

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: Jeff Peace
Address: 200 Energy Court, Farmington, NM 87401	Telephone No.: 505-326-9479
Facility Name: GCU 512	Facility Type: Natural gas well

Surface Owner: BLM	Mineral Owner: Fee	API No. 3004528221
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LOCATION OF RELEASE

Unit Letter J	Section 26	Township 29	Range 12	Feet from the 1530	North/South Line South	Feet from the 1715	East/West Line East	County: San Juan
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OIL CONS. DIV DIST. 3

Latitude 36.69451 Longitude 108.0657

AUG 29 2014

NATURE OF RELEASE

Type of Release: condensate/oil	Volume of Release: unknown	Volume Recovered: none
Source of Release: below grade tank	Date and Hour of Occurrence: unknown	Date and Hour of Discovery: August 1, 2013; 9:30 AM
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Jonathan Kelly	
By Whom? Jeff Peace	Date and Hour August 1, 2103; 10:30 AM	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.* During construction operations to remove below grade tank (BGT) contaminated soil was discovered and a sheen on the groundwater under the tank was observed. Groundwater was at four feet below the BGT. Likely cause is overflow from the BGT – tank integrity looked good.

Describe Area Affected and Cleanup Action Taken.* Borehole drilling was done to collect soil samples and determine vertical and lateral extent of the contamination. Groundwater was found 4' to 8' below the surface. Excavation was done to remove top soil and to remove impacted soil. Approximately 960 cubic yards of impacted soil was taken to the IEI landfarm for treatment. Excavation continued until remaining soil samples resulted in less than 100 ppm TPH. The excavated areas were backfilled with clean soil, the top soil was replaced and the area was compacted. Monitor wells will be installed to assess ground water impacts, if any.

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: <i>Jeff Peace</i>		OIL CONSERVATION DIVISION	
Printed Name: Jeff Peace		Approved by Environmental Specialist: <i>Jonathan D. Kelly</i>	
Title: Field Environmental Advisor		Approval Date: <i>11/12/2014</i>	Expiration Date:
E-mail Address: peace.jeffrey@bp.com		Conditions of Approval:	Attached <input type="checkbox"/>
Date: November 15, 2013 Phone: 505-326-9479			

* Attach Additional Sheets If Necessary

NSK1431651157

45

BP - GCU # 512

Unit Ltr. J, Section 26, T29N, R12W, NMPM
API #: 3004528221

Imagery Date: 06/10/2011.

WELL HEAD

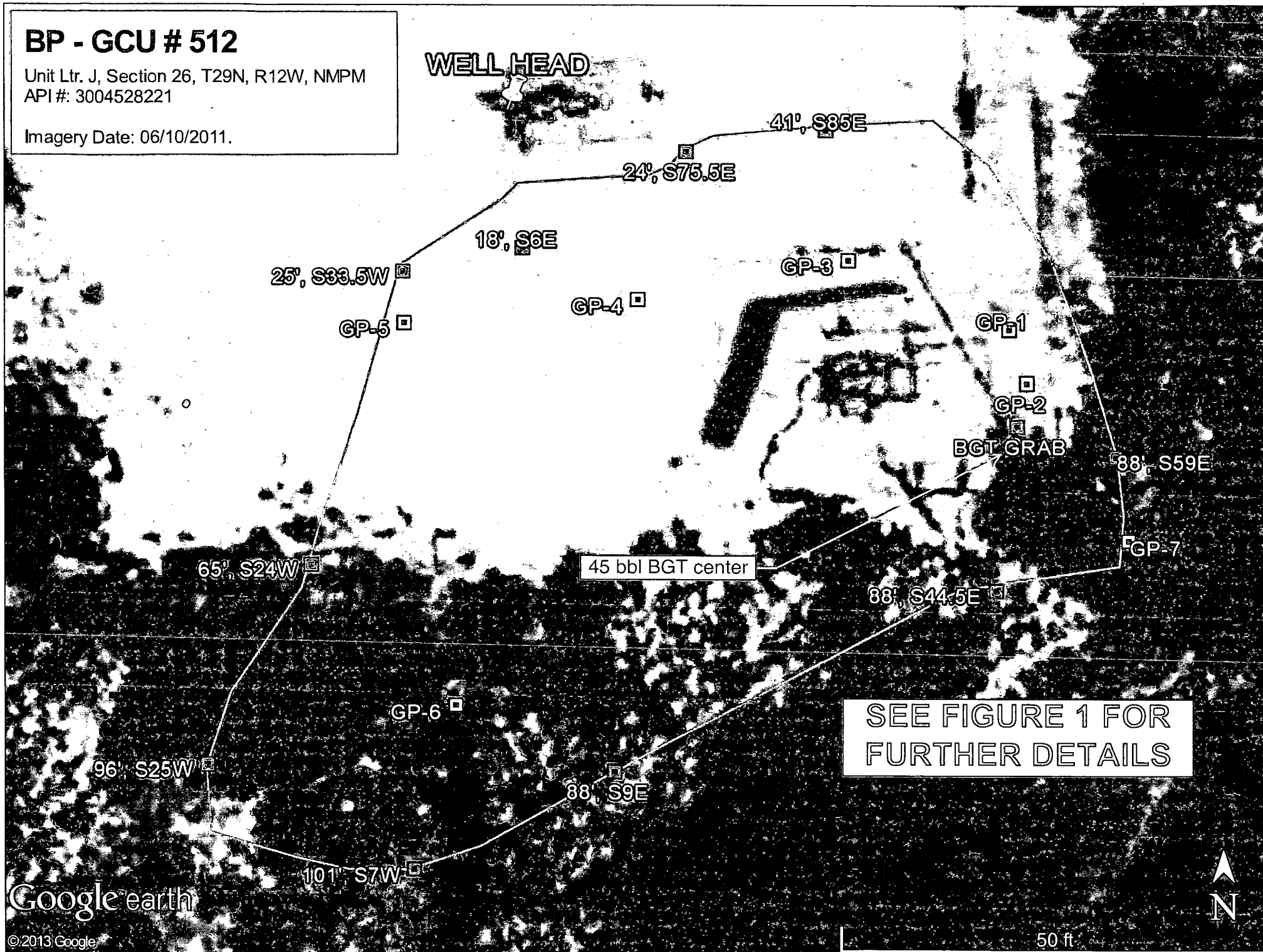
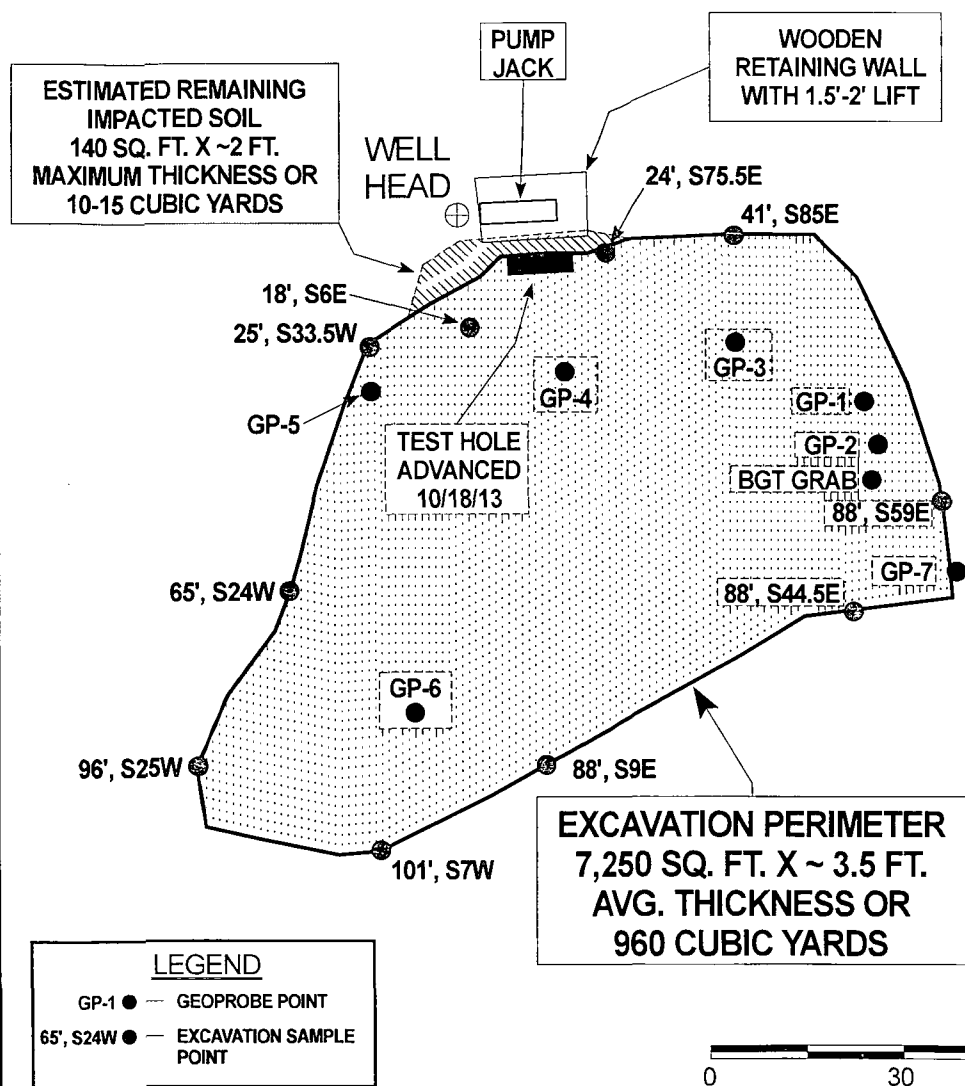


