Blagg Engineering
Project: LEEPER GC 1

Sample ID **1805e61-002amsd** SampType: **MSD4** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **NORTH WALL #1 6-** Batch ID: **B51568** RunNo: **51568**
Prep Date: Analysis Date: **5/29/2018** SeqNo: **1681589** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.38		0.3582		107	70	130	0	0	
Surr: Toluene-d8	0.34		0.3582		94.0	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
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1805E61**

31-May-18

Client: Blagg Engineering
Project: LEEPER GC 1

Sample ID **2.5ug gro lcs**	SampType: **LCS**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS**	Batch ID: **A51568**	RunNo: **51568**
Prep Date:	Analysis Date: **5/29/2018**	SeqNo: **1681138** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	92.9	70	130			
Surr: BFB	490		500.0		97.7	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS**	Batch ID: **A51568**	RunNo: **51568**
Prep Date:	Analysis Date: **5/29/2018**	SeqNo: **1681139** 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	560		500.0		112	70	130			

Qualifiers:

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

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: 1805E61 RcptNo: 1

Received By: John Caldwell 5/26/2018 7:50:00 AM John Caldwell

Completed By: Anne Thorne 5/29/2018 7:18:16 AM Anne Thorne

Reviewed By: JD 05/29/18

Labeled by: AT 05/29/18

Chain of Custody

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

Log In

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

15. 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: _____

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.1	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 SAME DAY

Project Name:

LEEPER GC 1

Project #:

Project Manager:

STEVE MOSKAL

Sampler: JEFF BLAGG

On Ice: ☒ Yes ☐ No

Sample Temperature: 5.2-0.1=5.1

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 # (A05/2902, MeOH Kit)	Preservative Type	HEAL No. 1805E61	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)
5/25/18	0940	SOIL	EXTENDED EAST Wall 6-pt (2'-4')	4 oz x 1	COOL	-001	X		X									X				
〃	0945	〃	NORTH WALL #1 6-pt (2'-4')	〃	〃	-002	〃		〃									〃				
〃	0949	〃	NORTH Wall #2 6-pt (2'-4')	〃	〃	-003	〃		〃									〃				

Date:	Time:	Relinquished by:	Received by:	Date	Time
5/25/18	1740	Jeff Blagg	Christa Walters	5/25/18	1740
5/25/18	1810	Christa Walters	[signature]	5-26-18	0750

Remarks: BILL BP
Contact: STEVE MOSKAL
WBS Element: L1-001CR-E:LEEPER001

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

May 29, 2018

Steve Moskal

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

RE: LEEPER GC 1 OrderNo.: 1805D12

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 3 sample(s) on 5/24/2018 for the analyses presented in the following report.

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

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: LEEPER GC 1
Lab ID: 1805D12-001 **Matrix:** SOIL

Client Sample ID: SE Wall 5-pt
Collection Date: 5/23/2018 11:30:00 AM
Received Date: 5/24/2018 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	5/24/2018 9:22:40 AM	38305
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	ND	2.8		mg/Kg	1	5/24/2018 11:12:07 AM	A51509
Surr: BFB	119	70-130		%Rec	1	5/24/2018 11:12:07 AM	A51509
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	5/24/2018 12:26:12 PM	38303
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/24/2018 12:26:12 PM	38303
Surr: DNOP	130	70-130	S	%Rec	1	5/24/2018 12:26:12 PM	38303
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	0.014		mg/Kg	1	5/24/2018 11:12:07 AM	C51509
Toluene	ND	0.028		mg/Kg	1	5/24/2018 11:12:07 AM	C51509
Ethylbenzene	ND	0.028		mg/Kg	1	5/24/2018 11:12:07 AM	C51509
Xylenes, Total	ND	0.057		mg/Kg	1	5/24/2018 11:12:07 AM	C51509
Surr: 4-Bromofluorobenzene	121	70-130		%Rec	1	5/24/2018 11:12:07 AM	C51509
Surr: Toluene-d8	89.1	70-130		%Rec	1	5/24/2018 11:12:07 AM	C51509

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: LEEPER GC 1
Lab ID: 1805D12-002 **Matrix:** SOIL

Client Sample ID: South Wall #3 (5-pt)
Collection Date: 5/23/2018 11:37:00 AM
Received Date: 5/24/2018 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	5/24/2018 9:35:05 AM	38305
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	ND	2.8		mg/Kg	1	5/24/2018 11:35:13 AM	A51509
Surr: BFB	117	70-130		%Rec	1	5/24/2018 11:35:13 AM	A51509
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	5/24/2018 1:32:19 PM	38303
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/24/2018 1:32:19 PM	38303
Surr: DNOP	136	70-130	S	%Rec	1	5/24/2018 1:32:19 PM	38303
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	0.014		mg/Kg	1	5/24/2018 11:35:13 AM	C51509
Toluene	ND	0.028		mg/Kg	1	5/24/2018 11:35:13 AM	C51509
Ethylbenzene	ND	0.028		mg/Kg	1	5/24/2018 11:35:13 AM	C51509
Xylenes, Total	ND	0.057		mg/Kg	1	5/24/2018 11:35:13 AM	C51509
Surr: 4-Bromofluorobenzene	118	70-130		%Rec	1	5/24/2018 11:35:13 AM	C51509
Surr: Toluene-d8	91.3	70-130		%Rec	1	5/24/2018 11:35:13 AM	C51509

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: LEEPER GC 1
Lab ID: 1805D12-003 **Matrix:** SOIL

Client Sample ID: East Wall 6-pt
Collection Date: 5/23/2018 2:34:00 PM
Received Date: 5/24/2018 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	5/24/2018 9:47:29 AM	38305
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	ND	2.9		mg/Kg	1	5/24/2018 11:58:16 AM	A51509
Surr: BFB	120	70-130		%Rec	1	5/24/2018 11:58:16 AM	A51509
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	37	10		mg/Kg	1	5/25/2018 12:10:54 PM	38324
Motor Oil Range Organics (MRO)	61	50		mg/Kg	1	5/25/2018 12:10:54 PM	38324
Surr: DNOP	105	70-130		%Rec	1	5/25/2018 12:10:54 PM	38324
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	0.014		mg/Kg	1	5/24/2018 11:58:16 AM	C51509
Toluene	ND	0.029		mg/Kg	1	5/24/2018 11:58:16 AM	C51509
Ethylbenzene	ND	0.029		mg/Kg	1	5/24/2018 11:58:16 AM	C51509
Xylenes, Total	ND	0.058		mg/Kg	1	5/24/2018 11:58:16 AM	C51509
Surr: 4-Bromofluorobenzene	123	70-130		%Rec	1	5/24/2018 11:58:16 AM	C51509
Surr: Toluene-d8	92.9	70-130		%Rec	1	5/24/2018 11:58:16 AM	C51509

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1805D12**

29-May-18

Client: Blagg Engineering
Project: LEEPER GC 1

Sample ID	**MB-38305**	SampType: **MBLK**			TestCode: **EPA Method 300.0: Anions**				
Client ID:	**PBS**	Batch ID: **38305**			RunNo: **51497**				
Prep Date:	**5/24/2018**	Analysis Date: **5/24/2018**			SeqNo: **1679654**		Units: **mg/Kg**		

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

Sample ID	**LCS-38305**	SampType: **LCS**			TestCode: **EPA Method 300.0: Anions**				
Client ID:	**LCSS**	Batch ID: **38305**			RunNo: **51497**				
Prep Date:	**5/24/2018**	Analysis Date: **5/24/2018**			SeqNo: **1679655**		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
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1805D12**

29-May-18

Client: Blagg Engineering
Project: LEEPER GC 1

Sample ID **MB-38303**	SampType: **MBLK**			TestCode: **EPA Method 8015M/D: Diesel Range Organics**					
Client ID: **PBS**	Batch ID: **38303**			RunNo: **51500**					
Prep Date: **5/24/2018**	Analysis Date: **5/24/2018**			SeqNo: **1678034**		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	12		10.00		120	70	130			

Sample ID **LCS-38303**	SampType: **LCS**			TestCode: **EPA Method 8015M/D: Diesel Range Organics**					
Client ID: **LCSS**	Batch ID: **38303**			RunNo: **51500**					
Prep Date: **5/24/2018**	Analysis Date: **5/24/2018**			SeqNo: **1678035**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	10	50.00	0	103	70	130			
Surr: DNOP	6.1		5.000		123	70	130			

