NM2 - \_\_\_3\_\_\_

# MONITORING REPORTS YEAR(S):

2015 - 2018\_\_\_\_

## Jones, Brad A., EMNRD

From: Herrera

Herrera, Roxana < ROXANA.HERRERA@bp.com>

Sent: Sunday, November 29, 2015 2:17 PM

**To:** Jones, Brad A., EMNRD

Cc: Sitomer, Gabrielle; Steinle, Kirk M; Moskal, Steven

**Subject:** 2015 Annual Treatment Zone Monitoring - Permit NM-02-0003

Attachments: Crouch Mesa\_Nov\_2015\_Final\_\_V2\_Signed (2).pdf; BP 2015 Annual Report Cover ltr.pdf

### Brad:

Attached is the BP 2015 Annual Treatment Zone Monitoring Report for the Crouch Mesa Waste Management Facility, Permit NM-02-0003. We are also mailing a hard copy of the attached documents. Should you have questions or comments, please contact me.

Respectfully,

Roxana

### Roxana Herrera

Water / Waste SME BP Lower 48 Onshore 737 N. Eldridge Parkway Houston TX 77079 Office: 281-366-7305

Cell: 713-416-3390 roxana.herrera@bp.com



November 30, 2015

### Via Email and U.S. Mail

Mr. Brad Jones
Environmental Engineer
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87505
Email: brad.a.jones@state.nm.us

Re: BP America Production Company,

Permit NM-02-0003 Crouch Mesa Waste Management Facility

2015 Annual Report on Treatment Zone Monitoring

Dear Mr. Jones:

BP America Production Company is submitting the 2015 Annual Treatment Zone Monitoring Report for the above referenced facility pursuant to the November 25, 1998 issued Permit NM-02-0003. Sampling was conducted by Blagg Engineering, Inc. and represents the period of December 1, 2014 through November 30, 2015. The report and analytical test results attached to his cover letter indicate that the facility met the applicable action levels in each of the four sampling events.

Should you have questions or comments concerning this report, please contact me at (281) 366 -7305.

Respectfully,

Roxana Herrera Water / Waste SME

**BP America Production Company** 

Cc: Steve Moskal, Field Environmental Coordinator; Kirk Steinle, Area Operations Env. Team Lead; Gabrielle Sitomer, Lead Counsel - HSSE

Enclosures

# BLAGG ENGINEERING, INC.

P.O. Box 87, Bloomfield, New Mexico 87413 Phone: (505)632-1199 Fax: (505)632-3903

November 25, 2015

Roxana Herrera BP America Production Co. 737 N. Eldridge Parkway Houston, TX 77079

Re: BP America Production Company

Crouch Mesa Waste Management Facility, Permit NM-02-003

2015 Annual Report on Treatment Zone Monitoring

Dear Ms. Herrera:

On behalf of BP America Production Company, Blagg Engineering, Inc. (BEI) conducted 2015 annual treatment zone monitoring at the Crouch Mesa Waste Management Facility pursuant to Permit NM-02-003, dated November 25, 1998. This report is for the December 1, 2014 through November 30, 2015 reporting period. Analytical test results (attached) indicate the facility met standards with each sample event.

The landfarm is presently configured into three (3) active cells, identified as Cell 1, Cell 2 and Cell 5 (Figure 1). Cell 5 is used for storage of remediated soils only. The northeast portion of the facility (identified as 'unused cell') is used for equipment, materials, remediated soils storage and unused compost media storage.

Sampling protocol specifies collection of subsurface samples in each cell from the native ground surface below the treatment zone at a depth of between 2' - 3' during quarterly monitoring. Quarterly test procedures include total petroleum hydrocarbons (TPH), chloride and benzene, toluene, ethyl-benzene and xylenes (BTEX). Heavy metals and major cations/anions are to be collected for at least one quarterly sample event. During this reporting period, metals and cations/anions were tested on the November 3, 2015 sample event.

Questions or comments concerning the this transmittal may be directed to myself at (505)320-1183.

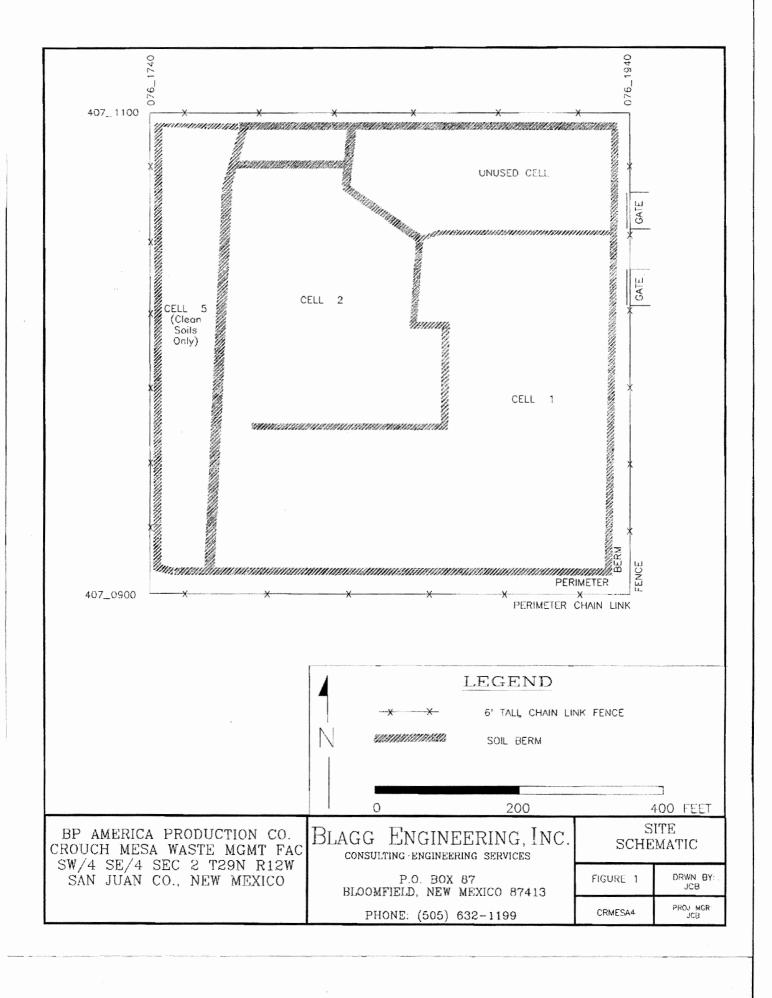
Respectfully submitted: Blagg Engineering, Inc.