FIGURE 1



SAMPLE ID	SAMPLE DATE	SAMPLE TIME	SAMPLING COLLECTION	FIELD OVM READING (ppm)	TPH - cumulative (ppm)	Benzene (ppm)	BTEX - cumulative (ppm)
BGT Grab [78', S56E] @ 4'	08/01/13	0915	GRAB	313	4,700	ND	29
GP-1 (70', S65E) 0'-4'	09/04/13	0843	GEOPROBE	4.3	-	-	-
GP-1 (70', S65E) 4'-8'	09/04/13	0850	GEOPROBE	3.4	-	-	-
GP-2 (75', S61E) 0'-4'	09/04/13	0913	GEOPROBE	1.8	-	-	-
GP-2 (75', S61E) 4'-7'	09/04/13	0920	GEOPROBE	1.9	-	-	-
GP-3 (48', S65E) 0'-4'	09/04/13	0944	GEOPROBE	3.9	-	-	-
GP-3 (48', S65E) 4'-8'	09/04/13	0950	GEOPROBE	15.1	-	-	-
GP-4 (30', S34E) 0'-4'	09/04/13	1003	GEOPROBE	1.9	-	-	-
GP-4 (30', S34E) 4'-8'	09/04/13	1006	GEOPROBE	861	-	-	-
GP-4 (30', S34E) 8'-10'	09/04/13	1014	GEOPROBE	1.9	-	-	-
GP-5 (31', S26W) 0'-4'	09/04/13	1038	GEOPROBE	1.4	-	-	-
GP-5 (31', S26W) 4'-6'	09/04/13	1055	GEOPROBE	1.0	-	-	-
GP-6 (79', S5W) 0'-4'	09/04/13	1140	GEOPROBE	-	-	-	-
GP-6 (79', S5W) 4'-8'	09/04/13	1155	GEOPROBE	647	-	-	-
GP-6 (79', S5W) 8'-11'	09/04/13	1205	GEOPROBE	0.0	-	-	-
GP-7 (96', S54E) 0'-4'	09/04/13	1330	GEOPROBE	0.0	-	-	-
GP-7 (96', S54E) 4'-7'	09/04/13	1345	GEOPROBE	0.0	-	-	-
88', S59E @ 2-2.5'	10/01/13	1452	GRAB	0.0	ND	ND	ND
88', S44.5E @ 3'	10/01/13	1457	GRAB	0.0	ND	ND	ND
41', S85E @ 4'	10/07/13	1040	GRAB	1.1	ND	ND	ND
24', S75.5E @ 4'	10/07/13	1110	GRAB	593	-	-	-
18', S6E @ 4'	10/07/13	1202	GRAB	1.7	ND	ND	ND
18', S6E @ 6'	10/07/13	1206	GRAB	592	1,350	ND	76.4
88', S9E @ 5'	10/14/13	1330	GRAB	1.0	ND	ND	ND
101', S7W @ 5'	10/14/13	1340	GRAB	0.0	ND	ND	ND
25', S33.5W @ 3'	10/18/13	0900	GRAB	1.4	ND	ND	ND
65', S24W @ 5'	10/18/13	0910	GRAB	3.0	ND	ND	ND
96', S25W @ 6'	10/18/13	0930	GRAB	1.3	ND	ND	ND
NMOCD RELEASE CLOSURE STANDARDS (soils) -				100	100	10	50

SAMPLING POINT LOCATIONS ARE ONLY AS ACCURATE AS THE INSTRUMENTS USED IN OBTAINING THE FOOTAGE & BEARING FROM THE WELL HEAD (TAPE MEASURE, LASER RANGE FINDER, & BRUNTON COMPASS). ALL OTHER STRUCTURES DISPLAYED ON THIS MAP ARE SOLELY FOR REFERENCE AND MAY NOT BE TO SCALE. MAGNETIC DECLINATION USED ~ 10° E.

BP AMERICA PRODUCTION CO.

GCU # 512

NW/4 SE/4 SEC. 26, T29N, R12W

SAN JUAN COUNTY, NEW MEXICO

BLAGG ENGINEERING, INC.

CONSULTING PETROLEUM / RECLAMATION SERVICES

P.O. BOX 87

BLOOMFIELD, NEW MEXICO 87413

PHONE: (505) 632-1199

PROJECT: REMEDIATION

DRAWN BY: NJV

FILENAME: GCU 512-SM-1.SKf

REVISED: 10-24-13 NJV

**SITE
MAP**

10/13

BP AMERICA PRODUCTION COMPANY

GCU # 512 - [Release of Unknown Source(s)]

Unit Letter J, Section 26, T29N, R12W - API Number: 30-045-28221

SAMPLE ID	SAMPLE DATE	SAMPLE TIME	SAMPLING COLLECTION	FIELD OVM READING (ppm)	TPH - cumulative (ppm)	Benzene (ppm)	BTEX - cumulative (ppm)	Soil Description / Comments
BGT Grab (78', S56E) @ 4'	08/01/13	0915	GRAB	313	4,700	ND	29	Black sand near groudwater interface
GP-1 (70', S65E) 0'-4'	09/04/13	0843	GEOPROBE	4.3	-	-	-	DYO sand, medium/course grain, moist
GP-1 (70', S65E) 4'-8'	09/04/13	0850	GEOPROBE	3.4	-	-	-	DYO sand, medium/course grain, saturated, recovered 1'
GP-2 (75', S61E) 0'-4'	09/04/13	0913	GEOPROBE	1.8	-	-	-	DYO sand, medium/course grain, moist
GP-2 (75', S61E) 4'-7'	09/04/13	0920	GEOPROBE	1.9	-	-	-	Gray to DYO sand, medium/course grain, saturated
GP-3 (48', S65E) 0'-4'	09/04/13	0944	GEOPROBE	3.9	-	-	-	DYO sand, medium/course grain, moist, recovered 3'
GP-3 (48', S65E) 4'-8'	09/04/13	0950	GEOPROBE	15.1	-	-	-	DYO sand, medium/course grain, saturated, recovered 1'
GP-4 (30', S34E) 0'-4'	09/04/13	1003	GEOPROBE	1.9	-	-	-	DYO sand, medium grain, moist
GP-4 (30', S34E) 4'-8'	09/04/13	1006	GEOPROBE	861	-	-	-	DYO sand (4'-7'), black sand, saturated (7'-8')
GP-4 (30', S34E) 8'-10'	09/04/13	1014	GEOPROBE	1.9	-	-	-	Black sand (8'-8.25'), DYO sand (8.25'-10'), refusal @ 10'
GP-5 (31', S26W) 0'-4'	09/04/13	1038	GEOPROBE	1.4	-	-	-	DYO sand, medium grain, moist
GP-5 (31', S26W) 4'-6'	09/04/13	1055	GEOPROBE	1.0	-	-	-	DYO sand, moist, cobble refusal, recovered 1'
GP-6 (79', S5W) 0'-4'	09/04/13	1140	GEOPROBE	-	-	-	-	DYO sand, moist, cobbles, recovered 1'
GP-6 (79', S5W) 4'-8'	09/04/13	1155	GEOPROBE	647	-	-	-	DYO sand, medium grain, (4'-7'), black sand, medium grain, saturated
GP-6 (79', S5W) 8'-11'	09/04/13	1205	GEOPROBE	0.0	-	-	-	DYO sand, course grain, saturated, refusal @ 11'
GP-7 (96', S54E) 0'-4'	09/04/13	1330	GEOPROBE	0.0	-	-	-	DYO sand, course grain, saturated @ 7'
GP-7 (96', S54E) 4'-7'	09/04/13	1345	GEOPROBE	0.0	-	-	-	DYO sand, saturated, refusal @ 7', recovered 2'
88', S59E @ 2-2.5'	10/01/13	1452	GRAB	0.0	ND	ND	ND	DYO sand, medium/course grain, moist
88', S44.5E @ 3'	10/01/13	1457	GRAB	0.0	ND	ND	ND	DYO sand, medium/course grain, moist
41', S85E @ 4'	10/07/13	1040	GRAB	1.1	ND	ND	ND	PYB sand, immediately above groudwater interface
24', S75.5E @ 4'	10/07/13	1110	GRAB	593	-	-	-	Black sand, immediately above groudwater interface
18', S6E @ 4'	10/07/13	1202	GRAB	1.7	ND	ND	ND	PYB sand, immediately above groudwater interface
18', S6E @ 6'	10/07/13	1206	GRAB	592	1,350	ND	76.4	Black sand, immediately above groudwater interface
88', S9E @ 5'	10/14/13	1330	GRAB	1.0	ND	ND	ND	DYO to light gray sand, near groudwater interface
101', S7W @ 5'	10/14/13	1340	GRAB	0.0	ND	ND	ND	DYO to light gray sand, near groudwater interface
25', S33.5W @ 3'	10/18/13	0900	GRAB	1.4	ND	ND	ND	Moderate brown sand, non cohesive, slightly moist
65', S24W @ 5'	10/18/13	0910	GRAB	3.0	ND	ND	ND	DYO to light gray sand, near groudwater interface
96', S25W @ 6'	10/18/13	0930	GRAB	1.3	ND	ND	ND	DYO to light gray sand, near groudwater interface