Sample ID **MB-38293**	SampType: **MBLK**			TestCode: **EPA Method 8015M/D: Diesel Range Organics**					
Client ID: **PBS**	Batch ID: **38293**			RunNo: **51500**					
Prep Date: **5/23/2018**	Analysis Date: **5/24/2018**			SeqNo: **1678871**		Units: **%Rec**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	12		10.00		123	70	130			

Sample ID **LCS-38293**	SampType: **LCS**			TestCode: **EPA Method 8015M/D: Diesel Range Organics**					
Client ID: **LCSS**	Batch ID: **38293**			RunNo: **51500**					
Prep Date: **5/23/2018**	Analysis Date: **5/24/2018**			SeqNo: **1678940**		Units: **%Rec**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	6.0		5.000		119	70	130			

Sample ID **LCS-38324**	SampType: **LCS**			TestCode: **EPA Method 8015M/D: Diesel Range Organics**					
Client ID: **LCSS**	Batch ID: **38324**			RunNo: **51527**					
Prep Date: **5/25/2018**	Analysis Date: **5/25/2018**			SeqNo: **1679342**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	53	10	50.00	0	106	70	130			
Surr: DNOP	5.2		5.000		105	70	130			

Sample ID **MB-38324**	SampType: **MBLK**			TestCode: **EPA Method 8015M/D: Diesel Range Organics**					
Client ID: **PBS**	Batch ID: **38324**			RunNo: **51527**					
Prep Date: **5/25/2018**	Analysis Date: **5/25/2018**			SeqNo: **1679343**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1805D12**

29-May-18

Client: Blagg Engineering

Project: LEEPER GC 1

Sample ID **MB-38324**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **38324**	RunNo: **51527**
Prep Date: **5/25/2018**	Analysis Date: **5/25/2018**	SeqNo: **1679343** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		109	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1805D12**

29-May-18

Client: Blagg Engineering
Project: LEEPER GC 1

Sample ID **100ng btex lcs**	SampType: **LCS4**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **BatchQC**	Batch ID: **C51509**	RunNo: **51509**
Prep Date:	Analysis Date: **5/24/2018**	SeqNo: **1678164** 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	103	80	120			
Toluene	1.0	0.050	1.000	0	105	80	120			
Ethylbenzene	1.0	0.050	1.000	0	103	80	120			
Xylenes, Total	3.0	0.10	3.000	0	101	80	120			
Surr: 4-Bromofluorobenzene	0.49		0.5000		97.6	70	130			
Surr: Toluene-d8	0.51		0.5000		101	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS**	Batch ID: **C51509**	RunNo: **51509**
Prep Date:	Analysis Date: **5/24/2018**	SeqNo: **1678170** 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	0.55		0.5000		110	70	130			
Surr: Toluene-d8	0.51		0.5000		102	70	130			

Sample ID **1805d12-002ams**	SampType: **MS4**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **South Wall #3 (5-pt)**	Batch ID: **C51509**	RunNo: **51509**
Prep Date:	Analysis Date: **5/24/2018**	SeqNo: **1678723** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.59	0.014	0.5653	0	104	80	120			
Toluene	0.58	0.028	0.5653	0	103	80	120			
Ethylbenzene	0.59	0.028	0.5653	0	104	82	121			
Xylenes, Total	1.7	0.057	1.696	0.01067	96.7	80.2	120			
Surr: 4-Bromofluorobenzene	0.29		0.2826		101	70	130			
Surr: Toluene-d8	0.28		0.2826		99.4	70	130			

Sample ID **1805D12-002AMSD**	SampType: **MSD4**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **South Wall #3 (5-pt)**	Batch ID: **C51509**	RunNo: **51509**
Prep Date:	Analysis Date: **5/24/2018**	SeqNo: **1678724** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.54	0.014	0.5653	0	95.3	80	120			
Toluene	0.54	0.028	0.5653	0	96.3	80	120			
Ethylbenzene	0.56	0.028	0.5653	0	98.3	82	121			
Xylenes, Total	1.6	0.057	1.696	0.01067	92.0	80.2	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
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1805D12**

29-May-18

Client: Blagg Engineering

Project: LEEPER GC 1

Sample ID **1805D12-002AMSD** SampType: **MSD4** TestCode: **EPA Method 8260B: Volatiles Short List**

Client ID: **South Wall #3 (5-pt)** Batch ID: **C51509** RunNo: **51509**

Prep Date: Analysis Date: **5/24/2018** SeqNo: **1678724** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.29		0.2826		101	70	130			
Surr: Toluene-d8	0.27		0.2826		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
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1805D12**

29-May-18

Client: Blagg Engineering
Project: LEEPER GC 1

Sample ID **2.5ug gro lcs**	SampType: **LCS**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS**	Batch ID: **A51509**	RunNo: **51509**
Prep Date:	Analysis Date: **5/24/2018**	SeqNo: **1678138** 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	94.9	70	130			
Surr: BFB	480		500.0		95.0	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS**	Batch ID: **A51509**	RunNo: **51509**
Prep Date:	Analysis Date: **5/24/2018**	SeqNo: **1678139** 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	540		500.0		108	70	130			

Qualifiers:

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

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: 1805D12 | RcptNo: 1

Received By: Isaiah Ortiz 5/24/2018 7:15:00 AM IO

Completed By: Anne Thorne 5/24/2018 7:51:32 AM Anne Thorne

Reviewed By: AT 05/24/18

Labeled by: JO

Chain of Custody

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

Log In

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

# of preserved bottles checked for pH: 10

(<2 or >12 unless noted)

Adjusted? NA

Checked by: _____

Special Handling (if applicable)

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

Person Notified: _____ Date _____

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

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.1	Good	Yes			
2	0.8	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:

☐ Standard ☒ Rush SAME DAY

Project Name: LEEPER GC 1

Project #:

Project Manager: STEVE MOSKAL

Sampler: JEFF BLAGG

On Ice: ☒ Yes ☐ No

Sample Temperature: 0.1 0.8

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1805012	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)
5/23/18	1130	SOIL	SE Wall 5-pt	4 oz x 1	COOL	001	X		X									X				
"	1137	"	South Wall #3 (5-pt)	"	"	002	X		X									X				
"	1434	"	East Wall 6-pt	"	"	003	X		X									X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
5/23/18	1628	Jeff Blagg	Christine Walls	5/23/18	1628
5/23/18	1840	Christine Walls	Courier	5/24/18	705

Remarks: BILL BP
CONTACT: STEVE MOSKAL
WBS ELEMENT: L1-001CR-E:LEEPER001

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

May 29, 2018

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

RE: LEEPER GC 1 OrderNo.: 1805C14

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory received 2 sample(s) on 5/23/2018 for the analyses presented in the following report.

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

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1805C14**
Date Reported: **5/29/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: LEEPER GC 1
Lab ID: 1805C14-001 **Matrix:** SOIL

Client Sample ID: South Wall 1
Collection Date: 5/22/2018 10:25:00 AM
Received Date: 5/23/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	5/23/2018 12:03:08 PM	38280
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	17	3.3		mg/Kg	1	5/23/2018 12:03:19 PM	A51464
Surr: BFB	117	70-130		%Rec	1	5/23/2018 12:03:19 PM	A51464
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	5/23/2018 11:37:58 AM	38274
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/23/2018 11:37:58 AM	38274
Surr: DNOP	94.3	70-130		%Rec	1	5/23/2018 11:37:58 AM	38274
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	0.016		mg/Kg	1	5/23/2018 12:03:19 PM	B51464
Toluene	ND	0.033		mg/Kg	1	5/23/2018 12:03:19 PM	B51464
Ethylbenzene	ND	0.033		mg/Kg	1	5/23/2018 12:03:19 PM	B51464
Xylenes, Total	ND	0.065		mg/Kg	1	5/23/2018 12:03:19 PM	B51464
Surr: 4-Bromofluorobenzene	133	70-130	S	%Rec	1	5/23/2018 12:03:19 PM	B51464
Surr: Toluene-d8	90.1	70-130		%Rec	1	5/23/2018 12:03:19 PM	B51464

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: LEEPER GC 1
Lab ID: 1805C14-002 **Matrix:** SOIL

