OIL CONS. DIV DIST. 3

NOV 25 2015

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company: BP	Contact: Steve Moskal
Address: 200 Energy Court, Farmington, NM 87401	Telephone No.: 505-326-9497
Facility Name: GCU F #162E	Facility Type: Natural gas well

Surface Owner: Fee	Mineral Owner: Fee	API No. 3004525223

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County: San Juan
B	36	29N	12W	1,180	North	1,590	East	

Latitude 36.68660 **Longitude** -108.04730

NATURE OF RELEASE

Type of Release: condensate and produced water	Volume of Release: Unknown	Volume Recovered: Unknown
Source of Release: below grade tank – 95 bbl	Date and Hour of Occurrence: unknown	Date and Hour of Discovery: June 6, 2013; unknown
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.* Hydrocarbon impacted soil discovered during removal of 95 bbl BGT. Location suspect of previous location of earthen pit closed in November 2000. Groundwater observed at ~5' below grade. Soil remediation performed via excavation; however closure samples were not collected. Subsequent soil samples were collected along the excavation perimeter via test pits.

Describe Area Affected and Cleanup Action Taken.* Hydrocarbon impacted soil encountered during BGT removal was excavated and transported for offsite disposal. Final excavation reaching 50' x 35' x 3' deep with 90 cubic yards of soil removed. 5 soil samples collected for laboratory analysis; 4 of the 5 below detection limits. One soil sample (TH5 @ 5'-6') exceeds remediation standards with TPH 270 ppm via 8015D. The excavation was backfilled and compacted and is still within the active well area. Groundwater monitoring wells installed with analysis below laboratory detection limits for contaminants of concern.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature:	OIL CONSERVATION DIVISION	
Printed Name: Steve Moskal	Approved by Environmental Specialist:	
Title: Field Environmental Coordinator	Approval Date: 12/29/2015	Expiration Date:
E-mail Address: steven.moskal@bp.com	Conditions of Approval: —	Attached ☐
Date: November 25, 2015 Phone: 505-326-9497		

* Attach Additional Sheets If Necessary

NJF1319049715

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BP AMERICA PRODUCTION COMPANY

GCU COM F 162E – HISTORICAL (LEGACY) RELEASE CLEANUP

API #: 30-045-25223

Legal Description: (Unit Letter B, Sec. 36 -T29N -R12W, NMPM)

CHRONOLOGICAL EVENT SUMMATION

1. **June 6, 2013**: BP began closure of a 95 barrel below-grade tank (**BGT**) at the site. Apparent soil impacts were discovered during the BGT removal process. The possible origin of the hydrocarbon impacts might have been from a previously identified earthen pit within the same proximity and closed in November 2000.

2. **June 7, 2013**: A preliminary assessment with the advancement of six (6) test holes was conducted to determine areal extent. Groundwater was observed within the test holes at approximately five (5) feet (**ft.**) below grade. BP initiated a remedial action plan to address the impacts.

3. **June 2013**: BP began the remediation via excavation with a trackhoe. Final excavation was based upon the preliminary assessment information and was estimated at 50 ft. X 35 ft. X 3 ft. (average impact thickness). No more than 200 cubic yards were removed and transported to BP's Crouch Mesa Facility.

4. **July 3, 2013**: BP installed a temporary groundwater monitor well (**TW #1**) using a backhoe within the BGT footprint area.

5. **July 24, 2013**: TW #1 was initially developed by purging approximately 1.00 gallon of groundwater in order to remove sediment accumulation during the installation process.

6. **July 26, 2013**: TW #1 was sampled and relinquished to a laboratory representative that same day. The sample was later analyzed for benzene, toluene, ethylbenzene, and total xylenes (**BTEX**) per US EPA Method 8021B and chloride per US EPA Method 300.1. All BTEX constituents were not detected (**ND**) at the laboratory reporting limits. The chloride level was well below the allowable concentration standard established by the New Mexico Water Quality Control Commission.

7. **November 13, 2015**: BP completed the lateral extent verification of the previous excavation perimeter with four (4) test holes located north (**TH-A**), east (**TH-B**), south (**TH-C**), and southwest (**TH-D**). Samples were analyzed for Total Petroleum Hydrocarbons per laboratory US EPA Method 8015, BTEX per US EPA Method 8021, and chloride per US EPA Method 300.0. All sample results were ND at the laboratory reporting limits.

CLIENT: BP

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

API #: 3004525223
TANK ID (if applicble): A

FIELD REPORT:

(circle one): BGT CONFIRMATION / [RELEASE INVESTIGATION] / OTHER:

PAGE #: 2 of 2

SITE INFORMATION:

SITE NAME: GCU COM F # 162E

QUAD/UNIT: B SEC: 36 TWP: 29N RNG: 12W PM: NM CNTY: SJ ST: NM

1/4 -1/4/FOOTAGE: 1,180'N / 1,590'E NW/NE LEASE TYPE: FEDERAL / STATE / [FEE] / INDIAN

LEASE #: - PROD. FORMATION: DK CONTRACTOR: ELKHORN MBF - S. GLYNN

DATE STARTED: 06/07/13

DATE FINISHED:

ENVIRONMENTAL SPECIALIST(S): NJV

REFERENCE POINT:

WELL HEAD (W.H.) GPS COORD.: 36.68678 X 108.04730 GL ELEV.: 5,362'

1) 95 BGT (DW/DB)	GPS COORD.: 36.68660 X 108.04678	DISTANCE/BEARING FROM W.H.:	185', S72E
2)	GPS COORD.:	DISTANCE/BEARING FROM W.H.:	
3)	GPS COORD.:	DISTANCE/BEARING FROM W.H.:	
4)	GPS COORD.:	DISTANCE/BEARING FROM W.H.:	

SAMPLING DATA:

CHAIN OF CUSTODY RECORD(S) # OR LAB USED: HALL

								OVM READING (ppm)
1)	SAMPLE ID: TH 4 @ 5' (GW)	SAMPLE DATE:	06/07/13	SAMPLE TIME:	1232	LAB ANALYSIS:	8021B	NA
2)	SAMPLE ID: TH 1 @ 5' - 6'	SAMPLE DATE:	06/07/13	SAMPLE TIME:	1200	LAB ANALYSIS:	8015B/8021B	17.1
3)	SAMPLE ID: TH 5 @ 5' - 6'	SAMPLE DATE:	06/07/13	SAMPLE TIME:	1240	LAB ANALYSIS:	8015B/8021B	121.4
4)	SAMPLE ID:	SAMPLE DATE:		SAMPLE TIME:		LAB ANALYSIS:		

SOIL DESCRIPTION:

SOIL TYPE: SAND / [SILTY SAND] / SILT / SILTY CLAY / CLAY / [GRAVEL] / OTHER GRAVEL APPEARS IMPORTED (0.0 - 2.0' BELOW GRADE).

SOIL COLOR: VERY PALE ORANGE TO OLIVE GRAY

COHESION (ALL OTHERS): [NON COHESIVE] / SLIGHTLY COHESIVE / COHESIVE / HIGHLY COHESIVE

PLASTICITY (CLAYS): NON PLASTIC / SLIGHTLY PLASTIC / COHESIVE / MEDIUM PLASTIC / HIGHLY PLASTIC

CONSISTENCY (NON COHESIVE SOILS): [LOOSE / FIRM] / DENSE / VERY DENSE

DENSITY (COHESIVE CLAYS & SILTS): SOFT / FIRM / STIFF / VERY STIFF / HARD

MOISTURE: DRY / [SLIGHTLY MOIST] / MOIST / WET / SATURATED / [SUPER SATURATED]

HC ODOR DETECTED: [YES] / NO EXPLANATION - DISCOLORED SOIL ONLY

SAMPLE TYPE: [GRAB] / COMPOSITE - # OF PTS. NA

DISCOLORATION/STAINING OBSERVED: [YES] / NO EXPLANATION - INITALLY OBSERVED @ 4.5' - 5' BELOW GRADE AROUND OPEN EXCAVATION (DARK GRAY TO BLACK)

ANY AREAS DISPLAYING WETNESS: [YES] / NO EXPLANATION - BGT BOTTOM WITHIN GROUNDWATER

APPARENT EVIDENCE OF A RELEASE OBSERVED AND/OR OCCURRED : [YES] / NO EXPLANATION : APPEARS HISTORICAL IN ORIGIN

ADDITIONAL COMMENTS: UNDETERMINED IF FREE PRODUCT WAS OBSERVED @ GROUNDWATER SURFACE WITHIN NW QUADRANT OF OPEN EXCAVATION. PUMPED GROUNDWATER ON 06/07/13 (total volume not measured, but estimated at < 50 gallons).

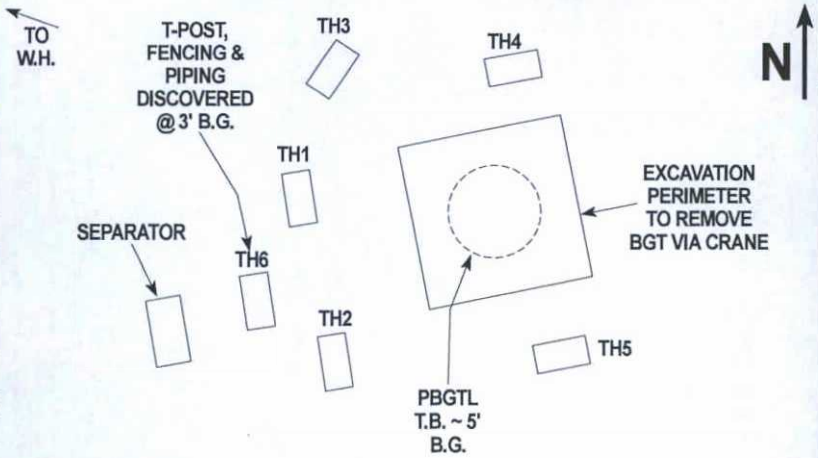
SOIL IMPACT DIMENSION ESTIMATION: 35' ft. X 50' ft. X 3 ft. EXCAVATION ESTIMATION (Cubic Yards) : 200

DEPTH TO GROUNDWATER: <50' NEAREST WATER SOURCE: >1,000' NEAREST SURFACE WATER: <1,000' NMOCD TPH CLOSURE STD: 100 ppm

SITE SKETCH

PLOT PLAN circle: attached

Clean up excavation area on following page



SAMP. ID	DEPTH	OVM (ppm)	TIME
TH1	5'-6'	17.1	1200
TH2	5'-6'	125.3	1209
TH3	5'	0.0	1220
TH4	5'	0.0	1236
TH5	5'-6'	121.4	1240
TH6	5'-6'	7.6	1252

