

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

OIL CONS. DIV DIST. 3

MAR 04 2016

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: Ludwick LS 017	Facility Type: Natural gas well

Surface Owner: Federal	Mineral Owner: Federal	API No. 3004509246
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LOCATION OF RELEASE

Unit Letter B	Section 29	Township 30N	Range 10W	Feet from the 790	North/South Line North	Feet from the 1,650	East/West Line East	County: San Juan
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Latitude 36.787893° Longitude -107.903769°

NATURE OF RELEASE

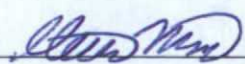

Type of Release: condensate/oil	Volume of Release: 16 bbl condensate; 10 bbl prod. water	Volume Recovered: none
Source of Release: Suspect corrosion 400 bbl production tank	Date and Hour of Occurrence: Unknown	Date and Hour of Discovery: January 14, 2016; 1:30 PM
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? A phone call to Vanessa Fields	
By Whom? Steve Moskal of BP	Date and Hour: 1/15/2016 at 9:05 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 tank gauging, tech found a drop of approximately 11.5" from condensate tank from previous monthly gauging event. Removed contents of tank and filled with fresh, warm water to confirm leak. Hole found near the bottom of the tank. Estimated volumes of loss based on recent gauging data. The tank was removed and inspected. Replacement of the tank will be determined upon analysis of the well production rate.

Describe Area Affected and Cleanup Action Taken.* The area was excavated with contaminated soils exported off site for landfarm treatment. The final excavation area measured 25' x 22' x 30' deep with a total of 430 cubic yards of soil exported off site. Clean soil was imported and used for backfill. Soil samples collected for laboratory analysis demonstrates contaminant levels below the spill and release guidelines based on a site ranking of 10. Siting criteria, a field report and laboratory results are attached.

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

Signature: 	OIL CONSERVATION DIVISION		
Printed Name: Steve Moskal	Approved by Environmental Specialist: 		
Title: Field Environmental Coordinator	Approval Date: 3/8/16	Expiration Date:	
E-mail Address: steven.moskal@bp.com	Conditions of Approval:		Attached <input type="checkbox"/>
Date: February 25, 2016	Phone: 505-326-9497		

* Attach Additional Sheets If Necessary

#NMF 16 0204 1716

30

BP America: Ludwick LS 17
(B) Sec 29 – T30N – R10W
San Juan County, New Mexico
API: 30-045-09246

Summary Record of Impact Remediation

January 14, 2016 A loss of approximately 16 barrels condensate and 10 barrels produced water from the 300 barrel stock tank was discovered during scheduled tank gauging. The source was determined to be a small corrosion hole discovered near the bottom of the tank.

Site NMOCD/BLM closure standard determined at 1,000 ppm TPH based on:

Horizontal Distance to Dry Wash > 200 feet (10 points)
Nearest Water Well (SJ 02782) = 4,081 feet (0 points)
Depth to Groundwater based on SJ 01116 >100 feet (0 points)

February 8, 2016 Begin investigation of impact area using trackhoe. Testholes dug to 20' depth determined impacts travelled vertically to at least 20' sub-grade, but did not traverse laterally more than approximately 13' from the original release point (see TH-2 on site overhead view and lab report).

February 9, 2016 Excavate source area to approximately 25' x 22' x 12' deep. Soil type silty sand.

February 10, 2016 Excavate source area to approximately 25' x 22' x 20' deep. Conduct sidewall and base closure sampling. Witnessed by NMOCD.

February 11, 2016 Receive rush lab results from prior days sampling:

Sample ID	Date/Time	Field OVM	TPH 8015B (DRO+GRO)	BTEX 8021	Chloride	Comments
Base 5-pt @ 20'	2/10/2016 @ 10:10	3,758 ppm	586 mg/Kg	72 mg/Kg	ND	Failed on BTEX
East Wall 3-pt (6'-12'-18')	2/10/2016 @ 10:13	67 ppm	ND	0.07 mg/Kg	ND	Passed
North Wall 3-pt (6'-12'-18')	2/10/2016 @ 10:16	66 ppm	ND	ND	ND	Passed
South Wall 3-pt (6'-12'-18')	2/10/2016 @ 10:20	27 ppm	ND	ND	ND	Passed
West Wall 3-pt (6'-12'-18')	2/10/2016 @ 10:23	16 ppm	ND	ND	32 ppm	Passed
NMOCD/BLM Closure Standard:		NA	1,000 mg/Kg	50 mg/Kg	1,000 mg/Kg	

February 12, 2016 Extend source area excavation to approximately 25' x 22' x 23' deep. Conduct base closure sampling for BTEX. Witnessed by NMOCD.