Client Sample ID: South Wall 2
Collection Date: 5/22/2018 1:50:00 PM
Received Date: 5/23/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	5/23/2018 12:15:32 PM	38280
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	5/23/2018 12:26:27 PM	A51464
Surr: BFB	124	70-130		%Rec	1	5/23/2018 12:26:27 PM	A51464
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	5/23/2018 12:00:06 PM	38274
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/23/2018 12:00:06 PM	38274
Surr: DNOP	92.8	70-130		%Rec	1	5/23/2018 12:00:06 PM	38274
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	0.017		mg/Kg	1	5/23/2018 12:26:27 PM	B51464
Toluene	ND	0.035		mg/Kg	1	5/23/2018 12:26:27 PM	B51464
Ethylbenzene	ND	0.035		mg/Kg	1	5/23/2018 12:26:27 PM	B51464
Xylenes, Total	ND	0.069		mg/Kg	1	5/23/2018 12:26:27 PM	B51464
Surr: 4-Bromofluorobenzene	135	70-130	S	%Rec	1	5/23/2018 12:26:27 PM	B51464
Surr: Toluene-d8	89.8	70-130		%Rec	1	5/23/2018 12:26:27 PM	B51464

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1805C14**

29-May-18

Client: Blagg Engineering
Project: LEEPER GC 1

Sample ID	**MB-38280**	SampType:	**mblk**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**38280**	RunNo:	**51462**					
Prep Date:	**5/23/2018**	Analysis Date:	**5/23/2018**	SeqNo:	**1677388**	Units:	**mg/Kg**			

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

Sample ID	**LCS-38280**	SampType:	**lcs**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**38280**	RunNo:	**51462**					
Prep Date:	**5/23/2018**	Analysis Date:	**5/23/2018**	SeqNo:	**1677389**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.8	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1805C14**

29-May-18

Client: Blagg Engineering
Project: LEEPER GC 1

Sample ID **MB-38274**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **38274**	RunNo: **51459**
Prep Date: **5/23/2018**	Analysis Date: **5/23/2018**	SeqNo: **1675893** 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	8.1		10.00		80.6	70	130			

Sample ID **LCS-38274**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **38274**	RunNo: **51459**
Prep Date: **5/23/2018**	Analysis Date: **5/23/2018**	SeqNo: **1675894** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	10	50.00	0	102	70	130			
Surr: DNOP	3.7		5.000		73.1	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
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1805C14**

29-May-18

Client: Blagg Engineering

Project: LEEPER GC 1

Sample ID **100ng btex lcs**	SampType: **LCS4**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **BatchQC**	Batch ID: **B51464**	RunNo: **51464**
Prep Date:	Analysis Date: **5/23/2018**	SeqNo: **1676027** 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	94.0	80	120			
Toluene	1.0	0.050	1.000	0	101	80	120			
Ethylbenzene	1.0	0.050	1.000	0	101	80	120			
Xylenes, Total	2.9	0.10	3.000	0	98.3	80	120			
Surr: 4-Bromofluorobenzene	0.47		0.5000		93.8	70	130			
Surr: Toluene-d8	0.49		0.5000		97.7	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS**	Batch ID: **B51464**	RunNo: **51464**
Prep Date:	Analysis Date: **5/23/2018**	SeqNo: **1676034** 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	0.63		0.5000		127	70	130			
Surr: Toluene-d8	0.47		0.5000		94.1	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
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1805C14**

29-May-18

Client: Blagg Engineering
Project: LEEPER GC 1

Sample ID **2.5ug gro lcs**	SampType: **LCS**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS**	Batch ID: **A51464**	RunNo: **51464**
Prep Date:	Analysis Date: **5/23/2018**	SeqNo: **1676019** 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	93.8	70	130			
Surr: BFB	480		500.0		96.0	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS**	Batch ID: **A51464**	RunNo: **51464**
Prep Date:	Analysis Date: **5/23/2018**	SeqNo: **1676020** 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	580		500.0		117	70	130			

Qualifiers:

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

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: 1805C14 RcptNo: 1

Received By: Anne Thorne 5/23/2018 7:00:00 AM Anne Thorne

Completed By: Anne Thorne 5/23/2018 7:14:28 AM Anne Thorne

Reviewed By: JO 5/23/18

Labeled by: 05/23/18 AT

Chain of Custody

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

Log In

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

15. 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: _____

16. Additional remarks:

17. **Cooler Information**

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

Chain-of-Custody Record

Client: BP AMERICA
BLAGG ENGINEERING INC.
Mailing Address:

Phone #: 505-320-1183
email or Fax#:
QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☐ Standard ☒ Rush SAME DAY
Project Name: LEEPER GC 1
Project #:
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 #	Preservative Type	HEAL No. 1805C14	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)
5/22/18	1025	SOIL	SOUTH WALL #1	4 oz x 1	COOL	001	X		X									X				
"	1350	"	SOUTH WALL #2	"	"	002	X		X									X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
5/22/18	1444	J. Blagg			
5/22/18	1820			5/23/18	0700

Remarks: BILL BP
CONTACT: STEVE MOSKAL
WBS ELEMENT: L1-00CR-E:LEEPER001

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

May 25, 2018

Steve Moskal

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

RE: LEEPER GC 1 OrderNo.: 1805B32

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 1 sample(s) on 5/22/2018 for the analyses presented in the following report.

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

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: LEEPER GC 1
Lab ID: 1805B32-001 **Matrix:** SOIL

Client Sample ID: SVE AREA 3-PT @ 6'
Collection Date: 5/21/2018 11:13:00 AM
Received Date: 5/22/2018 6:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	5/22/2018 12:19:01 PM	38253
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	5/22/2018 11:38:48 AM	38242
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/22/2018 11:38:48 AM	38242
Surr: DNOP	98.0	70-130		%Rec	1	5/22/2018 11:38:48 AM	38242
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.0		mg/Kg	1	5/22/2018 11:31:37 AM	38240
Surr: BFB	89.7	15-316		%Rec	1	5/22/2018 11:31:37 AM	38240
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.015		mg/Kg	1	5/22/2018 11:31:37 AM	38240
Toluene	ND	0.030		mg/Kg	1	5/22/2018 11:31:37 AM	38240
Ethylbenzene	ND	0.030		mg/Kg	1	5/22/2018 11:31:37 AM	38240
Xylenes, Total	ND	0.060		mg/Kg	1	5/22/2018 11:31:37 AM	38240
Surr: 4-Bromofluorobenzene	97.9	80-120		%Rec	1	5/22/2018 11:31:37 AM	38240

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1805B32**

25-May-18

Client: Blagg Engineering
Project: LEEPER GC 1

Sample ID	**MB-38253**	SampType:	**mblk**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**PBS**	Batch ID:	**38253**		RunNo:	**51434**				
Prep Date:	**5/22/2018**	Analysis Date:	**5/22/2018**		SeqNo:	**1676144**	Units:	**mg/Kg**		

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

Sample ID	**LCS-38253**	SampType:	**lcs**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**LCSS**	Batch ID:	**38253**		RunNo:	**51434**				
Prep Date:	**5/22/2018**	Analysis Date:	**5/22/2018**		SeqNo:	**1676145**	Units:	**mg/Kg**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.9	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
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1805B32**

25-May-18

Client: Blagg Engineering
Project: LEEPER GC 1

Sample ID **LCS-38242**	SampType: **LCS**			TestCode: **EPA Method 8015M/D: Diesel Range Organics**					
Client ID: **LCSS**	Batch ID: **38242**			RunNo: **51394**					
Prep Date: **5/22/2018**	Analysis Date: **5/22/2018**			SeqNo: **1674203**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	96.8	70	130			
Surr: DNOP	4.1		5.000		82.2	70	130			

Sample ID **MB-38242**	SampType: **MBLK**			TestCode: **EPA Method 8015M/D: Diesel Range Organics**					
Client ID: **PBS**	Batch ID: **38242**			RunNo: **51394**					
Prep Date: **5/22/2018**	Analysis Date: **5/22/2018**			SeqNo: **1674204**		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	8.9		10.00		88.6	70	130			

Sample ID **LCS-38269**	SampType: **LCS**			TestCode: **EPA Method 8015M/D: Diesel Range Organics**					
Client ID: **LCSS**	Batch ID: **38269**			RunNo: **51394**					
Prep Date: **5/22/2018**	Analysis Date: **5/23/2018**			SeqNo: **1676949**		Units: **%Rec**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.3		5.000		105	70	130			