RECALIBRATE OVM AFTER TH2 READING: 52.4 PPM
TIME - 1:11 PM

OVM CALIB. READ. = 53.8 ppm RF = 0.52
OVM CALIB. GAS = 100 ppm
TIME: 1:05 am/pm DATE: 06/07/13

MISCELL. NOTES

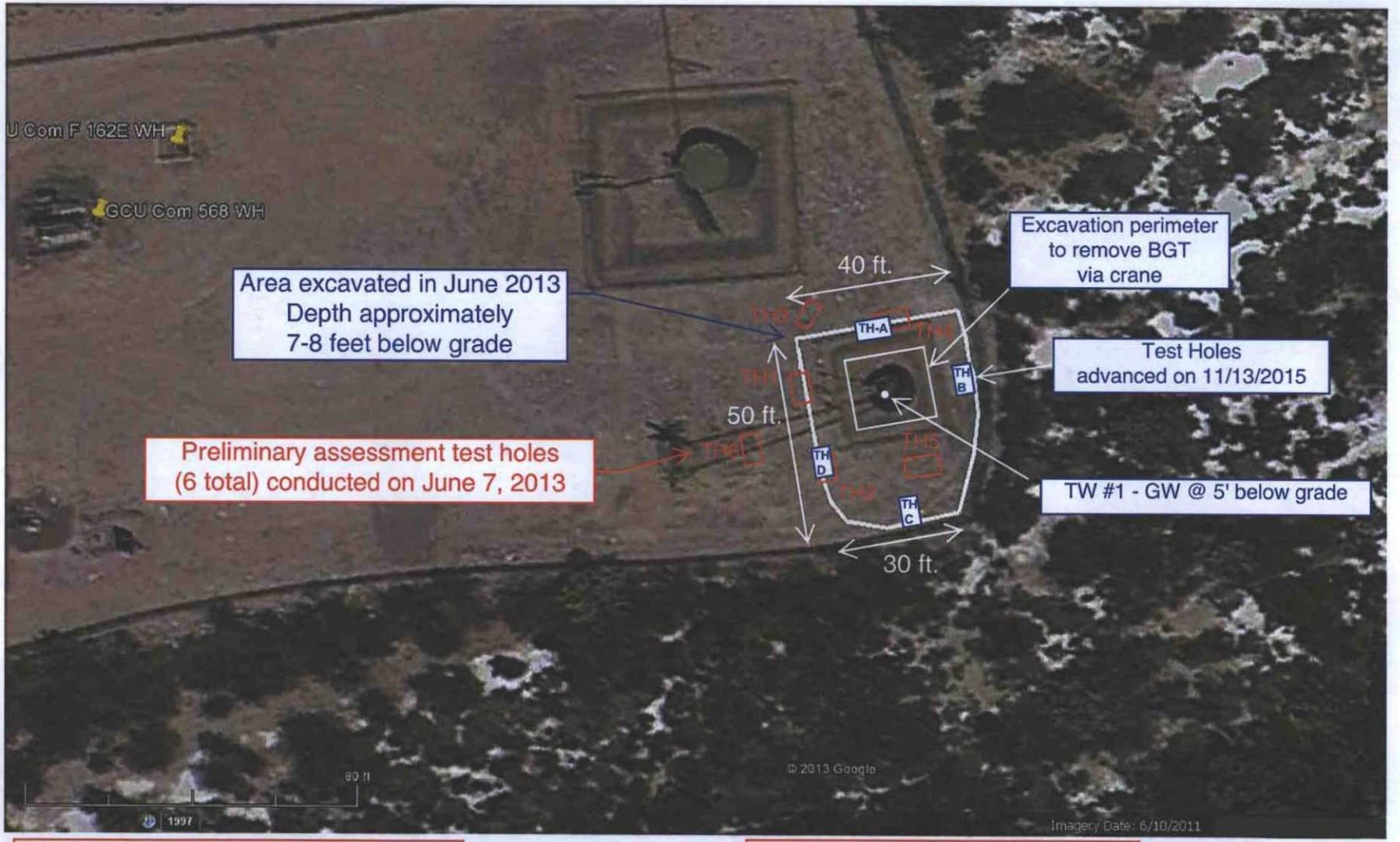
WO: N15115538
PO #:
PK: ZEVH01BGT2
PJ #: Z2-006L3-C
Permit date(s): 06/14/10
OCD Appr. date(s): 02/19/13

Tank ID	OVM = Organic Vapor Meter ppm = parts per million
A	BGT Sidewalls Visible: Y / (N)
	BGT Sidewalls Visible: Y / N
	BGT Sidewalls Visible: Y / N

Magnetic declination: 10° E

NOTES: BGT = BELOW-GRADE TANK; E.D. = EXCAVATION DEPRESSION; B.G. = BELOW GRADE; B = BELOW; T.H. = TEST HOLE; ~ = APPROX.; W.H. = WELL HEAD; T.B. = TANK BOTTOM; PBGTL = PREVIOUS BELOW-GRADE TANK LOCATION; SPD = SAMPLE POINT DESIGNATION; R.W. = RETAINING WALL; NA - NOT APPLICABLE OR NOT AVAILABLE; SW - SINGLE WALL; DW - DOUBLE WALL; SB - SINGLE BOTTOM; DB - DOUBLE BOTTOM.