February 13, 2016 Receive rush lab results from prior days sampling. BTEX tested at 67 mg/Kg (Failed)

February 19, 2016 Extend source area excavation to approximately 25' x 22' x 30' deep. Conduct base closure sampling for BTEX. Witnessed by NMOCD and BLM.

February 22, 2016 Receive rush lab results from prior days sampling. BTEX tested at 39 mg/Kg (Passed).

February 25, 2016 Complete backfilling operations. Total volume transported to JFJ Crouch Mesa Landfarm = 430 cubic yards (Form C-138 Attached).

Ludwick LS 17 Remedial Excavation Closure

Feb 8, 2016:
TH-2
20' OVM = 17.1 20' TPH = 0.0

Feb 10, 2016: North Sidewall
3-pt Composite (6'-12'-18') OVM = 66 ppm
Lab TPH: ND Lab BTEX: ND

Feb 10, 2016: East Sidewall
3-pt Composite (6'-12'-18') OVM = 67 ppm
Lab TPH: ND Lab BTEX: 0.07 ppm

Feb 19, 2016:
Excavation at time of closure sampling:
25' x 22' x 30' Deep

Feb 10, 2016: South Sidewall
3-pt Composite (6'-12'-18') OVM = 27 ppm
Lab TPH: ND Lab BTEX: ND

Feb 10, 2016: West Sidewall
3-pt Composite (6'-12'-18') OVM = 16 ppm
Lab TPH: ND Lab BTEX: ND

Feb 10, 2016:
Base 5-pt Composite @ 21' OVM = 3,758 ppm:
Lab TPH: 586 ppm Lab BTEX: 72 ppm

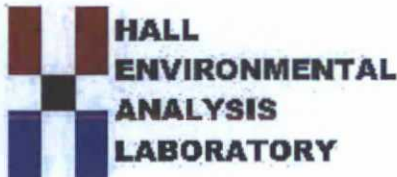
Feb 12, 2016:
Base 5-pt Composite @ 24' OVM = 4,688 ppm:
Lab BTEX: 67 ppm

Feb 19, 2016:
Base 5-pt Composite @ 31' OVM = 5,235 ppm:
Lab BTEX: 39 ppm

Google earth

40 ft

N



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

February 11, 2016

Jeff Blagg

Blagg Engineering

P. O. Box 87

Bloomfield, NM 87413

TEL: (505) 632-1199

FAX (505) 632-3903

RE: Ludwick LS 17

OrderNo.: 1602288

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory received 3 sample(s) on 2/9/2016 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Client Sample ID: TH-2 @ 20'

Project: Ludwick LS 17

Collection Date: 2/8/2016 1:51:00 PM

Lab ID: 1602288-003

Matrix: SOIL

Received Date: 2/9/2016 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	30	30		mg/Kg	20	2/9/2016 12:17:37 PM	23636
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	2/9/2016 11:28:58 AM	23629
Surr: DNOP	112	70-130		%Rec	1	2/9/2016 11:28:58 AM	23629
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.2		mg/Kg	1	2/9/2016 11:01:03 AM	23618
Surr: BFB	94.4	66.2-112		%Rec	1	2/9/2016 11:01:03 AM	23618
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.042		mg/Kg	1	2/9/2016 11:01:03 AM	23618
Toluene	ND	0.042		mg/Kg	1	2/9/2016 11:01:03 AM	23618
Ethylbenzene	ND	0.042		mg/Kg	1	2/9/2016 11:01:03 AM	23618
Xylenes, Total	ND	0.084		mg/Kg	1	2/9/2016 11:01:03 AM	23618
Surr: 4-Bromofluorobenzene	113	80-120		%Rec	1	2/9/2016 11:01:03 AM	23618

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1602288

11-Feb-16

Client: Blagg Engineering

Project: Ludwick LS 17

Sample ID	MB-23636	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	23636	RunNo:	32042					
Prep Date:	2/9/2016	Analysis Date:	2/9/2016	SeqNo:	979848	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-23636	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	23636	RunNo:	32042					
Prep Date:	2/9/2016	Analysis Date:	2/9/2016	SeqNo:	979849	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	97.2	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1602288