Sample ID **MB-38269**	SampType: **MBLK**			TestCode: **EPA Method 8015M/D: Diesel Range Organics**					
Client ID: **PBS**	Batch ID: **38269**			RunNo: **51394**					
Prep Date: **5/22/2018**	Analysis Date: **5/23/2018**			SeqNo: **1676950**		Units: **%Rec**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	12		10.00		116	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1805B32**

25-May-18

Client: Blagg Engineering
Project: LEEPER GC 1

Sample ID **MB-38240**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **38240**	RunNo: **51433**
Prep Date: **5/21/2018**	Analysis Date: **5/22/2018**	SeqNo: **1674601** 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	890		1000		89.0	15	316			

Sample ID **LCS-38240**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **38240**	RunNo: **51433**
Prep Date: **5/21/2018**	Analysis Date: **5/22/2018**	SeqNo: **1674602** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	29	5.0	25.00	0	115	75.9	131			
Surr: BFB	1100		1000		108	15	316			

Sample ID **MB-38263**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **38263**	RunNo: **51480**
Prep Date: **5/22/2018**	Analysis Date: **5/23/2018**	SeqNo: **1676698** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	910		1000		91.4	15	316			

Sample ID **LCS-38263**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **38263**	RunNo: **51480**
Prep Date: **5/22/2018**	Analysis Date: **5/23/2018**	SeqNo: **1676699** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1000		1000		105	15	316			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1805B32**

25-May-18

Client: Blagg Engineering
Project: LEEPER GC 1

Sample ID **MB-38240**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **38240**	RunNo: **51433**
Prep Date: **5/21/2018**	Analysis Date: **5/22/2018**	SeqNo: **1674638** 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		102	80	120			

Sample ID **LCS-38240**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **38240**	RunNo: **51433**
Prep Date: **5/21/2018**	Analysis Date: **5/22/2018**	SeqNo: **1674639** 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	96.7	77.3	128			
Toluene	0.99	0.050	1.000	0	98.6	79.2	125			
Ethylbenzene	0.97	0.050	1.000	0	97.4	80.7	127			
Xylenes, Total	3.0	0.10	3.000	0	100	81.6	129			
Surr: 4-Bromofluorobenzene	1.1		1.000		107	80	120			

Sample ID **MB-38263**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **38263**	RunNo: **51480**
Prep Date: **5/22/2018**	Analysis Date: **5/23/2018**	SeqNo: **1676739** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.0		1.000		102	80	120			

Sample ID **LCS-38263**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **38263**	RunNo: **51480**
Prep Date: **5/22/2018**	Analysis Date: **5/23/2018**	SeqNo: **1676740** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.0		1.000		103	80	120			

Qualifiers:

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

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Hall Environmental Analysis Laboratory
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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: 1805B32 RcptNo: 1

Received By: Anne Thorne 5/22/2018 6:45:00 AM Anne Thorne

Completed By: Anne Thorne 5/22/2018 7:03:59 AM Anne Thorne

Reviewed By: JO 5/22/18

AT Labeled by AT 05/22/18

Chain of Custody

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

Log In

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

15. 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: _____

16. Additional remarks:

17. Cooler Information

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

Chain-of-Custody Record

Client: BP AMERICA

BLAGG ENGINEERING INC.

Mailing Address:

Phone #: 505-320-1183

email or Fax#:

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

Accreditation

☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:

☐ Standard ☒ Rush SAME DAY

Project Name: LEEPER GC 1

Project #:

Project Manager: STEVE MOSKAL

Sampler: JEFF BLAGG

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and # (A 05/22/18 Mewkt)	Preservative Type	HEAL No. 1805832	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)
5/21/18	1113	SOIL	SVE AREA, 3-PT @ 6'	4oz x 1	COOL	001	X		X									X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
5/21/18	1410	Jeff Blagg	Christy Walls	5/21/18	1410
5/21/18	1730	Christy Walls		05/22/18	0645

Remarks: BILL BP

CONTACT: STEVE MOSKAL

WBS ELEMENT: L1-001CR-E:LEEPER001

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

June 04, 2018

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

RE: Leeper GC 1 OrderNo.: 1805F78

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 1 sample(s) on 5/31/2018 for the analyses presented in the following report.

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

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Leeper GC 1
Lab ID: 1805F78-001

Client Sample ID: West Wall 5-pt (2-4)
Collection Date: 5/30/2018 9:20:00 AM
Matrix: MEOH (SOIL) **Received Date:** 5/31/2018 7:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	5/31/2018 11:15:54 AM	38410
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	5/31/2018 10:33:39 AM	38404
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/31/2018 10:33:39 AM	38404
Surr: DNOP	99.7	70-130		%Rec	1	5/31/2018 10:33:39 AM	38404
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	3.2		mg/Kg	1	5/31/2018 10:20:41 AM	G51640
Surr: BFB	90.6	15-316		%Rec	1	5/31/2018 10:20:41 AM	G51640
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.016		mg/Kg	1	5/31/2018 10:20:41 AM	B51640
Toluene	ND	0.032		mg/Kg	1	5/31/2018 10:20:41 AM	B51640
Ethylbenzene	ND	0.032		mg/Kg	1	5/31/2018 10:20:41 AM	B51640
Xylenes, Total	ND	0.064		mg/Kg	1	5/31/2018 10:20:41 AM	B51640
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	5/31/2018 10:20:41 AM	B51640

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1805F78**

04-Jun-18

Client: Blagg Engineering

Project: Leeper GC 1

Sample ID	**MB-38410**	SampType:	**mblk**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**38410**	RunNo:	**51634**					
Prep Date:	**5/31/2018**	Analysis Date:	**5/31/2018**	SeqNo:	**1685046**	Units:	**mg/Kg**			

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

Sample ID	**LCS-38410**	SampType:	**lcs**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**38410**	RunNo:	**51634**					
Prep Date:	**5/31/2018**	Analysis Date:	**5/31/2018**	SeqNo:	**1685047**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.6	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1805F78**

04-Jun-18

Client: Blagg Engineering

Project: Leeper GC 1

Sample ID **LCS-38404**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **38404**	RunNo: **51632**
Prep Date: **5/31/2018**	Analysis Date: **5/31/2018**	SeqNo: **1683764** 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	89.6	70	130			
Surr: DNOP	4.4		5.000		88.2	70	130			

Sample ID **MB-38404**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **38404**	RunNo: **51632**
Prep Date: **5/31/2018**	Analysis Date: **5/31/2018**	SeqNo: **1683765** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	10		10.00		100	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1805F78**

04-Jun-18

Client: Blagg Engineering

Project: Leeper GC 1

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **G51640**	RunNo: **51640**
Prep Date:	Analysis Date: **5/31/2018**	SeqNo: **1684314** 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	950		1000		94.9	15	316			

Sample ID **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **G51640**	RunNo: **51640**
Prep Date:	Analysis Date: **5/31/2018**	SeqNo: **1684315** 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	103	75.9	131			
Surr: BFB	1100		1000		107	15	316			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1805F78**

04-Jun-18

Client: Blagg Engineering
Project: Leeper GC 1

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **B51640**	RunNo: **51640**
Prep Date:	Analysis Date: **5/31/2018**	SeqNo: **1684351** 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 **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **B51640**	RunNo: **51640**
Prep Date:	Analysis Date: **5/31/2018**	SeqNo: **1684352** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.025	1.000	0	94.6	77.3	128			
Toluene	0.96	0.050	1.000	0	96.3	79.2	125			
Ethylbenzene	0.95	0.050	1.000	0	95.2	80.7	127			
Xylenes, Total	2.9	0.10	3.000	0	97.3	81.6	129			
Surr: 4-Bromofluorobenzene	1.1		1.000		105	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
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
1901 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: 1805F78 | RcptNo: 1

Received By: Isaiah Ortiz 5/31/2018 7:10:00 AM

Completed By: Isaiah Ortiz 5/31/2018 7:31:33 AM

Reviewed By: ENM 5/31/18

Labeled by: SB 05/31/18

Chain of Custody

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

Log In

3.	Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4.	Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5.	Sample(s) in proper container(s)?	Yes ☑	No ☐	
6.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7.	Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9.	VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
10.	Were any sample containers received broken?	Yes ☐	No ☑	
11.	Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH (<2 or >12 unless noted)
12.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted?
13.	Is it clear what analyses were requested?	Yes ☑	No ☐	
14.	Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: SB 05/31/18

Special Handling (if applicable)

15.	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: _____

16. Additional remarks

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.3	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:
☐ Standard ☒ Rush SAME DAY
Project Name: LEEPER GC 1
Project #:
Project Manager: STEVE MOSKAL
Sampler: JEFF BLAGG
On Ice: ☒ Yes ☐ No
Sample Temperature: 0.3

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.	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)
5/30/2018	0920	SOIL	WEST WALL (2'-4') 5-PT	4 oz x1	cool	1805F78-001	X		X									X				

Date	Time	Relinquished by:	Received by:	Date	Time
5/30/18	1025			5/30/18	1025
5/31/18	0840		courier	5/31/18	710

Remarks: Bill BP
Contact: Steve Moskal
WBS Element: 14-00[illegible]CR-E: LEEPER001

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

Monitor Well Groundwater 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

May 29, 2018

Steve Moskal

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

RE: Leeper GC 1 OrderNo.: 1805D17

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 2 sample(s) on 5/24/2018 for the analyses presented in the following report.