TRAVEL NOTES: CALLOUT: ONSITE: 06/06/13, 06/07/13



BP - GCU Com F # 162E
NW/4 NE/4, Section 36, T29N, R12W
36.686776°N / 108.047310°W or
36° 41' 12.39"N / 108° 2' 50.32"W

95 bbl BGT (DW/DB)
185 ft., S72E from well head
36.686617°N / 108.046711°W or
36° 41' 11.82"N / 108° 2' 48.16"W

BLAGG ENGINEERING, INC.

MONITOR / TEST WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : **BP AMERICA PROD. CO.**

CHAIN-OF-CUSTODY # : N / A

GCU COM F # 162E
UNIT B, SEC. 36, T29N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : July 26, 2013
Filename : GCU Com F 162E mw log 07-26-13.xls

DEVELOPER / SAMPLER : N J V
PROJECT MANAGER : N J V

Sample ID	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
TW #1	-	-	7.79	9.75	1010	7.26	1,900	22.5	0.50
					INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800		
					DATE & TIME =	07/25/13	0600		

NOTES : Volume of water purged from well prior to sampling: V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores).
(i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)

Ideally a minimum of three (3) wellbore volumes: 2.00 " well diameter = 0.49 gal. / ft. of water.

Comments or note well diameter if not standard 2 ".

Installed 07/03/13 using backhoe, 1 - 5 ft. X 2 inch slotted screen, 1 - 5 ft. X 2 inch casing, slip cap at bottom, locking cap with padlock at casing top.

Initially developed on 07/24/13 using new disposable bailer. Fair recovery, very murky brown in appearance, no apparent hydrocarbon odor detected physically.

Top of casing: TW #1 ~ 2.50 ft. above grade.

on-site	9:30 AM	temp	76 F
off-site	10:15 AM	temp	80 F
sky cond.		Sunny	
wind speed	5 - 10	direct.	E - SE

Analytical Report
Lab Order **1306348**
Date Reported: **6/13/2013**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU COM F #162E
Lab ID: 1306348-001 **Matrix:** SOIL

Client Sample ID: TH-1 @ 5'-6'
Collection Date: 6/7/2013 12:00:00 PM
Received Date: 6/8/2013 11:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	6/10/2013 12:55:47 PM	7810
Surr: DNOP	83.6	63-147		%REC	1	6/10/2013 12:55:47 PM	7810
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/11/2013 12:49:59 PM	R11219
Surr: BFB	99.5	80-120		%REC	1	6/11/2013 12:49:59 PM	R11219
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.050		mg/Kg	1	6/11/2013 12:49:59 PM	R11219
Toluene	ND	0.050		mg/Kg	1	6/11/2013 12:49:59 PM	R11219
Ethylbenzene	ND	0.050		mg/Kg	1	6/11/2013 12:49:59 PM	R11219
Xylenes, Total	ND	0.10		mg/Kg	1	6/11/2013 12:49:59 PM	R11219
Surr: 4-Bromofluorobenzene	98.1	80-120		%REC	1	6/11/2013 12:49:59 PM	R11219

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU COM F #162E
Lab ID: 1306348-002 **Matrix:** SOIL

Client Sample ID: TH-3 @ 5'
Collection Date: 6/7/2013 12:20:00 PM
Received Date: 6/8/2013 11:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	6/10/2013 1:18:19 PM	7810
Surr: DNOP	82.0	63-147		%REC	1	6/10/2013 1:18:19 PM	7810
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/11/2013 1:18:37 PM	R11219
Surr: BFB	95.8	80-120		%REC	1	6/11/2013 1:18:37 PM	R11219

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU COM F #162E
Lab ID: 1306348-003 **Matrix:** AQUEOUS

Client Sample ID: TH-4 @ 5' (GW)
Collection Date: 6/7/2013 12:32:00 PM
Received Date: 6/8/2013 11:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	2.0	P	µg/L	2	6/11/2013 1:15:26 PM	R11218
Toluene	ND	2.0	P	µg/L	2	6/11/2013 1:15:26 PM	R11218
Ethylbenzene	ND	2.0	P	µg/L	2	6/11/2013 1:15:26 PM	R11218
Xylenes, Total	ND	4.0	P	µg/L	2	6/11/2013 1:15:26 PM	R11218
Surr: 4-Bromofluorobenzene	87.2	69.4-129	P	%REC	2	6/11/2013 1:15:26 PM	R11218

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU COM F #162E
Lab ID: 1306348-004 **Matrix:** SOIL