11-Feb-16

Client: Blagg Engineering

Project: Ludwick LS 17

Sample ID	MB-23622	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	23622	RunNo:	32003					
Prep Date:	2/8/2016	Analysis Date:	2/9/2016	SeqNo:	978603	Units:	%Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	11		10.00		109	70	130			

Sample ID	MB-23629	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	23629	RunNo:	32003					
Prep Date:	2/9/2016	Analysis Date:	2/9/2016	SeqNo:	978604	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	11		10.00		108	70	130			

Sample ID	LCS-23622	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	23622	RunNo:	32003					
Prep Date:	2/8/2016	Analysis Date:	2/9/2016	SeqNo:	978605	Units:	%Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.9		5.000		98.5	70	130			

Sample ID	LCS-23629	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	23629	RunNo:	32003					
Prep Date:	2/9/2016	Analysis Date:	2/9/2016	SeqNo:	978606	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	10	50.00	0	89.7	65.8	136			
Surr: DNOP	4.8		5.000		96.0	70	130			

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
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1602288

11-Feb-16

Client: Blagg Engineering

Project: Ludwick LS 17

Sample ID	MB-23618	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	23618	RunNo:	32007					
Prep Date:	2/8/2016	Analysis Date:	2/9/2016	SeqNo:	979137	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	920		1000		91.7	66.2	112			

Sample ID	LCS-23618	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	23618	RunNo:	32007					
Prep Date:	2/8/2016	Analysis Date:	2/9/2016	SeqNo:	979138	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	89.9	79.6	122			
Surr: BFB	990		1000		99.3	66.2	112			

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
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1602288

11-Feb-16

Client: Blagg Engineering

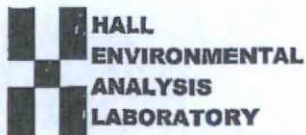
Project: Ludwick LS 17

Sample ID	MB-23618	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	23618	RunNo:	32007					
Prep Date:	2/8/2016	Analysis Date:	2/9/2016	SeqNo:	979144	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		108	80	120			

Sample ID	LCS-23618	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	23618	RunNo:	32007					
Prep Date:	2/8/2016	Analysis Date:	2/9/2016	SeqNo:	979145	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.92	0.050	1.000	0	91.9	80	120			
Toluene	0.97	0.050	1.000	0	96.6	80	120			
Ethylbenzene	0.98	0.050	1.000	0	97.7	80	120			
Xylenes, Total	3.0	0.10	3.000	0	99.7	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		118	80	120			

Qualifiers:

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



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

Sample Log-In Check List

Client Name: **BLAGG**

Work Order Number: **1602288**

RcptNo: **1**

Received by/date: A 02/09/16

Logged By: **Anne Thorne**

2/9/2016 7:15:00 AM

Anne Thorne

Completed By: **Anne Thorne**

2/9/2016

Anne Thorne

Reviewed By: *[Signature]*

2/9/16

Chain of Custody

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

Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of $>0^{\circ}\text{C}$ 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	1.4	Good	Yes			



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

February 12, 2016

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

RE: Ludwick LS 17

OrderNo.: 1602475

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory received 5 sample(s) on 2/11/2016 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Project: Ludwick LS 17

Lab ID: 1602475-001

Matrix: SOIL

Client Sample ID: BASE 5-pt @ 21'

Collection Date: 2/10/2016 10:10:00 AM

Received Date: 2/11/2016 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	ND	30		mg/Kg	20	2/11/2016 11:26:03 AM	23693
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	76	10		mg/Kg	1	2/11/2016 10:42:38 AM	23678
Surr: DNOP	85.9	70-130		%Rec	1	2/11/2016 10:42:38 AM	23678
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	510	77		mg/Kg	20	2/11/2016 12:03:32 PM	A32073
Surr: BFB	147	66.2-112	S	%Rec	20	2/11/2016 12:03:32 PM	A32073
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	0.49	0.39		mg/Kg	20	2/11/2016 12:03:32 PM	B32073
Toluene	16	0.77		mg/Kg	20	2/11/2016 12:03:32 PM	B32073
Ethylbenzene	3.7	0.77		mg/Kg	20	2/11/2016 12:03:32 PM	B32073
Xylenes, Total	52	1.5		mg/Kg	20	2/11/2016 12:03:32 PM	B32073
Surr: 4-Bromofluorobenzene	131	80-120	S	%Rec	20	2/11/2016 12:03:32 PM	B32073