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

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Leeper GC 1
Lab ID: 1805D17-001
Matrix: AQUEOUS
Client Sample ID: MW-13
Collection Date: 5/23/2018 9:50:00 AM
Received Date: 5/24/2018 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
Toluene	ND	1.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
Ethylbenzene	ND	1.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
Naphthalene	ND	2.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
1-Methylnaphthalene	ND	4.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
2-Methylnaphthalene	ND	4.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
Acetone	ND	10		µg/L	1	5/25/2018 3:03:47 PM	W51554
Bromobenzene	ND	1.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
Bromodichloromethane	ND	1.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
Bromoform	ND	1.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
Bromomethane	ND	3.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
2-Butanone	ND	10		µg/L	1	5/25/2018 3:03:47 PM	W51554
Carbon disulfide	ND	10		µg/L	1	5/25/2018 3:03:47 PM	W51554
Carbon Tetrachloride	ND	1.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
Chlorobenzene	ND	1.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
Chloroethane	ND	2.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
Chloroform	ND	1.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
Chloromethane	ND	3.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
2-Chlorotoluene	ND	1.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
4-Chlorotoluene	ND	1.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
cis-1,2-DCE	ND	1.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
Dibromochloromethane	ND	1.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
Dibromomethane	ND	1.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
1,2-Dichlorobenzene	ND	1.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
1,3-Dichlorobenzene	ND	1.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
1,4-Dichlorobenzene	ND	1.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
Dichlorodifluoromethane	ND	1.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
1,1-Dichloroethane	ND	1.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
1,1-Dichloroethene	ND	1.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
1,2-Dichloropropane	ND	1.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
1,3-Dichloropropane	ND	1.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
2,2-Dichloropropane	ND	2.0		µg/L	1	5/25/2018 3:03:47 PM	W51554

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Leeper GC 1
Lab ID: 1805D17-001 **Matrix:** AQUEOUS

Client Sample ID: MW-13
Collection Date: 5/23/2018 9:50:00 AM
Received Date: 5/24/2018 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	1.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
Hexachlorobutadiene	ND	1.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
2-Hexanone	ND	10		µg/L	1	5/25/2018 3:03:47 PM	W51554
Isopropylbenzene	ND	1.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
4-Isopropyltoluene	ND	1.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
4-Methyl-2-pentanone	ND	10		µg/L	1	5/25/2018 3:03:47 PM	W51554
Methylene Chloride	ND	3.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
n-Butylbenzene	ND	3.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
n-Propylbenzene	ND	1.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
sec-Butylbenzene	ND	1.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
Styrene	ND	1.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
tert-Butylbenzene	ND	1.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
trans-1,2-DCE	ND	1.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
1,1,1-Trichloroethane	ND	1.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
1,1,2-Trichloroethane	ND	1.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
Trichloroethene (TCE)	ND	1.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
Trichlorofluoromethane	ND	1.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
1,2,3-Trichloropropane	ND	2.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
Vinyl chloride	ND	1.0		µg/L	1	5/25/2018 3:03:47 PM	W51554
Xylenes, Total	ND	1.5		µg/L	1	5/25/2018 3:03:47 PM	W51554
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	1	5/25/2018 3:03:47 PM	W51554
Surr: 4-Bromofluorobenzene	111	70-130		%Rec	1	5/25/2018 3:03:47 PM	W51554
Surr: Dibromofluoromethane	106	70-130		%Rec	1	5/25/2018 3:03:47 PM	W51554
Surr: Toluene-d8	96.4	70-130		%Rec	1	5/25/2018 3:03:47 PM	W51554

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Leeper GC 1
Lab ID: 1805D17-002 **Matrix:** AQUEOUS

Client Sample ID: MW-12
Collection Date: 5/23/2018 10:18:00 AM
Received Date: 5/24/2018 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
Toluene	ND	1.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
Ethylbenzene	ND	1.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
Naphthalene	ND	2.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
1-Methylnaphthalene	ND	4.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
2-Methylnaphthalene	ND	4.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
Acetone	ND	10		µg/L	1	5/25/2018 3:33:18 PM	W51554
Bromobenzene	ND	1.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
Bromodichloromethane	ND	1.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
Bromoform	ND	1.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
Bromomethane	ND	3.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
2-Butanone	ND	10		µg/L	1	5/25/2018 3:33:18 PM	W51554
Carbon disulfide	ND	10		µg/L	1	5/25/2018 3:33:18 PM	W51554
Carbon Tetrachloride	ND	1.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
Chlorobenzene	ND	1.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
Chloroethane	ND	2.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
Chloroform	ND	1.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
Chloromethane	ND	3.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
2-Chlorotoluene	ND	1.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
4-Chlorotoluene	ND	1.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
cis-1,2-DCE	ND	1.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
Dibromochloromethane	ND	1.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
Dibromomethane	ND	1.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
1,2-Dichlorobenzene	ND	1.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
1,3-Dichlorobenzene	ND	1.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
1,4-Dichlorobenzene	ND	1.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
Dichlorodifluoromethane	ND	1.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
1,1-Dichloroethane	ND	1.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
1,1-Dichloroethene	ND	1.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
1,2-Dichloropropane	ND	1.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
1,3-Dichloropropane	ND	1.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
2,2-Dichloropropane	ND	2.0		µg/L	1	5/25/2018 3:33:18 PM	W51554

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Leeper GC 1
Lab ID: 1805D17-002 **Matrix:** AQUEOUS

Client Sample ID: MW-12
Collection Date: 5/23/2018 10:18:00 AM
Received Date: 5/24/2018 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1-Dichloropropene	ND	1.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
Hexachlorobutadiene	ND	1.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
2-Hexanone	ND	10		µg/L	1	5/25/2018 3:33:18 PM	W51554
Isopropylbenzene	ND	1.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
4-Isopropyltoluene	ND	1.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
4-Methyl-2-pentanone	ND	10		µg/L	1	5/25/2018 3:33:18 PM	W51554
Methylene Chloride	ND	3.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
n-Butylbenzene	ND	3.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
n-Propylbenzene	ND	1.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
sec-Butylbenzene	ND	1.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
Styrene	ND	1.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
tert-Butylbenzene	ND	1.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
trans-1,2-DCE	ND	1.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
1,1,1-Trichloroethane	ND	1.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
1,1,2-Trichloroethane	ND	1.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
Trichloroethene (TCE)	ND	1.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
Trichlorofluoromethane	ND	1.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
1,2,3-Trichloropropane	ND	2.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
Vinyl chloride	ND	1.0		µg/L	1	5/25/2018 3:33:18 PM	W51554
Xylenes, Total	ND	1.5		µg/L	1	5/25/2018 3:33:18 PM	W51554
Surr: 1,2-Dichloroethane-d4	99.7	70-130		%Rec	1	5/25/2018 3:33:18 PM	W51554
Surr: 4-Bromofluorobenzene	111	70-130		%Rec	1	5/25/2018 3:33:18 PM	W51554
Surr: Dibromofluoromethane	105	70-130		%Rec	1	5/25/2018 3:33:18 PM	W51554
Surr: Toluene-d8	97.2	70-130		%Rec	1	5/25/2018 3:33:18 PM	W51554

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1805D17**

29-May-18

Client: Blagg Engineering

Project: Leeper GC 1

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **W51554**	RunNo: **51554**
Prep Date:	Analysis Date: **5/25/2018**	SeqNo: **1680912** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

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
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1805D17**