Client Sample ID: TH-5 @ 5'-6'
Collection Date: 6/7/2013 12:40:00 PM
Received Date: 6/8/2013 11:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	170	10		mg/Kg	1	6/12/2013 4:33:55 PM	7810
Surr: DNOP	96.7	63-147		%REC	1	6/12/2013 4:33:55 PM	7810
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	100	50		mg/Kg	10	6/11/2013 1:47:19 PM	R11219
Surr: BFB	213	80-120	S	%REC	10	6/11/2013 1:47:19 PM	R11219
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.25		mg/Kg	10	6/11/2013 1:47:19 PM	R11219
Toluene	ND	0.50		mg/Kg	10	6/11/2013 1:47:19 PM	R11219
Ethylbenzene	ND	0.50		mg/Kg	10	6/11/2013 1:47:19 PM	R11219
Xylenes, Total	ND	1.0		mg/Kg	10	6/11/2013 1:47:19 PM	R11219
Surr: 4-Bromofluorobenzene	103	80-120		%REC	10	6/11/2013 1:47:19 PM	R11219

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU COM F #162E
Lab ID: 1306348-005 **Matrix:** SOIL

Client Sample ID: TH-6 @ 5'-6'
Collection Date: 6/7/2013 12:52:00 PM
Received Date: 6/8/2013 11:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	6/10/2013 2:04:04 PM	7810
Surr: DNOP	79.1	63-147		%REC	1	6/10/2013 2:04:04 PM	7810
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/11/2013 2:15:58 PM	R11219
Surr: BFB	112	80-120		%REC	1	6/11/2013 2:15:58 PM	R11219
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.050		mg/Kg	1	6/11/2013 2:15:58 PM	R11219
Toluene	ND	0.050		mg/Kg	1	6/11/2013 2:15:58 PM	R11219
Ethylbenzene	ND	0.050		mg/Kg	1	6/11/2013 2:15:58 PM	R11219
Xylenes, Total	ND	0.10		mg/Kg	1	6/11/2013 2:15:58 PM	R11219
Surr: 4-Bromofluorobenzene	98.2	80-120		%REC	1	6/11/2013 2:15:58 PM	R11219

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

Qualifiers:

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

Analytical Report
Lab Order **1307D51**
Date Reported: **8/7/2013**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: TW#1
Project: GCU COM F # 162E
Collection Date: 7/26/2013 10:10:00 AM
Lab ID: 1307D51-001
Matrix: AQUEOUS
Received Date: 7/30/2013 10:01:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **DAM**	
Benzene	ND	1.0		µg/L	1	8/6/2013 9:39:23 PM	R12457
Toluene	ND	1.0		µg/L	1	8/6/2013 9:39:23 PM	R12457
Ethylbenzene	ND	1.0		µg/L	1	8/6/2013 9:39:23 PM	R12457
Xylenes, Total	ND	2.0		µg/L	1	8/6/2013 9:39:23 PM	R12457
Surr: 4-Bromofluorobenzene	102	69.4-129		%REC	1	8/6/2013 9:39:23 PM	R12457
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Chloride	140	10		mg/L	20	7/30/2013 10:16:42 PM	R12309

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

Qualifiers:

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

Analytical Report
Lab Order **1511639**
Date Reported: **11/20/2015**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU COM F #162E
Lab ID: 1511639-001 **Matrix:** SOIL

Client Sample ID: TH-A @ 4.5' (95)
Collection Date: 11/13/2015 10:40:00 AM
Received Date: 11/14/2015 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	ND	30		mg/Kg	20	11/18/2015 11:00:11 AM	22400
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	11/18/2015 10:44:06 AM	22372
Surr: DNOP	107	70-130		%REC	1	11/18/2015 10:44:06 AM	22372
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/17/2015 2:05:39 PM	22362
Surr: BFB	86.4	75.4-113		%REC	1	11/17/2015 2:05:39 PM	22362
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.048		mg/Kg	1	11/17/2015 2:05:39 PM	22362
Toluene	ND	0.048		mg/Kg	1	11/17/2015 2:05:39 PM	22362
Ethylbenzene	ND	0.048		mg/Kg	1	11/17/2015 2:05:39 PM	22362
Xylenes, Total	ND	0.095		mg/Kg	1	11/17/2015 2:05:39 PM	22362
Surr: 4-Bromofluorobenzene	110	80-120		%REC	1	11/17/2015 2:05:39 PM	22362

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU COM F #162E
Lab ID: 1511639-002 **Matrix:** SOIL

Client Sample ID: TH-B @ 4.5' (95)
Collection Date: 11/13/2015 10:30:00 AM
Received Date: 11/14/2015 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	ND	30		mg/Kg	20	11/18/2015 11:37:27 AM	22400
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	11/18/2015 11:05:34 AM	22372
Surr: DNOP	103	70-130		%REC	1	11/18/2015 11:05:34 AM	22372
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/17/2015 2:29:11 PM	22362
Surr: BFB	85.9	75.4-113		%REC	1	11/17/2015 2:29:11 PM	22362
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.049		mg/Kg	1	11/17/2015 2:29:11 PM	22362
Toluene	ND	0.049		mg/Kg	1	11/17/2015 2:29:11 PM	22362
Ethylbenzene	ND	0.049		mg/Kg	1	11/17/2015 2:29:11 PM	22362
Xylenes, Total	ND	0.098		mg/Kg	1	11/17/2015 2:29:11 PM	22362
Surr: 4-Bromofluorobenzene	108	80-120		%REC	1	11/17/2015 2:29:11 PM	22362

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU COM F #162E
Lab ID: 1511639-003 **Matrix:** SOIL