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

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Client Sample ID: EAST 3-pt (6'-12'-18')

Project: Ludwick LS 17

Collection Date: 2/10/2016 10:13:00 AM

Lab ID: 1602475-002

Matrix: SOIL

Received Date: 2/11/2016 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	ND	30		mg/Kg	20	2/11/2016 11:38:27 AM	23693
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	2/11/2016 11:04:23 AM	23678
Surr: DNOP	85.8	70-130		%Rec	1	2/11/2016 11:04:23 AM	23678
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.6		mg/Kg	1	2/11/2016 10:29:30 AM	A32073
Surr: BFB	99.9	66.2-112		%Rec	1	2/11/2016 10:29:30 AM	A32073
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.036		mg/Kg	1	2/11/2016 10:29:30 AM	B32073
Toluene	0.069	0.036		mg/Kg	1	2/11/2016 10:29:30 AM	B32073
Ethylbenzene	ND	0.036		mg/Kg	1	2/11/2016 10:29:30 AM	B32073
Xylenes, Total	ND	0.073		mg/Kg	1	2/11/2016 10:29:30 AM	B32073
Surr: 4-Bromofluorobenzene	122	80-120	S	%Rec	1	2/11/2016 10:29:30 AM	B32073

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

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Ludwick LS 17
Lab ID: 1602475-003

Matrix: SOIL

Client Sample ID: NORTH 3-pt (6'-12'-18")
Collection Date: 2/10/2016 10:16:00 AM
Received Date: 2/11/2016 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	ND	30		mg/Kg	20	2/11/2016 11:50:52 AM	23693
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	2/11/2016 11:26:17 AM	23678
Surr: DNOP	86.8	70-130		%Rec	1	2/11/2016 11:26:17 AM	23678
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.0		mg/Kg	1	2/11/2016 10:52:57 AM	A32073
Surr: BFB	95.6	66.2-112		%Rec	1	2/11/2016 10:52:57 AM	A32073
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.040		mg/Kg	1	2/11/2016 10:52:57 AM	B32073
Toluene	ND	0.040		mg/Kg	1	2/11/2016 10:52:57 AM	B32073
Ethylbenzene	ND	0.040		mg/Kg	1	2/11/2016 10:52:57 AM	B32073
Xylenes, Total	ND	0.080		mg/Kg	1	2/11/2016 10:52:57 AM	B32073
Surr: 4-Bromofluorobenzene	114	80-120		%Rec	1	2/11/2016 10:52:57 AM	B32073

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

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

Analytical Report

Lab Order 1602475

Date Reported: 2/12/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Client Sample ID: SOUTH 3-pt (6'-12'-18')

Project: Ludwick LS 17

Collection Date: 2/10/2016 10:20:00 AM

Lab ID: 1602475-004

Matrix: SOIL

Received Date: 2/11/2016 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	ND	30		mg/Kg	20	2/11/2016 12:03:17 PM	23693
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	2/11/2016 11:47:56 AM	23678
Surr: DNOP	86.4	70-130		%Rec	1	2/11/2016 11:47:56 AM	23678
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.8		mg/Kg	1	2/11/2016 11:16:34 AM	A32073
Surr: BFB	98.9	66.2-112		%Rec	1	2/11/2016 11:16:34 AM	A32073
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.038		mg/Kg	1	2/11/2016 11:16:34 AM	B32073
Toluene	ND	0.038		mg/Kg	1	2/11/2016 11:16:34 AM	B32073
Ethylbenzene	ND	0.038		mg/Kg	1	2/11/2016 11:16:34 AM	B32073
Xylenes, Total	ND	0.077		mg/Kg	1	2/11/2016 11:16:34 AM	B32073
Surr: 4-Bromofluorobenzene	118	80-120		%Rec	1	2/11/2016 11:16:34 AM	B32073

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

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
 Project: Ludwick LS 17
 Lab ID: 1602475-005