29-May-18

Client: Blagg Engineering
Project: Leeper GC 1

Sample ID **rb** SampType: **MBLK** TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW** Batch ID: **W51554** RunNo: **51554**
Prep Date: Analysis Date: **5/25/2018** SeqNo: **1680912** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		102	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		109	70	130			
Surr: Dibromofluoromethane	11		10.00		107	70	130			
Surr: Toluene-d8	9.9		10.00		98.9	70	130			

Sample ID **100ng lcsb** SampType: **LCS** TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW** Batch ID: **W51554** RunNo: **51554**
Prep Date: Analysis Date: **5/25/2018** SeqNo: **1680913** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	23	1.0	20.00	0	113	70	130			
Toluene	22	1.0	20.00	0	110	70	130			
Chlorobenzene	21	1.0	20.00	0	106	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1805D17**

29-May-18

Client: Blagg Engineering

Project: Leeper GC 1

Sample ID **100ng lcsb**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **W51554**	RunNo: **51554**
Prep Date:	Analysis Date: **5/25/2018**	SeqNo: **1680913** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	23	1.0	20.00	0	117	70	130			
Trichloroethene (TCE)	22	1.0	20.00	0	111	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		100	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		112	70	130			
Surr: Dibromofluoromethane	10		10.00		100	70	130			
Surr: Toluene-d8	10		10.00		99.9	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
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: BLAGG Work Order Number: 1805D17 RcptNo: 1

Received By: Isaiah Ortiz 5/24/2018 7:15:00 AM IG

Completed By: Erin Melendrez 5/24/2018 8:19:38 AM

Reviewed By: ENM 5/24/18

Labled By: ID

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: _____

40 5/26

Special Handling (if applicable)

15. 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: _____

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.1	Good	Yes			
2	0.8	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
Project Name: LEEPER GC 1
Project #:
Project Manager: STEVE MOSKAL
Sampler: JEFF BLAGG
On Ice: ☒ Yes ☐ No
Sample Temperature: 0.8

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1805D17	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)	Air Bubbles (Y or N)
5/23/2018	0950	Water	MW-13	3 x VOA	HCL	-001										X		
"	1018	"	MW-12	"	"	-002										X		

Date:	Time:	Relinquished by:	Received by:	Date	Time
5/23/18	1628			5/23/18	1628
5/23/18	1840		Courier	5/24/18	715

Remarks: BILL BP
CONTACT: Steve Moskal
WBS ELEMENT: 01-00CR-E:LEEPER001

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

July 05, 2018

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

RE: Leeper GC 1 OrderNo.: 1806B87

Dear Steven Moskal:

Hall Environmental Analysis Laboratory received 2 sample(s) on 6/20/2018 for the analyses presented in the following report.

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

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1806B87**
Date Reported: **7/5/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Leeper GC 1
Lab ID: 1806B87-001 **Matrix:** AQUEOUS

Client Sample ID: MW-14
Collection Date: 6/19/2018 9:18:00 AM
Received Date: 6/20/2018 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Fluoride	0.56	0.10		mg/L	1	6/30/2018 12:15:55 AM	R52407
Chloride	27	10		mg/L	20	6/30/2018 12:28:46 AM	R52407
Nitrogen, Nitrite (As N)	ND	0.10	H	mg/L	1	6/30/2018 12:15:55 AM	R52407
Bromide	ND	0.10		mg/L	1	6/30/2018 12:15:55 AM	R52407
Nitrogen, Nitrate (As N)	ND	0.10	H	mg/L	1	6/30/2018 12:15:55 AM	R52407
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	6/30/2018 12:15:55 AM	R52407
Sulfate	230	10		mg/L	20	6/30/2018 12:28:46 AM	R52407
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **JRR**	
Conductivity	1000	5.0		µmhos/c	1	6/25/2018 3:11:07 PM	R52261
SM2320B: ALKALINITY						Analyst: **JRR**	
Bicarbonate (As CaCO3)	276.6	20.00		mg/L Ca	1	6/25/2018 3:11:07 PM	R52261
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	6/25/2018 3:11:07 PM	R52261
Total Alkalinity (as CaCO3)	276.6	20.00		mg/L Ca	1	6/25/2018 3:11:07 PM	R52261
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	1010	200	*D	mg/L	1	6/25/2018 4:16:00 PM	38842
SM4500-H+B / 9040C: PH						Analyst: **JRR**	
pH	7.68		H	pH units	1	6/25/2018 3:11:07 PM	R52261
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **JLF**	
Calcium	150	5.0		mg/L	5	6/22/2018 4:18:24 PM	A52172
Magnesium	26	1.0		mg/L	1	6/22/2018 3:47:12 PM	A52172
Potassium	4.5	1.0		mg/L	1	6/22/2018 3:47:12 PM	A52172
Sodium	36	1.0		mg/L	1	6/22/2018 3:47:12 PM	A52172
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
Toluene	ND	1.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
Ethylbenzene	ND	1.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
Naphthalene	ND	2.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
1-Methylnaphthalene	ND	4.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
2-Methylnaphthalene	ND	4.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
Acetone	ND	10		µg/L	1	6/26/2018 3:17:13 AM	W52225
Bromobenzene	ND	1.0		µg/L	1	6/26/2018 3:17:13 AM	W52225

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: MW-14
Project: Leeper GC 1
Collection Date: 6/19/2018 9:18:00 AM
Lab ID: 1806B87-001
Matrix: AQUEOUS
Received Date: 6/20/2018 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Bromodichloromethane	ND	1.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
Bromoform	ND	1.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
Bromomethane	ND	3.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
2-Butanone	ND	10		µg/L	1	6/26/2018 3:17:13 AM	W52225
Carbon disulfide	ND	10		µg/L	1	6/26/2018 3:17:13 AM	W52225
Carbon Tetrachloride	ND	1.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
Chlorobenzene	ND	1.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
Chloroethane	ND	2.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
Chloroform	ND	1.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
Chloromethane	ND	3.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
2-Chlorotoluene	ND	1.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
4-Chlorotoluene	ND	1.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
cis-1,2-DCE	ND	1.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
Dibromochloromethane	ND	1.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
Dibromomethane	ND	1.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
1,2-Dichlorobenzene	ND	1.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
1,3-Dichlorobenzene	ND	1.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
1,4-Dichlorobenzene	ND	1.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
Dichlorodifluoromethane	ND	1.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
1,1-Dichloroethane	ND	1.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
1,1-Dichloroethene	ND	1.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
1,2-Dichloropropane	ND	1.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
1,3-Dichloropropane	ND	1.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
2,2-Dichloropropane	ND	2.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
1,1-Dichloropropene	ND	1.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
Hexachlorobutadiene	ND	1.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
2-Hexanone	ND	10		µg/L	1	6/26/2018 3:17:13 AM	W52225
Isopropylbenzene	ND	1.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
4-Isopropyltoluene	ND	1.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
4-Methyl-2-pentanone	ND	10		µg/L	1	6/26/2018 3:17:13 AM	W52225
Methylene Chloride	ND	3.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
n-Butylbenzene	ND	3.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
n-Propylbenzene	ND	1.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
sec-Butylbenzene	ND	1.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
Styrene	ND	1.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
tert-Butylbenzene	ND	1.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	6/26/2018 3:17:13 AM	W52225

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Leeper GC 1
Lab ID: 1806B87-001 **Matrix:** AQUEOUS

Client Sample ID: MW-14
Collection Date: 6/19/2018 9:18:00 AM
Received Date: 6/20/2018 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
trans-1,2-DCE	ND	1.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
1,1,1-Trichloroethane	ND	1.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
1,1,2-Trichloroethane	ND	1.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
Trichloroethene (TCE)	ND	1.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
Trichlorofluoromethane	ND	1.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
1,2,3-Trichloropropane	ND	2.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
Vinyl chloride	ND	1.0		µg/L	1	6/26/2018 3:17:13 AM	W52225
Xylenes, Total	ND	1.5		µg/L	1	6/26/2018 3:17:13 AM	W52225
Surr: 1,2-Dichloroethane-d4	100	70-130		%Rec	1	6/26/2018 3:17:13 AM	W52225
Surr: 4-Bromofluorobenzene	120	70-130		%Rec	1	6/26/2018 3:17:13 AM	W52225
Surr: Dibromofluoromethane	95.2	70-130		%Rec	1	6/26/2018 3:17:13 AM	W52225
Surr: Toluene-d8	101	70-130		%Rec	1	6/26/2018 3:17:13 AM	W52225