NMOC RELEASE CLOSURE STANDARDS (soils) -

100	100	10	50
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Notes:

OVM - Organic vapor meter or photo-ionization detector (PID).

TPH - Total petroleum hydrocarbons by US EPA Method 8015B.

BTEX - Benzene, toluene, ethylbenzene, total xylenes by US EPA Method 8021B.

DYO - Dark yellowish orange

ppm - Parts per million or milligram per kilogram (mg/Kg).

ND - Not detected at Reporting Limit.

NMOC - New Mexico Oil Conservation Division.

DYB - Dark yellowish brown

NMOC RELEASE CLOSURE STANDARDS REFERENCE: "Guidelines for Remediation of Leaks, Spills and Releases" dated: August 13, 1993.

OVM CALIBRATION: RESPONSE FACTOR = 0.52 or 1.00, CALIBRATION GAS - 100 ppm ISOBUTYLENE.

OVM CALIBRATION DATA

DATE	TIME	READING
08/01/13	0930	52.8
09/04/13	0905	99.2

DATE	TIME	READING
10/01/13	1505	100.1
10/07/13	1131	52.3

DATE	TIME	READING
10/14/13	1406	52.2
10/18/13	1040	52.4

Analytical Report

Lab Order 1308133

Date Reported: 8/12/2013

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Client Sample ID: BGT GRAB @ 4'

Project: GCU 512

Collection Date: 8/1/2013 9:15:00 AM

Lab ID: 1308133-001

Matrix: SOIL

Received Date: 8/3/2013 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	1500	100		mg/Kg	10	8/7/2013 8:47:33 AM	8722
Surr: DNOP	0	63-147	S	%REC	10	8/7/2013 8:47:33 AM	8722
EPA METHOD 8015D: GASOLINE RANGE							Analyst: DAM
Gasoline Range Organics (GRO)	3200	490		mg/Kg	100	8/6/2013 3:10:20 PM	8724
Surr: BFB	218	80-120	S	%REC	100	8/6/2013 3:10:20 PM	8724
EPA METHOD 8021B: VOLATILES							Analyst: DAM
Benzene	ND	4.9		mg/Kg	100	8/6/2013 3:10:20 PM	8724
Toluene	ND	4.9		mg/Kg	100	8/6/2013 3:10:20 PM	8724
Ethylbenzene	6.3	4.9		mg/Kg	100	8/6/2013 3:10:20 PM	8724
Xylenes, Total	23	9.8		mg/Kg	100	8/6/2013 3:10:20 PM	8724
Surr: 4-Bromofluorobenzene	112	80-120		%REC	100	8/6/2013 3:10:20 PM	8724
EPA METHOD 300.0: ANIONS							Analyst: JRR
Chloride	ND	15		mg/Kg	10	8/5/2013 4:17:57 PM	8731
EPA METHOD 418.1: TPH							Analyst: LRW
Petroleum Hydrocarbons, TR	7800	200		mg/Kg	10	8/6/2013	8740

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1308133

12-Aug-13

Client: Blagg Engineering

Project: GCU 512

Sample ID	MB-8731	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	8731	RunNo:	12430					
Prep Date:	8/5/2013	Analysis Date:	8/5/2013	SeqNo:	353758	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-8731	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	8731	RunNo:	12430					
Prep Date:	8/5/2013	Analysis Date:	8/5/2013	SeqNo:	353759	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	96.6	90	110			

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#: 1308133

12-Aug-13

Client: Blagg Engineering

Project: GCU 512

Sample ID	MB-8740	SampType	MBLK	TestCode	EPA Method 418.1: TPH					
Client ID	PBS	Batch ID	8740	RunNo	12439					
Prep Date	8/6/2013	Analysis Date	8/6/2013	SeqNo	354090	Units	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	ND	20								

Sample ID	LCS-8740	SampType	LCS	TestCode	EPA Method 418.1: TPH					
Client ID	LCSS	Batch ID	8740	RunNo	12439					
Prep Date	8/6/2013	Analysis Date	8/6/2013	SeqNo	354091	Units	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	100	20	100.0	0	103	80	120			

Sample ID	LCSD-8740	SampType	LCSD	TestCode	EPA Method 418.1: TPH					
Client ID	LCSS02	Batch ID	8740	RunNo	12439					
Prep Date	8/6/2013	Analysis Date	8/6/2013	SeqNo	354092	Units	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	100	20	100.0	0	101	80	120	2.67	20	

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#: 1308133

12-Aug-13

Client: Blagg Engineering

Project: GCU 512

Sample ID	MB-8722	SampType:	MBLK	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	8722	RunNo:	12400					
Prep Date:	8/5/2013	Analysis Date:	8/5/2013	SeqNo:	353060	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	9.9		10.00		99.2	63	147			

Sample ID	1308127-001AMS	SampType:	MS	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	BatchQC	Batch ID:	8722	RunNo:	12400					
Prep Date:	8/5/2013	Analysis Date:	8/5/2013	SeqNo:	353063	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	10	49.95	14.67	70.7	61.3	138			
Surr: DNOP	3.7		4.995		73.3	63	147			

Sample ID	1308127-001AMSD	SampType:	MSD	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	BatchQC	Batch ID:	8722	RunNo:	12400					
Prep Date:	8/5/2013	Analysis Date:	8/5/2013	SeqNo:	353064	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	9.9	49.55	14.67	73.0	61.3	138	1.68	20	
Surr: DNOP	3.7		4.955		74.6	63	147	0	0	

Sample ID	LCS-8722	SampType:	LCS	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	8722	RunNo:	12400					
Prep Date:	8/5/2013	Analysis Date:	8/5/2013	SeqNo:	353065	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42	10	50.00	0	84.3	77.1	128			
Surr: DNOP	3.5		5.000		69.8	63	147			

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#: 1308133

12-Aug-13

Client: Blagg Engineering

Project: GCU 512

Sample ID	MB-8724	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	8724	RunNo:	12441					
Prep Date:	8/5/2013	Analysis Date:	8/6/2013	SeqNo:	354525	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		86.3	80	120			

Sample ID	LCS-8724	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	8724	RunNo:	12441					
Prep Date:	8/5/2013	Analysis Date:	8/6/2013	SeqNo:	354526	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	62.6	136			
Surr: BFB	980		1000		97.9	80	120			