Matrix: SOIL

Client Sample ID: WEST 3-pt (6'-12'-18')
 Collection Date: 2/10/2016 10:23:00 AM
 Received Date: 2/11/2016 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	32	30		mg/Kg	20	2/11/2016 12:15:42 PM	23693
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	2/11/2016 12:09:41 PM	23678
Surr: DNOP	88.5	70-130		%Rec	1	2/11/2016 12:09:41 PM	23678
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.7		mg/Kg	1	2/11/2016 11:40:05 AM	A32073
Surr: BFB	98.2	66.2-112		%Rec	1	2/11/2016 11:40:05 AM	A32073
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.037		mg/Kg	1	2/11/2016 11:40:05 AM	B32073
Toluene	ND	0.037		mg/Kg	1	2/11/2016 11:40:05 AM	B32073
Ethylbenzene	ND	0.037		mg/Kg	1	2/11/2016 11:40:05 AM	B32073
Xylenes, Total	ND	0.074		mg/Kg	1	2/11/2016 11:40:05 AM	B32073
Surr: 4-Bromofluorobenzene	115	80-120		%Rec	1	2/11/2016 11:40:05 AM	B32073

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1602475

12-Feb-16

Client: Blagg Engineering

Project: Ludwick LS 17

Sample ID	MB-23693	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	23693	RunNo:	32092					
Prep Date:	2/11/2016	Analysis Date:	2/11/2016	SeqNo:	981104	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-23693	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	23693	RunNo:	32092					
Prep Date:	2/11/2016	Analysis Date:	2/11/2016	SeqNo:	981105	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	97.3	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1602475

12-Feb-16

Client: Blagg Engineering

Project: Ludwick LS 17

Sample ID	MB-23678		SampType:	MBLK		TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	PBS		Batch ID:	23678		RunNo:	32069				
Prep Date:	2/11/2016		Analysis Date:	2/11/2016		SeqNo:	980364		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	9.2		10.00		91.8	70	130				

Sample ID	LCS-23678		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 23678		RunNo: 32069					
Prep Date:	2/11/2016		Analysis Date: 2/11/2016		SeqNo: 980365		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	10	50.00	0	86.2	65.8	136			
Surr: DNOP	4.1		5.000		82.1	70	130			

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
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1602475

12-Feb-16

Client: Blagg Engineering

Project: Ludwick LS 17

Sample ID	5ML RB	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	A32073	RunNo:	32073					
Prep Date:		Analysis Date:	2/11/2016	SeqNo:	980782	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		93.6	66.2	112			

Sample ID	2.5UG GRO LCS	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	A32073	RunNo:	32073					
Prep Date:		Analysis Date:	2/11/2016	SeqNo:	980783	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	104	79.6	122			
Surr: BFB	1000		1000		104	66.2	112			

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
W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1602475

12-Feb-16

Client: Blagg Engineering

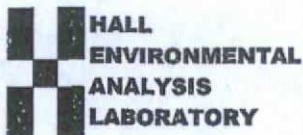
Project: Ludwick LS 17

Sample ID	5ML RB	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	B32073	RunNo:	32073					
Prep Date:		Analysis Date:	2/11/2016	SeqNo:	980788	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		111	80	120			

Sample ID	100NG BTEX LCS	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	B32073	RunNo:	32073					
Prep Date:		Analysis Date:	2/11/2016	SeqNo:	980789	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	101	80	120			
Toluene	1.0	0.050	1.000	0	101	80	120			
Ethylbenzene	1.0	0.050	1.000	0	101	80	120			
Xylenes, Total	3.0	0.10	3.000	0	101	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		118	80	120			

Qualifiers:

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



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

Sample Log-In Check List

Client Name: **BLAGG**

Work Order Number: **1602475**

RcptNo: **1**

Received by/date: JA 02/11/16

Logged By: **Anne Thorne**

2/11/2016 8:00:00 AM

Anne Thorne

Completed By: **Anne Thorne**

2/11/2016

Anne Thorne

Reviewed By: *[Signature]*

2/21/16

Chain of Custody

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

Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of $>0^{\circ}\text{C}$ 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:	<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 $^{\circ}\text{C}$	Condition	Seal Intact	Seal No.	Seal Date	Signed By.
1	1.0	Good	Yes			



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

February 23, 2016

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

RE: Ludwick LS 17

OrderNo.: 1602863

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory received 1 sample(s) on 2/20/2016 for the analyses presented in the following report.