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

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: MW-15
Project: Leeper GC 1
Collection Date: 6/19/2018 9:33:00 AM
Lab ID: 1806B87-002
Matrix: AQUEOUS
Received Date: 6/20/2018 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Fluoride	0.53	0.10		mg/L	1	6/30/2018 12:41:39 AM	R52407
Chloride	34	10		mg/L	20	6/30/2018 12:54:30 AM	R52407
Nitrogen, Nitrite (As N)	ND	0.10	H	mg/L	1	6/30/2018 12:41:39 AM	R52407
Bromide	0.13	0.10		mg/L	1	6/30/2018 12:41:39 AM	R52407
Nitrogen, Nitrate (As N)	ND	0.10	H	mg/L	1	6/30/2018 12:41:39 AM	R52407
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	6/30/2018 12:41:39 AM	R52407
Sulfate	110	10		mg/L	20	6/30/2018 12:54:30 AM	R52407
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **JRR**	
Conductivity	930	5.0		µmhos/c	1	6/25/2018 3:24:18 PM	R52261
SM2320B: ALKALINITY						Analyst: **JRR**	
Bicarbonate (As CaCO3)	330.5	20.00		mg/L Ca	1	6/25/2018 3:24:18 PM	R52261
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	6/25/2018 3:24:18 PM	R52261
Total Alkalinity (as CaCO3)	330.5	20.00		mg/L Ca	1	6/25/2018 3:24:18 PM	R52261
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	602	40.0	*D	mg/L	1	6/25/2018 4:16:00 PM	38842
SM4500-H+B / 9040C: PH						Analyst: **JRR**	
pH	7.88		H	pH units	1	6/25/2018 3:24:18 PM	R52261
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **JLF**	
Calcium	130	5.0		mg/L	5	6/22/2018 4:20:13 PM	A52172
Magnesium	22	1.0		mg/L	1	6/22/2018 3:49:03 PM	A52172
Potassium	5.7	1.0		mg/L	1	6/22/2018 3:49:03 PM	A52172
Sodium	33	1.0		mg/L	1	6/22/2018 3:49:03 PM	A52172
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
Toluene	ND	1.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
Ethylbenzene	ND	1.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
Naphthalene	ND	2.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
1-Methylnaphthalene	ND	4.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
2-Methylnaphthalene	ND	4.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
Acetone	ND	10		µg/L	1	6/26/2018 3:46:44 AM	W52225
Bromobenzene	ND	1.0		µg/L	1	6/26/2018 3:46:44 AM	W52225

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: MW-15
Project: Leeper GC 1
Collection Date: 6/19/2018 9:33:00 AM
Lab ID: 1806B87-002
Matrix: AQUEOUS
Received Date: 6/20/2018 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
Bromodichloromethane	ND	1.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
Bromoform	ND	1.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
Bromomethane	ND	3.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
2-Butanone	ND	10		µg/L	1	6/26/2018 3:46:44 AM	W52225
Carbon disulfide	ND	10		µg/L	1	6/26/2018 3:46:44 AM	W52225
Carbon Tetrachloride	ND	1.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
Chlorobenzene	ND	1.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
Chloroethane	ND	2.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
Chloroform	ND	1.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
Chloromethane	ND	3.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
2-Chlorotoluene	ND	1.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
4-Chlorotoluene	ND	1.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
cis-1,2-DCE	ND	1.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
Dibromochloromethane	ND	1.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
Dibromomethane	ND	1.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
1,2-Dichlorobenzene	ND	1.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
1,3-Dichlorobenzene	ND	1.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
1,4-Dichlorobenzene	ND	1.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
Dichlorodifluoromethane	ND	1.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
1,1-Dichloroethane	ND	1.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
1,1-Dichloroethene	ND	1.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
1,2-Dichloropropane	ND	1.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
1,3-Dichloropropane	ND	1.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
2,2-Dichloropropane	ND	2.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
1,1-Dichloropropene	ND	1.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
Hexachlorobutadiene	ND	1.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
2-Hexanone	ND	10		µg/L	1	6/26/2018 3:46:44 AM	W52225
Isopropylbenzene	ND	1.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
4-Isopropyltoluene	ND	1.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
4-Methyl-2-pentanone	ND	10		µg/L	1	6/26/2018 3:46:44 AM	W52225
Methylene Chloride	ND	3.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
n-Butylbenzene	ND	3.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
n-Propylbenzene	ND	1.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
sec-Butylbenzene	ND	1.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
Styrene	ND	1.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
tert-Butylbenzene	ND	1.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	6/26/2018 3:46:44 AM	W52225

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Leeper GC 1
Lab ID: 1806B87-002 **Matrix:** AQUEOUS

Client Sample ID: MW-15
Collection Date: 6/19/2018 9:33:00 AM
Received Date: 6/20/2018 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **DJF**	
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
trans-1,2-DCE	ND	1.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
1,1,1-Trichloroethane	ND	1.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
1,1,2-Trichloroethane	ND	1.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
Trichloroethene (TCE)	ND	1.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
Trichlorofluoromethane	ND	1.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
1,2,3-Trichloropropane	ND	2.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
Vinyl chloride	ND	1.0		µg/L	1	6/26/2018 3:46:44 AM	W52225
Xylenes, Total	ND	1.5		µg/L	1	6/26/2018 3:46:44 AM	W52225
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	6/26/2018 3:46:44 AM	W52225
Surr: 4-Bromofluorobenzene	115	70-130		%Rec	1	6/26/2018 3:46:44 AM	W52225
Surr: Dibromofluoromethane	99.5	70-130		%Rec	1	6/26/2018 3:46:44 AM	W52225
Surr: Toluene-d8	97.4	70-130		%Rec	1	6/26/2018 3:46:44 AM	W52225

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

Qualifiers:

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1806B87**

05-Jul-18

Client: Blagg Engineering

Project: Leeper GC 1

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R52407**	RunNo: **52407**
Prep Date:	Analysis Date: **6/29/2018**	SeqNo: **1718054** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R52407**	RunNo: **52407**
Prep Date:	Analysis Date: **6/29/2018**	SeqNo: **1718055** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.52	0.10	0.5000	0	104	90	110			
Chloride	4.6	0.50	5.000	0	92.8	90	110			
Nitrogen, Nitrite (As N)	0.97	0.10	1.000	0	96.9	90	110			
Bromide	2.4	0.10	2.500	0	94.8	90	110			
Nitrogen, Nitrate (As N)	2.4	0.10	2.500	0	94.7	90	110			
Phosphorus, Orthophosphate (As P	4.7	0.50	5.000	0	94.5	90	110			
Sulfate	9.1	0.50	10.00	0	91.0	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
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1806B87**

05-Jul-18

Client: Blagg Engineering

Project: Leeper GC 1

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **W52225**	RunNo: **52225**
Prep Date:	Analysis Date: **6/25/2018**	SeqNo: **1711003** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

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
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1806B87**

05-Jul-18

Client: Blagg Engineering
Project: Leeper GC 1

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **W52225**	RunNo: **52225**
Prep Date:	Analysis Date: **6/25/2018**	SeqNo: **1711003** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	8.8		10.00		88.2	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		114	70	130			
Surr: Dibromofluoromethane	8.5		10.00		85.1	70	130			
Surr: Toluene-d8	10		10.00		102	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **W52225**	RunNo: **52225**
Prep Date:	Analysis Date: **6/25/2018**	SeqNo: **1711004** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	90.2	70	130			
Toluene	19	1.0	20.00	0	93.5	70	130			
Chlorobenzene	19	1.0	20.00	0	95.9	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
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1806B87**

05-Jul-18

Client: Blagg Engineering

Project: Leeper GC 1

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **W52225**	RunNo: **52225**
Prep Date:	Analysis Date: **6/25/2018**	SeqNo: **1711004** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	19	1.0	20.00	0	97.4	70	130			
Trichloroethene (TCE)	17	1.0	20.00	0	84.5	70	130			
Surr: 1,2-Dichloroethane-d4	9.1		10.00		91.4	70	130			
Surr: 4-Bromofluorobenzene	12		10.00		115	70	130			
Surr: Dibromofluoromethane	8.7		10.00		86.9	70	130			
Surr: Toluene-d8	9.6		10.00		96.1	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
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1806B87**