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#: 1308133

12-Aug-13

Client: Blagg Engineering

Project: GCU 512

Sample ID	MB-8724		SampType:	MBLK		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	PBS		Batch ID:	8724		RunNo:	12441			
Prep Date:	8/5/2013		Analysis Date:	8/6/2013		SeqNo:	354556		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		97.6	80	120			

Sample ID	LCS-8724		SampType:	LCS		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	LCSS		Batch ID:	8724		RunNo:	12441			
Prep Date:	8/5/2013		Analysis Date:	8/6/2013		SeqNo:	354557		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	106	80	120			
Toluene	1.0	0.050	1.000	0	103	80	120			
Ethylbenzene	1.0	0.050	1.000	0	105	80	120			
Xylenes, Total	3.2	0.10	3.000	0	105	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		106	80	120			

Sample ID	1308132-001AMS		SampType:	MS		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	BatchQC		Batch ID:	8724		RunNo:	12441			
Prep Date:	8/5/2013		Analysis Date:	8/6/2013		SeqNo:	354558		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.047	0.9416	0	114	67.3	145			
Toluene	1.1	0.047	0.9416	0.007148	111	66.8	144			
Ethylbenzene	1.1	0.047	0.9416	0	115	61.9	153			
Xylenes, Total	3.3	0.094	2.825	0	116	65.8	149			
Surr: 4-Bromofluorobenzene	1.0		0.9416		106	80	120			

Sample ID	1308132-001AMSD		SampType:	MSD		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	BatchQC		Batch ID:	8724		RunNo:	12441			
Prep Date:	8/5/2013		Analysis Date:	8/6/2013		SeqNo:	354559		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.97	0.047	0.9416	0	103	67.3	145	10.6	20	
Toluene	0.93	0.047	0.9416	0.007148	98.5	66.8	144	12.2	20	
Ethylbenzene	0.96	0.047	0.9416	0	102	61.9	153	12.2	20	
Xylenes, Total	2.9	0.094	2.825	0	103	65.8	149	12.0	20	
Surr: 4-Bromofluorobenzene	1.0		0.9416		106	80	120	0	0	

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 |

Sample Log-In Check List

Client Name: BLAGG

Work Order Number: 1308133

RcptNo: 1

Received by/date:

AT 08/03/13

Logged By: **Michelle Garcia**

8/3/2013 10:30:00 AM

Michelle Garcia

Completed By: **Michelle Garcia**

8/5/2013 9:09:56 AM

Michelle Garcia

Reviewed By:

KMS 8/5/13

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 <input checked="" type="checkbox"/> | No <input type="checkbox"/> | NA <input type="checkbox"/> |
| 5. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | NA <input type="checkbox"/> |
| 6. Sample(s) in proper container(s)? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 7. Sufficient sample volume for indicated test(s)? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 8. Are samples (except VOA and ONG) properly preserved? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 9. Was preservative added to bottles? | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | NA <input type="checkbox"/> |
| 10. VOA vials have zero headspace? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | No VOA Vials <input checked="" type="checkbox"/> |
| 11. Were any sample containers received broken? | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | |
| 12. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 13. Are matrices correctly identified on Chain of Custody? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 14. Is it clear what analyses were requested? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| 15. Were all holding times able to be met?
(If no, notify customer for authorization.) | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
- # of preserved bottles checked for pH: (<2)

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:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:			
Client Instructions:			

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.3	Good	Yes			

Chain-of-Custody Record

Client: BLAGG ENGINEERING INC.
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 512

Project #:

Project Manager:

J. Blagg

Sampler:

J. Blagg

On Site ☒ Yes ☐ No

Sample Temperature: 23

Container Type and #

Preservative Type

HEAL No

1363133

4oz x 1

COOL

-001



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

BTEX + MTBE + THB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / HAP's)	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)
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Date	Time	Matrix	Sample Request ID
<u>8/2/13</u>	<u>0915</u>	<u>SOIL</u>	<u>BGT GRAB @ 4'</u>

Date: 8/2/13 Time: 1400 Relinquished by: Jeff Blagg
Date: 8/2/13 Time: 1530 Relinquished by: Christian Walker

Received by: Christian Walker Date: 8/2/13 Time: 1400
Received by: Christian Walker Date: 8/2/13 Time: 1530

Remarks: BILL BP
PAYKEY: ZEVH01BGT2
CONTACT: JEFF PEACE

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, Inc.

Analytical Report

Lab Order 1310180

Date Reported: 10/14/2013

CLIENT: Blagg Engineering

Client Sample ID: 88' S 59E @ 2'-2.5'

Project: GCU 512

Collection Date: 10/1/2013 2:52:00 PM

Lab ID: 1310180-001

Matrix: SOIL

Received Date: 10/3/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: BCN
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	10/4/2013 9:27:34 PM	9632
Surr: DNOP	95.6	63-147		%REC	1	10/4/2013 9:27:34 PM	9632
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	10/4/2013 7:49:13 PM	9636
Surr: BFB	99.7	80-120		%REC	1	10/4/2013 7:49:13 PM	9636
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.046		mg/Kg	1	10/4/2013 7:49:13 PM	9636
Toluene	ND	0.046		mg/Kg	1	10/4/2013 7:49:13 PM	9636
Ethylbenzene	ND	0.046		mg/Kg	1	10/4/2013 7:49:13 PM	9636
Xylenes, Total	ND	0.092		mg/Kg	1	10/4/2013 7:49:13 PM	9636
Surr: 4-Bromofluorobenzene	109	80-120		%REC	1	10/4/2013 7:49:13 PM	9636
EPA METHOD 300.0: ANIONS							Analyst: JRR
Chloride	33	.15		mg/Kg	1	10/7/2013 11:10:30 AM	9665

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
	S	Spike Recovery outside accepted recovery limits		

Analytical Report

Lab Order 1310180

Date Reported: 10/14/2013

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** Blagg Engineering**Project:** GCU 512**Lab ID:** 1310180-002**Matrix:** SOIL**Client Sample ID:** 88' S 44.5E @ 3'**Collection Date:** 10/1/2013 2:57:00 PM**Received Date:** 10/3/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: BCN
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/4/2013 9:49:31 PM	9632
Surr: DNOP	97.6	63-147		%REC	1	10/4/2013 9:49:31 PM	9632
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	10/4/2013 8:19:31 PM	9636
Surr: BFB	100	80-120		%REC	1	10/4/2013 8:19:31 PM	9636
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.046		mg/Kg	1	10/4/2013 8:19:31 PM	9636
Toluene	ND	0.046		mg/Kg	1	10/4/2013 8:19:31 PM	9636
Ethylbenzene	ND	0.046		mg/Kg	1	10/4/2013 8:19:31 PM	9636
Xylenes, Total	ND	0.092		mg/Kg	1	10/4/2013 8:19:31 PM	9636
Surr: 4-Bromofluorobenzene	109	80-120		%REC	1	10/4/2013 8:19:31 PM	9636
EPA METHOD 300.0: ANIONS							Analyst: JRR
Chloride	3.8	1.5		mg/Kg	1	10/7/2013 11:35:18 AM	9665

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
	S	Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1310180

14-Oct-13

Client: Blagg Engineering

Project: GCU 512

Sample ID	MB-9665	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	9665	RunNo:	13905					
Prep Date:	10/7/2013	Analysis Date:	10/7/2013	SeqNo:	397291	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-9665	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	9665	RunNo:	13905					
Prep Date:	10/7/2013	Analysis Date:	10/7/2013	SeqNo:	397292	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	96.7	90	110			

Sample ID	1310180-002AMS	SampType:	MS	TestCode:	EPA Method 300.0: Anions					
Client ID:	88' S 44.5E @ 3'	Batch ID:	9665	RunNo:	13905					
Prep Date:	10/7/2013	Analysis Date:	10/7/2013	SeqNo:	397296	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	18	1.5	15.00	3.812	93.2	58.8	109			

Sample ID	1310180-002AMSD	SampType:	MSD	TestCode:	EPA Method 300.0: Anions					
Client ID:	88' S 44.5E @ 3'	Batch ID:	9665	RunNo:	13905					
Prep Date:	10/7/2013	Analysis Date:	10/7/2013	SeqNo:	397297	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	18	1.5	15.00	3.812	92.6	58.8	109	0.470	20	