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

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

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

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report

Lab Order 1602863

Date Reported: 2/23/2016

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** Blagg Engineering**Client Sample ID:** 5 pt @ 31'**Project:** Ludwick LS 17**Collection Date:** 2/19/2016 1:20:00 PM**Lab ID:** 1602863-001**Matrix:****Received Date:** 2/20/2016 11:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.26		mg/Kg	20	2/22/2016 12:02:51 PM	23846
Toluene	5.9	0.51		mg/Kg	20	2/22/2016 12:02:51 PM	23846
Ethylbenzene	2.1	0.51		mg/Kg	20	2/22/2016 12:02:51 PM	23846
Xylenes, Total	31	1.0		mg/Kg	20	2/22/2016 12:02:51 PM	23846
Surr: 4-Bromofluorobenzene	127	80-120	S	%Rec	20	2/22/2016 12:02:51 PM	23846

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1602863

23-Feb-16

Client: Blagg Engineering

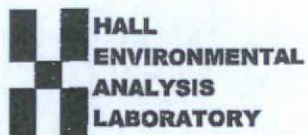
Project: Ludwick LS 17

Sample ID	MB-23846	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	23846	RunNo:	32301					
Prep Date:	2/19/2016	Analysis Date:	2/22/2016	SeqNo:	987873	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		114	80	120			

Sample ID	LCS-23846	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	23846	RunNo:	32301					
Prep Date:	2/19/2016	Analysis Date:	2/22/2016	SeqNo:	987880	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	101	80	120			
Toluene	1.0	0.050	1.000	0	104	80	120			
Ethylbenzene	1.0	0.050	1.000	0	103	80	120			
Xylenes, Total	3.1	0.10	3.000	0	104	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		116	80	120			

Qualifiers:

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



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

Sample Log-In Check List

Client Name: **BLAGG**

Work Order Number: **1602863**

RcptNo: **1**

Received by/date: LM 02/20/16

Logged By: **Anne Thorne** 2/20/2016 11:15:00 AM

Anne Thorne

Completed By: **Anne Thorne** 2/22/2016

Anne Thorne

Reviewed By: *JA*

02/22/16

Chain of Custody

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

Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of $>0^{\circ}\text{C}$ 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	1.6	Good	Yes			

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.

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-138
Revised August 1, 2011

*Surface Waste Management Facility Operator
and Generator shall maintain and make this
documentation available for Division inspection.

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address: BP America Production Co. 200 Energy Ct. Farmington, NM 87401	
2. Originating Site: Ludwick LS 017 Paykey: VHIXONEVRM	
3. Location of Material (Street Address, City, State or ULSTR): QRT/QRT: NW/NE Unit: B Section: 29 T30N R10W	
4. Source and Description of Waste: Hydrocarbon Impacted Soils	
Estimated Volume 200 yd ³ / bbls	Known Volume (to be entered by the operator at the end of the haul) 80 yd ³ / bbls
5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS I, Steve Moskal, representative or authorized agent for BP America Production Company do hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification) <input checked="" type="checkbox"/> RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with other waste. <input type="checkbox"/> RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste as determined by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR 261.61, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous (Check the appropriate items) <input type="checkbox"/> MSDS Information <input type="checkbox"/> RCRA Hazardous Waste Analysis <input checked="" type="checkbox"/> Process Knowledge <input type="checkbox"/> Other (Provide description of waste) GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARM Steve Moskal, representative for BP America Production Company authorize Envirotech to perform the required testing/sign the Generator Waste Testing Certification. I, H. Selph, representative for IET do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and the results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.	
5. Transporter: Crossfire	

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: Industrial Ecosystems Inc., JFJ Waste Management Facility (JFJ), Permit NM-01-0010B

Address of Facility: #49 CR 3150 Aztec, NM

Method of Treatment and/or Disposal:

☐ Evaporation ☐ Injection ☐ Treating Plant ☒ Landfarm ☐ Landfill ☐ Other

Waste Acceptance Status:

☒ APPROVED

☐ DENIED (Must Be Maintained As Permanent Record)

PRINT NAME: H. Selph

TITLE: Clerk

DATE: 2/9/16

SIGNATURE: H. Selph
Surface Waste Management Facility Authorized Agent

TELEPHONE NO.: 632-1782