Client Sample ID: TH-C @ 4.5' (95)
Collection Date: 11/13/2015 10:45:00 AM
Received Date: 11/14/2015 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	ND	30		mg/Kg	20	11/18/2015 11:49:51 AM	22400
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	11/18/2015 11:26:54 AM	22372
Surr: DNOP	102	70-130		%REC	1	11/18/2015 11:26:54 AM	22372
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/17/2015 2:52:43 PM	22362
Surr: BFB	86.8	75.4-113		%REC	1	11/17/2015 2:52:43 PM	22362
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.048		mg/Kg	1	11/17/2015 2:52:43 PM	22362
Toluene	ND	0.048		mg/Kg	1	11/17/2015 2:52:43 PM	22362
Ethylbenzene	ND	0.048		mg/Kg	1	11/17/2015 2:52:43 PM	22362
Xylenes, Total	ND	0.096		mg/Kg	1	11/17/2015 2:52:43 PM	22362
Surr: 4-Bromofluorobenzene	109	80-120		%REC	1	11/17/2015 2:52:43 PM	22362

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU COM F #162E
Lab ID: 1511639-004 **Matrix:** SOIL

Client Sample ID: TH-D @ 4.5' (95)
Collection Date: 11/13/2015 10:55:00 AM
Received Date: 11/14/2015 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	ND	30		mg/Kg	20	11/18/2015 12:02:16 PM	22400
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	11/18/2015 11:48:13 AM	22372
Surr: DNOP	98.0	70-130		%REC	1	11/18/2015 11:48:13 AM	22372
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/17/2015 3:16:13 PM	22362
Surr: BFB	86.8	75.4-113		%REC	1	11/17/2015 3:16:13 PM	22362
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.048		mg/Kg	1	11/17/2015 3:16:13 PM	22362
Toluene	ND	0.048		mg/Kg	1	11/17/2015 3:16:13 PM	22362
Ethylbenzene	ND	0.048		mg/Kg	1	11/17/2015 3:16:13 PM	22362
Xylenes, Total	ND	0.095		mg/Kg	1	11/17/2015 3:16:13 PM	22362
Surr: 4-Bromofluorobenzene	109	80-120		%REC	1	11/17/2015 3:16:13 PM	22362

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

Qualifiers:

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

Chain-of-Custody Record

Client: BLAGG ENGR. / BP AMERICA

Mailing Address: P.O. BOX 87
BLOOMFIELD, NM 87413

Phone #: (505) 632-1199

email or Fax#:

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

Accreditation:
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☐ Standard ☑ Rush COMPLETE BY 06/11/2013

Project Name: GCU COM F # 162E

Project #:

Project Manager: NELSON VELEZ

Sampler: NELSON VELEZ

On Ice: ☒ Yes ☐ No

Sample Temperature: 4.2°C

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1306348	BTEX + ~~MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / ~~MRO~~)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	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 (soil - 300.0 / water - 300.1)		Grab sample	4 pt. composite sample	Air Bubbles (Y or N)
6/7/13	1200	SOIL	TH-1 @ 5'-6'	4 oz. - 1	Cool	-001	✓		✓											✓		
6/7/13	1220	SOIL	TH-3 @ 5'	4 oz. - 1	Cool	-002			✓											✓		
6/7/13	1232	WATER	TH-4 @ 5' (GW)	40 ml VOA - 2	Cool	-003	✓													✓		
6/7/13	1240	SOIL	TH-5 @ 5'-6'	4 oz. - 1	Cool	-004	✓		✓											✓		
6/7/13	1252	SOIL	TH-6 @ 5'-6'	4 oz. - 1	Cool	-005	✓		✓											✓		

Date	Time	Relinquished by:	Received by:	Date	Time
6/7/13	1550		Christine Walker	6/7/13	1550
6/7/13	1754	Christine Walker		6/8/13	1120

Remarks:

BILL DIRECTLY TO BP:
Jeff Peace, 200 Energy Court, Farmington, NM 87401

Work Order: N15115538 Paykey: ZEVH01BGT2

Chain-of-Custody Record

Client: BLAGG ENGR. / BP AMERICA

Mailing Address: P.O. BOX 87
BLOOMFIELD, NM 87413

Phone #: (505) 632-1199

email or Fax#:

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

Accreditation:
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name:
GCU COM F # 162E

Project #:

Project Manager:
NELSON VELEZ

Sampler: NELSON VELEZ

On Ice: ☑ Yes ☐ No

Sample Temperature: 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 #	Preservative Type	HEAL No. 1307051	BTEX + ~~MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	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 (~~soil - 3000~~ / water - 300.1)		Grab sample	4 pt. composite sample
7/26/13	1010	WATER	TW # 1	40 ml VOA - 2	HCl & Cool	-001	✓													✓	
7/26/13	1010	WATER	TW # 1	500 ml - 1	Cool	-001												✓		✓	

Date:	Time:	Relinquished by:	Received by:	Date	Time
7/26/13	1200			7/26/13	1200
7/29/13	1750		07/30	13	1001

Remarks:

BILL DIRECTLY TO BP:
Jeff Peace, 200 Energy Court, Farmington, NM 87401

Work Order: N15115538 Paykey: ZEVH01BGT2

Chain-of-Custody Record

Client:	BLAGG ENGR. / BP AMERICA
Mailing Address:	P.O. BOX 87
	BLOOMFIELD, NM 87413
Phone #:	(505) 632-1199
email or Fax#:	
QA/QC Package:	☒ Standard ☐ Level 4 (Full Validation)
Accreditation:	☐ NELAP ☐ Other
☐ EDD (Type)	