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
S Spike Recovery 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#: 1310180

14-Oct-13

Client: Blagg Engineering

Project: GCU 512

Sample ID	LCS-9632		SampType: LCS		TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 9632		RunNo: 13798					
Prep Date:	10/3/2013		Analysis Date: 10/3/2013		SeqNo: 394361		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	39	10	50.00	0	77.2	77.1	128			
Surr: DNOP	5.4		5.000		108	63	147			

Sample ID	MB-9632		SampType: MBLK		TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 9632		RunNo: 13798					
Prep Date:	10/3/2013		Analysis Date: 10/3/2013		SeqNo: 394539		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		104	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
- S Spike Recovery 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#: 1310180

14-Oct-13

Client: Blagg Engineering

Project: GCU 512

Sample ID	MB-9636	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	9636	RunNo:	13860					
Prep Date:	10/3/2013	Analysis Date:	10/4/2013	SeqNo:	396249	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	1000		1000		102	80	120			

Sample ID	LCS-9636	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	9636	RunNo:	13860					
Prep Date:	10/3/2013	Analysis Date:	10/4/2013	SeqNo:	396250	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	91.5	74.5	126			
Surr: BFB	1100		1000		106	80	120			

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
- S Spike Recovery 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#: 1310180

14-Oct-13

Client: Blagg Engineering

Project: GCU 512

Sample ID	MB-9636	SampType:	MBLK		TestCode:	EPA Method 8021B: Volatiles				
Client ID:	PBS	Batch ID:	9636		RunNo:	13860				
Prep Date:	10/3/2013	Analysis Date:	10/4/2013		SeqNo:	396276	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		115	80	120			

Sample ID	LCS-9636		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS		Batch ID: 9636		RunNo: 13860					
Prep Date:	10/3/2013		Analysis Date: 10/4/2013		SeqNo: 396277		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.050	1.000	0	96.4	80	120			
Toluene	0.97	0.050	1.000	0	96.6	80	120			
Ethylbenzene	0.99	0.050	1.000	0	98.9	80	120			
Xylenes, Total	3.1	0.10	3.000	0	102	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		116	80	120			

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
S Spike Recovery 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
4901 Hawkins NE
Albuquerque, NM 87105
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: BLAGG

Work Order Number: 1310180

RcptNo: 1

Received by/date:

LM

10/03/13

Logged By: Michelle Garcia

10/3/2013 10:00:00 AM

Michelle Garcia

Completed By: Michelle Garcia

10/3/2013 10:24:18 AM

Michelle Garcia

Reviewed By:

[Signature]

10/03/2013

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 $>0^{\circ}\text{C}$ 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 $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes			

Chain-of-Custody Record		Turn-Around Time: <i>By Monday 10/7/2013</i>	
Client: <i>BLAGG ENGINEERING INC.</i>		<input type="checkbox"/> Standard <input checked="" type="checkbox"/> Rush	
<i>BP AMERICA</i>		Project Name:	
Mailing Address: <i>P.O. Box 87</i>		<i>GCU 512</i>	
<i>Bloomfield NM 87413</i>		Project #:	
Phone #: <i>505-632-1199</i>		Project Manager:	
email or Fax#:		<i>J. Blagg</i>	
QA/QC Package:		Sampler: <i>J. Blagg</i>	
<input checked="" type="checkbox"/> Standard <input type="checkbox"/> Level 4 (Full Validation)		On Ice: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Accreditation		Sample Temperature: <i>10</i>	
<input type="checkbox"/> NELAP <input type="checkbox"/> Other _____			
<input type="checkbox"/> EDD (Type) _____			

By Monda
10/7/2013

☐ Standard ☒ Rush

Project Name:

GCU 512

Project #:

Project Manager:

J. Brada

Sampler: I-Blade

On Ice: ☒ Yes ☐ No

Sample Temperature: / °C

[illegible]

Date:	Time:	Relinquished by:	Received by:	Date	Time
10/2/2013	1035	Jff Blegg	Christine Walters	10/2/2013	1035
Date:	Time:	Relinquished by:	Received by:	Date	Time
10/2/13	1800	Christine Walters	[Signature]	10/03/13	1000

Remarks:	Bill Blagg
----------	------------

BP CONTACT: JEFF PEACE



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

	X	X	BTEX + MTBE + THMs 's (8021)
			BTEX + MTBE + TPH (Gas only)
	X	X	TPH 8015B (GRO / DRO / MIBS)
			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)
	X	X	Chloride
			Air Bubbles (Y or N)

Analytical Report

Lab Order 1310437

Date Reported: 10/15/2013

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** Blagg Engineering**Client Sample ID:** 41', S85E @ 4'**Project:** GCU #512**Collection Date:** 10/7/2013 10:40:00 AM**Lab ID:** 1310437-001**Matrix:** SOIL**Received Date:** 10/9/2013 10:00:00 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	10/10/2013 10:10:10 AM	9731
Surr: DNOP	104	63-147		%REC	1	10/10/2013 10:10:10 AM	9731
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/10/2013 2:28:44 PM	9739
Surr: BFB	101	80-120		%REC	1	10/10/2013 2:28:44 PM	9739
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.050		mg/Kg	1	10/10/2013 2:28:44 PM	9739
Toluene	ND	0.050		mg/Kg	1	10/10/2013 2:28:44 PM	9739
Ethylbenzene	ND	0.050		mg/Kg	1	10/10/2013 2:28:44 PM	9739
Xylenes, Total	ND	0.099		mg/Kg	1	10/10/2013 2:28:44 PM	9739
Surr: 4-Bromofluorobenzene	112	80-120		%REC	1	10/10/2013 2:28:44 PM	9739
EPA METHOD 300.0: ANIONS							Analyst: JRR
Chloride	4.5	1.5		mg/Kg	1	10/10/2013 4:57:50 PM	9767

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
	S	Spike Recovery outside accepted recovery limits		

Analytical Report

Lab Order 1310437

Date Reported: 10/15/2013

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Client Sample ID: 18', S6E @ 4'

Project: GCU #512

Collection Date: 10/7/2013 12:02:00 PM

Lab ID: 1310437-002

Matrix: SOIL

Received Date: 10/9/2013 10:00:00 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	10/10/2013 10:41:23 AM	9731
Surr: DNOP	93.3	63-147		%REC	1	10/10/2013 10:41:23 AM	9731
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	10/10/2013 3:59:16 PM	9739
Surr: BFB	102	80-120		%REC	1	10/10/2013 3:59:16 PM	9739
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.049		mg/Kg	1	10/10/2013 3:59:16 PM	9739
Toluene	ND	0.049		mg/Kg	1	10/10/2013 3:59:16 PM	9739
Ethylbenzene	ND	0.049		mg/Kg	1	10/10/2013 3:59:16 PM	9739
Xylenes, Total	ND	0.098		mg/Kg	1	10/10/2013 3:59:16 PM	9739
Surr: 4-Bromofluorobenzene	114	80-120		%REC	1	10/10/2013 3:59:16 PM	9739
EPA METHOD 300.0: ANIONS							Analyst: JRR
Chloride	130	30		mg/Kg	20	10/10/2013 5:35:05 PM	9767

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
	S	Spike Recovery outside accepted recovery limits		

Analytical Report

Lab Order 1310437

Date Reported: 10/15/2013

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** Blagg Engineering**Client Sample ID:** 18', S6E @ 6'**Project:** GCU #512**Collection Date:** 10/7/2013 12:06:00 PM**Lab ID:** 1310437-003**Matrix:** SOIL**Received Date:** 10/9/2013 10:00:00 AM

Analyses	Result	RL	Qual.	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	250	10		mg/Kg	1	10/10/2013 11:12:34 AM	9731
Surr: DNOP	90.0	63-147		%REC	1	10/10/2013 11:12:34 AM	9731
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	1100	95		mg/Kg	20	10/11/2013 12:01:59 AM	9739
Surr: BFB	349	80-120	S	%REC	20	10/11/2013 12:01:59 AM	9739
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.48		mg/Kg	20	10/11/2013 12:01:59 AM	9739
Toluene	1.7	0.95		mg/Kg	20	10/11/2013 12:01:59 AM	9739
Ethylbenzene	7.7	0.95		mg/Kg	20	10/11/2013 12:01:59 AM	9739
Xylenes, Total	67	1.9		mg/Kg	20	10/11/2013 12:01:59 AM	9739
Surr: 4-Bromofluorobenzene	127	80-120	S	%REC	20	10/11/2013 12:01:59 AM	9739
EPA METHOD 300.0: ANIONS							Analyst: JRR
Chloride	ND	15		mg/Kg	10	10/10/2013 6:12:18 PM	9767