05-Jul-18

Client: Blagg Engineering

Project: Leeper GC 1

Sample ID	**lcs-1 ~20uS eC**	SampType: **LCS**		TestCode: **SM2510B: Specific Conductance**						
Client ID:	**LCSW**	Batch ID: **R52261**		RunNo: **52261**						
Prep Date:		Analysis Date: **6/25/2018**		SeqNo: **1712311**		Units: **µmhos/cm**				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity		22	5.0	19.98	0	111	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
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1806B87**

05-Jul-18

Client: Blagg Engineering
Project: Leeper GC 1

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A52172**	RunNo: **52172**
Prep Date:	Analysis Date: **6/22/2018**	SeqNo: **1709121** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Magnesium	ND	1.0								
Potassium	ND	1.0								
Sodium	ND	1.0								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A52172**	RunNo: **52172**
Prep Date:	Analysis Date: **6/22/2018**	SeqNo: **1709123** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	50	1.0	50.00	0	101	80	120			
Magnesium	51	1.0	50.00	0	101	80	120			
Potassium	49	1.0	50.00	0	98.6	80	120			
Sodium	51	1.0	50.00	0	102	80	120			

Sample ID **LCSD**	SampType: **LCSD**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **LCSS02**	Batch ID: **A52172**	RunNo: **52172**
Prep Date:	Analysis Date: **6/22/2018**	SeqNo: **1709124** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	49	1.0	50.00	0	97.4	80	120	3.54	20	
Magnesium	49	1.0	50.00	0	97.7	80	120	3.53	20	
Potassium	48	1.0	50.00	0	95.2	80	120	3.55	20	
Sodium	50	1.0	50.00	0	101	80	120	1.24	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
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1806B87**

05-Jul-18

Client: Blagg Engineering

Project: Leeper GC 1

Sample ID **mb-1 alk**	SampType: **MBLK**	TestCode: **SM2320B: Alkalinity**
Client ID: **PBW**	Batch ID: **R52261**	RunNo: **52261**
Prep Date:	Analysis Date: **6/25/2018**	SeqNo: **1712267** Units: **mg/L CaCO3**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID **lcs-1 alk**	SampType: **LCS**	TestCode: **SM2320B: Alkalinity**
Client ID: **LCSW**	Batch ID: **R52261**	RunNo: **52261**
Prep Date:	Analysis Date: **6/25/2018**	SeqNo: **1712268** Units: **mg/L CaCO3**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	78.68	20.00	80.00	0	98.4	90	110			

Sample ID **mb-2 alk**	SampType: **MBLK**	TestCode: **SM2320B: Alkalinity**
Client ID: **PBW**	Batch ID: **R52261**	RunNo: **52261**
Prep Date:	Analysis Date: **6/25/2018**	SeqNo: **1712291** Units: **mg/L CaCO3**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID **lcs-2 alk**	SampType: **LCS**	TestCode: **SM2320B: Alkalinity**
Client ID: **LCSW**	Batch ID: **R52261**	RunNo: **52261**
Prep Date:	Analysis Date: **6/25/2018**	SeqNo: **1712292** Units: **mg/L CaCO3**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	79.72	20.00	80.00	0	99.7	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1806B87**

05-Jul-18

Client: Blagg Engineering

Project: Leeper GC 1

Sample ID	**MB-38842**	SampType:	**MBLK**		TestCode:	**SM2540C MOD: Total Dissolved Solids**				
Client ID:	**PBW**	Batch ID:	**38842**		RunNo:	**52218**				
Prep Date:	**6/22/2018**	Analysis Date:	**6/25/2018**		SeqNo:	**1710741**	Units:	**mg/L**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID	**LCS-38842**	SampType:	**LCS**		TestCode:	**SM2540C MOD: Total Dissolved Solids**				
Client ID:	**LCSW**	Batch ID:	**38842**		RunNo:	**52218**				
Prep Date:	**6/22/2018**	Analysis Date:	**6/25/2018**		SeqNo:	**1710742**	Units:	**mg/L**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1020	20.0	1000	0	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
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: BLAGG | Work Order Number: 1806B87 | RcptNo: 1

Received By: **Isaiah Ortiz** 6/20/2018 7:15:00 AM IO

Completed By: **Isaiah Ortiz** 6/20/2018 8:35:42 AM IO

Reviewed By: IO 6/20/18 MW 6/20/18

Chain of Custody

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

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑ MW 6/20/18	No ☑ MW 6/20/18	
8. Was preservative added to bottles?	Yes ☐	No ☑ MW 6/20/18	NA ☐
9. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

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

Special Handling (if applicable)

15. 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: Filtered and

16. Additional remarks: For metals-diss analysis: powered from 001B+002B into a 125 mL HDPE bottle each, and added approx. 0.4 mL HNO3 to 001C+002C for acceptable ph. held for 24 hrs prior to analysis mw 6/20/18 @1510

17. 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:
☒ Standard ~~☐ Rush~~
Project Name: LEEPER GC 1
Project #:
Project Manager: STEVE MOSKAL
Sampler: JEFF 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

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1806B87
6/19/2018	0918	WATER	MW-14	3 x VOA 500 Poly	HCL COOL	-001
"	0933	"	MW-15	"	"	-002

Analysis Request

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)	CATION/ANION BALANCE	TDS/pH/cond.			Air Bubbles (Y or N)
									X		X	X			
									X		X	X			

Date	Time	Relinquished by:	Received by:	Date	Time
6/19/2018	1509	Jeff Blagg	Christine Walsh	6/19/2018	1509
6/19/18	1810	Christine Walsh	I. Ortiz courier	6/20/18	07:15

Remarks: BILL BP
CONTACT: STEVE MOSKAL
WBS ELEMENT: L1-001CR-E:LEEPER001

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 F

New Monitor Well Logs

BLAGG ENGINEERING, INC.
P.O. BOX 87, BLOOMFIELD, NM 87413
(505) 632-1199

FIELD BORING LOG

BORING ID: MW-14

PROJECT: LEEPER GC 1
CLIENT: BP America Production Co.
DRILLING CONTRACTOR: GEOMAT
EQUIPMENT USED: CME-55
DATE START: 6/13/2018 DATE FINISH: 6/13/2015 DRILLER: KP LOGGED BY: JB
TOTAL DEPTH: 15' CASING TYPE & SIZE: 2" PVC SLOT SIZE: 0.010
COMMENTS: Well set with Flush Mount Cover

DEPTH FEET	SAMPLE TIME	SAMPLE TYPE	Field OVM	Well Completion	SAMPLE DESCRIPTION
1'	0848 START	cuttings		Riser; Bentonite	Silty SAND, TAN, DRY (BACKFILL)
2'					
3'					
4'					
5'					
6'	0853	S.S. cuttings	0.0	0.010 Slotted; 10/20 SAND	Recover 18" SAA Silty SAND, Moist, TAN (BACKFILL)
7'					
8'					
9'					
10					
11'					Bit Chatter - River Cobbles
12'					
13'					
14'					
15'	0910				
16'		TD DRILLED = 15'			
17'					
18'					
19'					
20					
21'					
22'					
23'					
24'					
25'					
26'					
27'					
28'					
29'					
30					

BLAGG ENGINEERING, INC.
P.O. BOX 87, BLOOMFIELD, NM 87413
(505) 632-1199

FIELD BORING LOG

BORING ID: MW-15

PROJECT: @ LEEPER GC 1
CLIENT: BP America Production Co.
DRILLING CONTRACTOR: GEOMAT
EQUIPMENT USED: CME-55
DATE START: 6/13/2018 DATE FINISH: 6/13/18 DRILLER: KP LOGGED BY: JCB
TOTAL DEPTH: 15' CASING TYPE & SIZE: 2" PVC SLOT SIZE: 0.010
COMMENTS: Well Set with above Grade Riser

DEPTH FEET	SAMPLE TIME	SAMPLE TYPE	Field OVM	Well Completion	SAMPLE DESCRIPTION
1'	1024 START	Cuttings		Riser, Bentonite	DARK BROWN silty clay, Lite Moisture, NO/NS
2'					
3'					
4'					
5'					RIVER Cobbles @ 4'
6'	1029	S.S. Cuttings	0.0	0.010 Slotted, 10/20 SAND	Recover 10" CRUSHED Rock & SAND, Dark Brown, Water Saturated, NO/NS.
7'					
8'					River Cobbles, Water Saturated
9'					
10					
11'					
12'					
13'					
14'					
15'	1055				
16'					
17'					
18'					
19'					
20					
21'					
22'					
23'					
24'					
25'					
26'					
27'					
28'					
29'					
30					