Turn-Around Time: ☒ Standard ☐ Rush

Project Name: GCU COM F # 162E

Project #:

Project Manager: NELSON VELEZ

Sampler: NELSON VELEZ NV

On Ice: ☑ Yes ☐ No

Sample Temperature: 2.6

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. 1511039	BTEX + MTBE + TMB's (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / ~~MRO~~) NV	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	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 (soil - 300.0 / water - 300.1)		Grab sample	
11/13/15	1040	SOIL	TH-A @ 4.5' (95)	4 oz. - 1	Cool	-001	✓		✓									✓		✓	
11/13/15	1030	SOIL	TH-B @ 4' (95)	4 oz. - 1	Cool	-002	✓		✓									✓		✓	
11/13/15	1045	SOIL	TH-C @ 4.5' (95)	4 oz. - 1	Cool	-003	✓		✓									✓		✓	
11/13/15	1055	SOIL	TH-D @ 4.5' (95)	4 oz. - 1	Cool	-004	✓		✓									✓		✓	

Date: 11/13/15	Time: 1320	Relinquished by:	Received by:	Date	Time
			Christine Walls	11/13/15	1320
Date: 11/13/15	Time: 1741	Relinquished by: Christine Walls	Received by:	Date 11/14/15	Time 0930

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories.

Remarks:

BILL DIRECTLY TO BP:
Jeff Peace, 200 Energy Court, Farmington, NM 87401

Reference #: P-284 Paykey: VHIXONEVRM

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1306348**

13-Jun-13

Client: Blagg Engineering
Project: GCU COM F #162E

Sample ID **MB-7810**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **7810**	RunNo: **11148**
Prep Date: **6/7/2013**	Analysis Date: **6/7/2013**	SeqNo: **315936** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	10		10.00		101	63	147			

Sample ID **LCS-7810**	SampType: **LCS**	TestCode: **EPA Method 8015D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **7810**	RunNo: **11148**
Prep Date: **6/7/2013**	Analysis Date: **6/7/2013**	SeqNo: **315937** 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	77.1	128			
Surr: DNOP	4.7		5.000		94.3	63	147			

Sample ID **MB-7858**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **7858**	RunNo: **11269**
Prep Date: **6/11/2013**	Analysis Date: **6/13/2013**	SeqNo: **318374** Units: **%REC**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	10		10.00		102	63	147			

Sample ID **LCS-7858**	SampType: **LCS**	TestCode: **EPA Method 8015D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **7858**	RunNo: **11269**
Prep Date: **6/11/2013**	Analysis Date: **6/13/2013**	SeqNo: **318375** Units: **%REC**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.5		5.000		109	63	147			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1306348**

13-Jun-13

Client: Blagg Engineering
Project: GCU COM F #162E

Sample ID **MB-7815**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **R11219**	RunNo: **11219**
Prep Date: **6/7/2013**	Analysis Date: **6/11/2013**	SeqNo: **317469** 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	940		1000		94.3	80	120			

Sample ID **LCS-7815**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **R11219**	RunNo: **11219**
Prep Date: **6/7/2013**	Analysis Date: **6/11/2013**	SeqNo: **317470** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	107	62.6	136			
Surr: BFB	1000		1000		101	80	120			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1306348**

13-Jun-13

Client: Blagg Engineering
Project: GCU COM F #162E

Sample ID **MB-7815**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **R11219**	RunNo: **11219**
Prep Date: **6/7/2013**	Analysis Date: **6/11/2013**	SeqNo: **317499** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.98		1.000		98.1	80	120			

Sample ID **LCS-7815**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **R11219**	RunNo: **11219**
Prep Date: **6/7/2013**	Analysis Date: **6/11/2013**	SeqNo: **317500** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.050	1.000	0	108	80	120			
Toluene	1.1	0.050	1.000	0	107	80	120			
Ethylbenzene	1.1	0.050	1.000	0	107	80	120			
Xylenes, Total	3.2	0.10	3.000	0	107	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		102	80	120			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1306348**

13-Jun-13

Client: Blagg Engineering
Project: GCU COM F #162E

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R11218**	RunNo: **11218**
Prep Date:	Analysis Date: **6/11/2013**	SeqNo: **317557** 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								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	18		20.00		88.4	69.4	129			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R11218**	RunNo: **11218**
Prep Date:	Analysis Date: **6/11/2013**	SeqNo: **317558** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	17	1.0	20.00	0	86.7	80	120			
Toluene	17	1.0	20.00	0	86.2	80	120			
Ethylbenzene	18	1.0	20.00	0	87.6	80	120			
Xylenes, Total	52	2.0	60.00	0	87.0	80	120			
Surr: 4-Bromofluorobenzene	18		20.00		87.6	69.4	129			

Qualifiers:

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

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: 1306348 RcptNo: 1

Received by/date: AF 06/08/13

Logged By: Anne Thorne 6/8/2013 11:00:00 AM Anne Thorne

Completed By: Anne Thorne 6/10/2013 Anne Thorne

Reviewed By: MG 06/10/13

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

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

Person Notified: _____ Date _____

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

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.3	Good	Yes			

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1307D51**

07-Aug-13

Client: Blagg Engineering
Project: GCU COM F # 162E

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBW**	Batch ID: **R12309**	RunNo: **12309**							
Prep Date:	Analysis Date: **7/30/2013**	SeqNo: **350073**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSW**	Batch ID: **R12309**	RunNo: **12309**							
Prep Date:	Analysis Date: **7/30/2013**	SeqNo: **350074**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.5	0.50	5.000	0	90.5	90	110			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBW**	Batch ID: **R12309**	RunNo: **12309**							
Prep Date:	Analysis Date: **7/30/2013**	SeqNo: **350109**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSW**	Batch ID: **R12309**	RunNo: **12309**							
Prep Date:	Analysis Date: **7/30/2013**	SeqNo: **350110**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.7	0.50	5.000	0	93.6	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1307D51**

07-Aug-13

Client: Blagg Engineering
Project: GCU COM F # 162E

Sample ID **5ML-RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R12457**	RunNo: **12457**
Prep Date:	Analysis Date: **8/6/2013**	SeqNo: **354622** 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								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	20		20.00		102	69.4	129			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R12457**	RunNo: **12457**
Prep Date:	Analysis Date: **8/6/2013**	SeqNo: **354629** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	94.9	80	120			
Toluene	19	1.0	20.00	0	95.0	80	120			
Ethylbenzene	19	1.0	20.00	0	95.2	80	120			
Xylenes, Total	58	2.0	60.00	0	96.2	80	120			
Surr: 4-Bromofluorobenzene	21		20.00		106	69.4	129			

Qualifiers:

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

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: 1307D51 | RcptNo: 1

Received by/date: AG 07/30/13

Logged By: Lindsay Mangin 7/30/2013 10:01:00 AM

Completed By: Lindsay Mangin 7/30/2013 2:13:56 PM

Reviewed By: MJ 07/30/13

Chain of Custody

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

Log In

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

Special Handling (if applicable)

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

Person Notified: Date:

By Whom: Via: eMail Phone Fax In Person

Regarding:

Client Instructions:

17. Additional remarks:

18. **Cooler Information**

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1511639**

20-Nov-15

Client: Blagg Engineering

Project: GCU COM F #162E

Sample ID	**MB-22400**	SampType:	**MBLK**	TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**PBS**	Batch ID:	**22400**	RunNo:	**30327**				
Prep Date:	**11/18/2015**	Analysis Date:	**11/18/2015**	SeqNo:	**925403**	Units:	**mg/Kg**		

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

Sample ID	**LCS-22400**	SampType:	**LCS**	TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**LCSS**	Batch ID:	**22400**	RunNo:	**30327**				
Prep Date:	**11/18/2015**	Analysis Date:	**11/18/2015**	SeqNo:	**925404**	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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1511639**

20-Nov-15

Client: Blagg Engineering
Project: GCU COM F #162E

Sample ID **MB-22372**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **22372**	RunNo: **30304**
Prep Date: **11/17/2015**	Analysis Date: **11/18/2015**	SeqNo: **924564** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	12		10.00		118	70	130			

Sample ID **LCS-22372**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **22372**	RunNo: **30304**
Prep Date: **11/17/2015**	Analysis Date: **11/18/2015**	SeqNo: **924565** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	60	10	50.00	0	120	57.4	139			
Surr: DNOP	6.4		5.000		129	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1511639**

20-Nov-15

Client: Blagg Engineering
Project: GCU COM F #162E

Sample ID **MB-22362**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **22362**	RunNo: **30296**
Prep Date: **11/16/2015**	Analysis Date: **11/17/2015**	SeqNo: **924156** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	860		1000		85.6	75.4	113			

Sample ID **LCS-22362**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **22362**	RunNo: **30296**
Prep Date: **11/16/2015**	Analysis Date: **11/17/2015**	SeqNo: **924157** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	25.00	0	85.3	79.6	122			
Surr: BFB	920		1000		91.7	75.4	113			

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
- R RPD outside accepted recovery limits
- 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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1511639**

20-Nov-15

Client: Blagg Engineering
Project: GCU COM F #162E

Sample ID **MB-22362**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **22362**	RunNo: **30296**
Prep Date: **11/16/2015**	Analysis Date: **11/17/2015**	SeqNo: **924183** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		110	80	120			

Sample ID **LCS-22362**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **22362**	RunNo: **30296**
Prep Date: **11/16/2015**	Analysis Date: **11/17/2015**	SeqNo: **924184** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.88	0.050	1.000	0	87.6	80	120			
Toluene	0.82	0.050	1.000	0	82.3	80	120			
Ethylbenzene	0.88	0.050	1.000	0	87.8	80	120			
Xylenes, Total	2.7	0.10	3.000	0	89.2	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		115	80	120			

Qualifiers:

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

ANALYSIS LABORATORY

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: 1511639 | RcptNo: 1

Received by/date: 11/14/15

Logged By: Ashley Gallegos 11/14/2015 9:30:00 AM

Completed By: Ashley Gallegos 11/16/2015 10:04:29 AM

Reviewed By: JO 11/16/15

Chain of Custody

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

Log In

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

Special Handling (if applicable)

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

Person Notified: Date:

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

Regarding:

Client Instructions:

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.6	Good	Yes			