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
	S	Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1310437

15-Oct-13

Client: Blagg Engineering

Project: GCU #512

Sample ID	MB-9767	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	9767	RunNo:	14007					
Prep Date:	10/10/2013	Analysis Date:	10/10/2013	SeqNo:	400633	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-9767	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	9767	RunNo:	14007					
Prep Date:	10/10/2013	Analysis Date:	10/10/2013	SeqNo:	400634	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.5	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery 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#: 1310437

15-Oct-13

Client: Blagg Engineering

Project: GCU #512

Sample ID	MB-9731	SampType:	MBLK	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	9731	RunNo:	13967					
Prep Date:	10/9/2013	Analysis Date:	10/10/2013	SeqNo:	399428	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	9.5		10.00		95.0	63	147			

Sample ID	LCS-9731	SampType:	LCS	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	9731	RunNo:	13967					
Prep Date:	10/9/2013	Analysis Date:	10/10/2013	SeqNo:	399503	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	77.1	128			
Surr: DNOP	5.0		5.000		99.2	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
S Spike Recovery 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#: 1310437

15-Oct-13

Client: Blagg Engineering

Project: GCU #512

Sample ID	MB-9739		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBS		Batch ID: 9739		RunNo: 13978					
Prep Date:	10/9/2013		Analysis Date: 10/10/2013		SeqNo: 400097		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	1000		1000		101	80	120			

Sample ID	LCS-9739		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS		Batch ID: 9739		RunNo: 13978					
Prep Date:	10/9/2013		Analysis Date: 10/10/2013		SeqNo: 400098		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	90.2	74.5	126			
Surr: BFB	1100		1000		110	80	120			

Sample ID	1310437-001AMS		SampType: MS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	41', S85E @ 4'		Batch ID: 9739		RunNo: 13978					
Prep Date:	10/9/2013		Analysis Date: 10/10/2013		SeqNo: 400104		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	24.78	0	96.9	76	156			
Surr: BFB	1100		991.1		115	80	120			

Sample ID	1310437-001AMSD		SampType: MSD		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	41', S85E @ 4'		Batch ID: 9739		RunNo: 13978					
Prep Date:	10/9/2013		Analysis Date: 10/10/2013		SeqNo: 400105		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	24.78	0	99.9	76	156	3.05	17.7	
Surr: BFB	1200		991.1		117	80	120	0	0	

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
S Spike Recovery 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#: 1310437

15-Oct-13

Client: Blagg Engineering

Project: GCU #512

Sample ID	MB-9739		SampType:	MBLK		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	PBS		Batch ID:	9739		RunNo:	13978			
Prep Date:	10/9/2013		Analysis Date:	10/10/2013		SeqNo:	400173		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		109	80	120			

Sample ID	LCS-9739		SampType:	LCS		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	LCSS		Batch ID:	9739		RunNo:	13978			
Prep Date:	10/9/2013		Analysis Date:	10/10/2013		SeqNo:	400174		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.050	1.000	0	91.3	80	120			
Toluene	0.93	0.050	1.000	0	92.8	80	120			
Ethylbenzene	0.95	0.050	1.000	0	95.2	80	120			
Xylenes, Total	3.0	0.10	3.000	0	98.7	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		118	80	120			

Sample ID	1310437-002AMS		SampType:	MS		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	18', S6E @ 4'		Batch ID:	9739		RunNo:	13978			
Prep Date:	10/9/2013		Analysis Date:	10/10/2013		SeqNo:	400183		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.92	0.049	0.9823	0	93.3	67.3	145			
Toluene	0.94	0.049	0.9823	0.02106	93.6	66.8	144			
Ethylbenzene	0.97	0.049	0.9823	0.01821	96.7	61.9	153			
Xylenes, Total	3.0	0.098	2.947	0.04616	102	65.8	149			
Surr: 4-Bromofluorobenzene	1.1		0.9823		117	80	120			

Sample ID	1310437-002AMSD		SampType:	MSD		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	18', S6E @ 4'		Batch ID:	9739		RunNo:	13978			
Prep Date:	10/9/2013		Analysis Date:	10/10/2013		SeqNo:	400184		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.049	0.9843	0	97.5	67.3	145	4.53	20	
Toluene	0.98	0.049	0.9843	0.02106	97.0	66.8	144	3.71	20	
Ethylbenzene	1.0	0.049	0.9843	0.01821	102	61.9	153	5.52	20	
Xylenes, Total	3.2	0.098	2.953	0.04616	106	65.8	149	4.16	20	
Surr: 4-Bromofluorobenzene	1.2		0.9843		117	80	120	0	0	

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
- S Spike Recovery 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
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: **1310437**

RcptNo: **1**

Received by/date:	<u>KT 10/09/13</u>		
Logged By:	Anne Thorne	10/9/2013 10:00:00 AM	<i>Anne Thorne</i>
Completed By:	Anne Thorne	10/9/2013	<i>Anne Thorne</i>
Reviewed By:	<u>TO</u>	<u>10/09/13</u>	

Chain of Custody

- | | | | |
|--|---|-----------------------------|---|
| 1. Custody seals intact on sample bottles? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | Not Present <input checked="" type="checkbox"/> |
| 2. Is Chain of Custody complete? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Not Present <input type="checkbox"/> |
| 3. How was the sample delivered? | <u>Courier</u> | | |

Log In

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

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:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> 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			

Analytical Report

Lab Order 1310766

Date Reported: 10/21/2013

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Client Sample ID: 88', S9E@5'

Project: GCU #512

Collection Date: 10/14/2013 1:30:00 PM

Lab ID: 1310766-001

Matrix: SOIL

Received Date: 10/16/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: BCN
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/17/2013 10:05:18 AM	9850
Surr: DNOP	116	63-147		%REC	1	10/17/2013 10:05:18 AM	9850
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	10/17/2013 3:15:49 PM	9871
Surr: BFB	69.2	74.5-129	S	%REC	1	10/17/2013 3:15:49 PM	9871
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.047		mg/Kg	1	10/17/2013 3:15:49 PM	9871
Toluene	ND	0.047		mg/Kg	1	10/17/2013 3:15:49 PM	9871
Ethylbenzene	ND	0.047		mg/Kg	1	10/17/2013 3:15:49 PM	9871
Xylenes, Total	ND	0.094		mg/Kg	1	10/17/2013 3:15:49 PM	9871
Surr: 4-Bromofluorobenzene	72.2	80-120	S	%REC	1	10/17/2013 3:15:49 PM	9871
EPA METHOD 300.0: ANIONS							Analyst: JRR
Chloride	1.8	1.5		mg/Kg	1	10/17/2013 12:32:31 PM	9888

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
	S	Spike Recovery outside accepted recovery limits		

Analytical Report

Lab Order 1310766

Date Reported: 10/21/2013

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** Blagg Engineering**Client Sample ID:** 101', S7W@5'**Project:** GCU #512**Collection Date:** 10/14/2013 1:40:00 PM**Lab ID:** 1310766-002**Matrix:** SOIL**Received Date:** 10/16/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: BCN
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	10/17/2013 10:42:21 AM	9850
Surr: DNOP	105	63-147		%REC	1	10/17/2013 10:42:21 AM	9850
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	10/17/2013 4:41:34 PM	9871
Surr: BFB	75.7	74.5-129		%REC	1	10/17/2013 4:41:34 PM	9871
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.047		mg/Kg	1	10/17/2013 4:41:34 PM	9871
Toluene	ND	0.047		mg/Kg	1	10/17/2013 4:41:34 PM	9871
Ethylbenzene	ND	0.047		mg/Kg	1	10/17/2013 4:41:34 PM	9871
Xylenes, Total	ND	0.095		mg/Kg	1	10/17/2013 4:41:34 PM	9871
Surr: 4-Bromofluorobenzene	82.8	80-120		%REC	1	10/17/2013 4:41:34 PM	9871
EPA METHOD 300.0: ANIONS							Analyst: JRR
Chloride	3.0	1.5		mg/Kg	1	10/17/2013 12:57:20 PM	9888

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
	S	Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1310766

21-Oct-13

Client: Blagg Engineering

Project: GCU #512

Sample ID	MB-9888	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	9888	RunNo:	14185					
Prep Date:	10/17/2013	Analysis Date:	10/17/2013	SeqNo:	406219	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-9888		SampType:	LCS		TestCode:	EPA Method 300.0: Anions				
Client ID:	LCSS		Batch ID:	9888		RunNo:	14185				
Prep Date:	10/17/2013		Analysis Date:	10/17/2013		SeqNo:	406220		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				

Sample ID	1310766-002AMS	SampType:	MS	TestCode:	EPA Method 300.0: Anions					
Client ID:	101', S7W@5'	Batch ID:	9888	RunNo:	14185					
Prep Date:	10/17/2013	Analysis Date:	10/17/2013	SeqNo:	406226	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	17	1.5	15.00	3.034	95.2	58.8	109			

Sample ID	1310766-002AMSD	SampType:	MSD	TestCode:	EPA Method 300.0: Anions					
Client ID:	101', S7W@5'	Batch ID:	9888	RunNo:	14185					
Prep Date:	10/17/2013	Analysis Date:	10/17/2013	SeqNo:	406227	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	17	1.5	15.00	3.034	94.7	58.8	109	0.436	20	

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
- S Spike Recovery 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#: 1310766

21-Oct-13

Client: Blagg Engineering

Project: GCU #512

Sample ID	MB-9850		SampType: MBLK		TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 9850		RunNo: 14112					
Prep Date:	10/16/2013		Analysis Date: 10/16/2013		SeqNo: 404291		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		102	63	147			

Sample ID	LCS-9850		SampType: LCS		TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 9850		RunNo: 14112					
Prep Date:	10/16/2013		Analysis Date: 10/16/2013		SeqNo: 404292		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	50.00	0	91.2	77.1	128			
Surr: DNOP	4.7		5.000		93.9	63	147			

Sample ID	MB-9886		SampType: MBLK		TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 9886		RunNo: 14149					
Prep Date:	10/17/2013		Analysis Date: 10/17/2013		SeqNo: 405466		Units: %REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	10		10.00		100	63	147			

Sample ID	LCS-9886		SampType:	LCS		TestCode:	EPA Method 8015D: Diesel Range Organics				
Client ID:	LCSS		Batch ID:	9886		RunNo:	14149				
Prep Date:	10/17/2013		Analysis Date:	10/17/2013		SeqNo:	405467		Units: %REC		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Surr: DNOP	4.5		5.000		89.3	63	147				

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 |
| S Spike Recovery outside accepted recovery limits | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1310766

21-Oct-13

Client: Blagg Engineering

Project: GCU #512

Sample ID	MB-9871	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	9871	RunNo:	14160					
Prep Date:	10/16/2013	Analysis Date:	10/17/2013	SeqNo:	406096	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	830		1000		82.6	74.5	129			

Sample ID	LCS-9871	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	9871	RunNo:	14160					
Prep Date:	10/16/2013	Analysis Date:	10/17/2013	SeqNo:	406097	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	74.5	126			
Surr: BFB	940		1000		93.6	74.5	129			

Sample ID	1310766-002AMS	SampType:	MS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	101', S7W@5'	Batch ID:	9871	RunNo:	14160					
Prep Date:	10/16/2013	Analysis Date:	10/17/2013	SeqNo:	406104	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	4.8	24.22	0	105	76	156			
Surr: BFB	790		969.0		81.8	74.5	129			

Sample ID	1310766-002AMSD	SampType:	MSD	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	101', S7W@5'	Batch ID:	9871	RunNo:	14160					
Prep Date:	10/16/2013	Analysis Date:	10/17/2013	SeqNo:	406112	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	4.8	24.22	0	106	76	156	0.719	17.7	
Surr: BFB	850		969.0		87.8	74.5	129	0	0	

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
- S Spike Recovery 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#: 1310766

21-Oct-13

Client: Blagg Engineering

Project: GCU #512

Sample ID	MB-9871		SampType:	MBLK		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	PBS		Batch ID:	9871		RunNo:	14160			
Prep Date:	10/16/2013		Analysis Date:	10/17/2013		SeqNo:	406134		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	0.95		1.000		94.9	80	120			

Sample ID	LCS-9871		SampType:	LCS		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	LCSS		Batch ID:	9871		RunNo:	14160			
Prep Date:	10/16/2013		Analysis Date:	10/17/2013		SeqNo:	406135		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.050	1.000	0	96.5	80	120			
Toluene	1.0	0.050	1.000	0	101	80	120			
Ethylbenzene	1.0	0.050	1.000	0	102	80	120			
Xylenes, Total	3.1	0.10	3.000	0	102	80	120			
Surr: 4-Bromofluorobenzene	0.97		1.000		97.3	80	120			

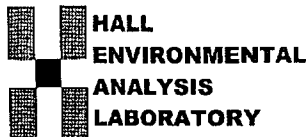
Sample ID	1310766-001AMS		SampType:	MS		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	88', S9E@5'		Batch ID:	9871		RunNo:	14160			
Prep Date:	10/16/2013		Analysis Date:	10/17/2013		SeqNo:	406137		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.89	0.048	0.9515	0	93.2	67.3	145			
Toluene	0.96	0.048	0.9515	0.005473	100	66.8	144			
Ethylbenzene	1.0	0.048	0.9515	0	107	61.9	153			
Xylenes, Total	3.0	0.095	2.854	0	104	65.8	149			
Surr: 4-Bromofluorobenzene	0.83		0.9515		87.7	80	120			

Sample ID	1310766-001AMSD		SampType:	MSD		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	88', S9E@5'		Batch ID:	9871		RunNo:	14160			
Prep Date:	10/16/2013		Analysis Date:	10/17/2013		SeqNo:	406138		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.87	0.048	0.9506	0	91.3	67.3	145	2.11	20	
Toluene	0.93	0.048	0.9506	0.005473	96.8	66.8	144	3.66	20	
Ethylbenzene	0.97	0.048	0.9506	0	102	61.9	153	5.00	20	
Xylenes, Total	2.9	0.095	2.852	0	101	65.8	149	3.03	20	
Surr: 4-Bromofluorobenzene	0.91		0.9506		96.2	80	120	0	0	

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
- S Spike Recovery 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
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: **1310766**

RcptNo: 1

Received by/date:

Logged By: **Ashley Gallegos**

10/16/13
10/16/2013 10:00:00 AM

Completed By: **Ashley Gallegos**

10/16/2013 10:58:20 AM

Reviewed By: **mg**

10/16/13

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 $>0^{\circ}\text{C}$ 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			

[illegible]

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 as the work of

Analytical Report

Lab Order 1310A19

Date Reported: 10/24/2013

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** Blagg Engineering**Client Sample ID:** 25', S33.5W @ 3'**Project:** GCU #512**Collection Date:** 10/18/2013 9:00:00 AM**Lab ID:** 1310A19-001**Matrix:** SOIL**Received Date:** 10/22/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: BCN
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/23/2013 2:56:06 PM	9947
Surr: DNOP	98.7	66-131		%REC	1	10/23/2013 2:56:06 PM	9947
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/23/2013 4:31:05 PM	9958
Surr: BFB	89.3	74.5-129		%REC	1	10/23/2013 4:31:05 PM	9958
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.048		mg/Kg	1	10/23/2013 4:31:05 PM	9958
Toluene	ND	0.048		mg/Kg	1	10/23/2013 4:31:05 PM	9958
Ethylbenzene	ND	0.048		mg/Kg	1	10/23/2013 4:31:05 PM	9958
Xylenes, Total	ND	0.096		mg/Kg	1	10/23/2013 4:31:05 PM	9958
Surr: 4-Bromofluorobenzene	106	80-120		%REC	1	10/23/2013 4:31:05 PM	9958

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
	S	Spike Recovery outside accepted recovery limits		

Analytical Report

Lab Order 1310A19

Date Reported: 10/24/2013

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** Blagg Engineering**Client Sample ID:** 65', S24W @ 5'**Project:** GCU #512**Collection Date:** 10/18/2013 9:10:00 AM**Lab ID:** 1310A19-002**Matrix:** SOIL**Received Date:** 10/22/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: BCN
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/23/2013 3:18:04 PM	9947
Surr: DNOP	101	66-131		%REC	1	10/23/2013 3:18:04 PM	9947
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/23/2013 5:56:41 PM	9958
Surr: BFB	89.3	74.5-129		%REC	1	10/23/2013 5:56:41 PM	9958
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.048		mg/Kg	1	10/23/2013 5:56:41 PM	9958
Toluene	ND	0.048		mg/Kg	1	10/23/2013 5:56:41 PM	9958
Ethylbenzene	ND	0.048		mg/Kg	1	10/23/2013 5:56:41 PM	9958
Xylenes, Total	ND	0.097		mg/Kg	1	10/23/2013 5:56:41 PM	9958
Surr: 4-Bromofluorobenzene	106	80-120		%REC	1	10/23/2013 5:56:41 PM	9958

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
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1310A19

Date Reported: 10/24/2013

CLIENT: Blagg Engineering

Client Sample ID: 96', S25W @ 6'

Project: GCU #512

Collection Date: 10/18/2013 9:30:00 AM

Lab ID: 1310A19-003

Matrix: SOIL

Received Date: 10/22/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: BCN
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/23/2013 3:40:09 PM	9947
Surr: DNOP	98.2	66-131		%REC	1	10/23/2013 3:40:09 PM	9947
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/23/2013 7:22:31 PM	9958
Surr: BFB	92.1	74.5-129		%REC	1	10/23/2013 7:22:31 PM	9958
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.048		mg/Kg	1	10/23/2013 7:22:31 PM	9958
Toluene	ND	0.048		mg/Kg	1	10/23/2013 7:22:31 PM	9958
Ethylbenzene	ND	0.048		mg/Kg	1	10/23/2013 7:22:31 PM	9958
Xylenes, Total	ND	0.096		mg/Kg	1	10/23/2013 7:22:31 PM	9958
Surr: 4-Bromofluorobenzene	111	80-120		%REC	1	10/23/2013 7:22:31 PM	9958

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
	S	Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1310A19

24-Oct-13

Client: Blagg Engineering

Project: GCU #512

Sample ID	MB-9947	SampType:	MBLK	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	9947	RunNo:	14241					
Prep Date:	10/22/2013	Analysis Date:	10/22/2013	SeqNo:	408483	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	9.5		10.00		95.2	66	131			

Sample ID	LCS-9947	SampType:	LCS	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	9947	RunNo:	14241					
Prep Date:	10/22/2013	Analysis Date:	10/22/2013	SeqNo:	408493	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	95.2	77.1	128			
Surr: DNOP	4.5		5.000		89.6	66	131			

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
- S Spike Recovery 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#: 1310A19

24-Oct-13

Client: Blagg Engineering

Project: GCU #512

Sample ID	MB-9958	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	9958	RunNo:	14299					
Prep Date:	10/22/2013	Analysis Date:	10/24/2013	SeqNo:	410310	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		95.6	74.5	129			

Sample ID	LCS-9958	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	9958	RunNo:	14299					
Prep Date:	10/22/2013	Analysis Date:	10/24/2013	SeqNo:	410312	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	98.8	74.5	126			
Surr: BFB	1000		1000		103	74.5	129			

Sample ID	1310A19-001AMS	SampType:	MS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	25', S33.5W @ 3'	Batch ID:	9958	RunNo:	14299					
Prep Date:	10/22/2013	Analysis Date:	10/23/2013	SeqNo:	410314	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	4.8	24.13	0	107	76	156			
Surr: BFB	950		965.3		98.6	74.5	129			

Sample ID	1310A19-001AMSD	SampType:	MSD	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	25', S33.5W @ 3'	Batch ID:	9958	RunNo:	14299					
Prep Date:	10/22/2013	Analysis Date:	10/23/2013	SeqNo:	410315	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	4.8	24.15	0	92.6	76	156	13.9	17.7	
Surr: BFB	930		966.2		96.4	74.5	129	0	0	

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 |
| S Spike Recovery outside accepted recovery limits | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1310A19

24-Oct-13

Client: Blagg Engineering

Project: GCU #512

Sample ID	MB-9958		SampType: MBLK		TestCode: EPA Method 8021B: Volatiles					
Client ID:	PBS		Batch ID: 9958		RunNo: 14299					
Prep Date:	10/22/2013		Analysis Date: 10/24/2013		SeqNo: 410362		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	1.2		1.000		115	80	120			

Sample ID	LCS-9958		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS		Batch ID: 9958		RunNo: 14299					
Prep Date:	10/22/2013		Analysis Date: 10/24/2013		SeqNo: 410363		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.050	1.000	0	94.6	80	120			
Toluene	0.97	0.050	1.000	0	97.4	80	120			
Ethylbenzene	1.0	0.050	1.000	0	99.9	80	120			
Xylenes, Total	3.0	0.10	3.000	0	101	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		121	80	120			S

Sample ID	1310A19-002AMS		SampType: MS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	65', S24W @ 5'		Batch ID: 9958		RunNo: 14299					
Prep Date:	10/22/2013		Analysis Date: 10/23/2013		SeqNo: 410368		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.92	0.049	0.9737	0	94.7	67.3	145			
Toluene	0.98	0.049	0.9737	0.008574	99.9	66.8	144			
Ethylbenzene	1.0	0.049	0.9737	0	104	61.9	153			
Xylenes, Total	3.1	0.097	2.921	0.01188	105	65.8	149			
Surr: 4-Bromofluorobenzene	1.1		0.9737		114	80	120			

Sample ID	1310A19-002AMSD		SampType: MSD		TestCode: EPA Method 8021B: Volatiles					
Client ID:	65', S24W @ 5'		Batch ID: 9958		RunNo: 14299					
Prep Date:	10/22/2013		Analysis Date: 10/23/2013		SeqNo: 410369		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.049	0.9728	0	98.7	67.3	145	4.06	20	
Toluene	1.0	0.049	0.9728	0.008574	104	66.8	144	3.81	20	
Ethylbenzene	1.1	0.049	0.9728	0	108	61.9	153	3.35	20	
Xylenes, Total	3.2	0.097	2.918	0.01188	109	65.8	149	3.32	20	
Surr: 4-Bromofluorobenzene	1.1		0.9728		111	80	120	0	0	

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
S Spike Recovery 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
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: **1310A19**

RcptNo: 1

Received by/date: **LM**

10/22/13

Logged By: **Michelle Garcia**

10/22/2013 10:00:00 AM

Michelle Garcia

Completed By: **Michelle Garcia**

10/22/2013 11:17:37 AM

Michelle Garcia

Reviewed By:

10/22/13

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? | <u>Courier</u> | | |

Log In

- | | | | |
|---|-------|------|--|
| 4. Was an attempt made to cool the samples? | Yes ✓ | No | NA |
| 5. Were all samples received at a temperature of >0° C to 6.0°C | Yes ✓ | No | NA |
| 6. Sample(s) in proper container(s)? | Yes ✓ | No | |
| 7. Sufficient sample volume for indicated test(s)? | Yes ✓ | No | |
| 8. Are samples (except VOA and ONG) properly preserved? | Yes ✓ | No | |
| 9. Was preservative added to bottles? | Yes | No ✓ | NA |
| 10. VOA vials have zero headspace? | Yes | No | No VOA Vials ✓ |
| 11. Were any sample containers received broken? | Yes | No ✓ | # of preserved bottles checked for pH: |
| 12. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) | Yes ✓ | No | (<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			

ש. 100. מוֹטוֹר-אֶלֶקְטְרוֹנִי.

☐ Standard ☒ Rush **72 HR.**

Project Name: _____

GCU # 512

Project #:

Project Manager:

NELSON VELEZ

Sampler: NELSON VELEZ

On Ice: ☒ Yes ☐ No

Sample Temperature: 7.0

Container Type and #	Preservative Type	HEAL No 1310419
-------------------------	----------------------	--------------------

			V	V	BTEX + MTBE + TMB's (8021B)
					BTEX + MTBE + TPH (Gas only)
			V	V	TPH 8015B (GRO / DRO / TMB's) <i>DV</i>
					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)
			V	V	Grab sample
					5 pt. composite sample

Received by:	Date	Time
<i>Christine Wheeler</i>	10/24/13	8:45

Received by:	Date	Time
<i>[Signature]</i>	10/22/13	1000

Send invoice to :

Blagg Engineering, Inc.
P.O. Box 87
Bloomfield, NM 87413

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.