Jeffrey C Blagg, PE Digitally signed by Jeffrey C Blagg, PE DN: cn=Jeffrey C Blagg, PE, o, ou, email=jeffcblagg@aol.com, c=US Date: 2015.11.25 13:59:19 -07'00'

Jeffrey C. Blagg, P.E. President

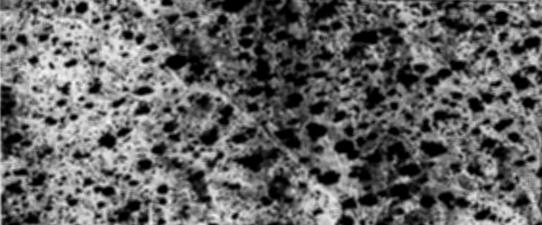
Attachments: Site Diagrams for each Sample Event (2/2/15, 6/29/15, 9/30/15, 11/3/15)

Soil Treatment Zone Laboratory Monitoring Reports















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

OrderNo.: 1502135

February 10, 2015

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

TEL: (505) 320-1183 FAX (505) 632-3903

RE: Crouch Mesa LF

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory received 3 sample(s) on 2/4/2015 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 <a href="www.hallenvironmental.com">www.hallenvironmental.com</a> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

Andy Freeman

Laboratory Manager

andy

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order 1502135

Date Reported: 2/10/2015

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample 1D: Cell 1

Project: Crouch Mesa LF

Collection Date: 2/2/2015 7:20:00 AM

Lab ID: 1502135-001

Matrix: SOIL

Received Date: 2/4/2015 8:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS				Analys	t: <b>JME</b>
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	2/6/2015 3:59:08 PM	17564
Surr: DNOP	80.3	63.5-128	%REC	1	2/6/2015 3:59:08 PM	17564
EPA METHOD 8015D: GASOLINE RA	NGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	2/5/2015 9:41:22 PM	17567
Surr: BFB	100	80-120	%REC	1	2/5/2015 9:41:22 PM	17567
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.048	mg/Kg	1	2/5/2015 9:41:22 PM	17567
Toluene	ND	0.048	mg/Kg	1	2/5/2015 9:41:22 PM	17567
Ethylbenzene	ND	0.048	mg/Kg	1	2/5/2015 9:41:22 PM	17567
Xylenes, Total	ND	0.095	mg/Kg	1	2/5/2015 9:41:22 PM	17567
Surr: 4-Bromofluorobenzene	117	80-120	%REC	1	2/5/2015 9:41:22 PM	17567
EPA METHOD 300.0: ANIONS					Analys	t: <b>LGT</b>
Chloride	ND	1.5	mg/Kg	1	2/6/2015 11:21:47 AM	17607

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

- 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
- Page 1 of 7
- P Sample pH greater than 2. RL Reporting Detection Limit

# Lab Order 1502135

Date Reported: 2/10/2015

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering Client Sample ID: Cell 2

 Project:
 Crouch Mesa LF
 Collection Date: 2/2/2015 7:50:00 AM

 Lab ID:
 1502135-002
 Matrix: SOIL
 Received Date: 2/4/2015 8:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	E ORGANICS				Analys	t: <b>JME</b>
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	2/6/2015 4:20:50 PM	17564
Surr: DNOP	71.4	63.5-128	%REC	1	2/6/2015 4:20:50 PM	17564
EPA METHOD 8015D: GASOLINE RA	NGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	2/5/2015 10:10:03 PM	17567
Surr: BFB	99.7	80-120	%REC	1	2/5/2015 10:10:03 PM	17567
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.049	mg/Kg	1	2/5/2015 10:10:03 PM	17567
Toluene	ND	0.049	mg/Kg	1	2/5/2015 10:10:03 PM	17567
Ethylbenzene	ND	0.049	mg/Kg	1	2/5/2015 10:10:03 PM	17567
Xylenes, Total	ND	0.098	mg/Kg	1	2/5/2015 10:10:03 PM	17567
Surr: 4-Bromofluorobenzene	114	80-120	%REC	1	2/5/2015 10:10:03 PM	17567
EPA METHOD 300.0: ANIONS					Analys	t: <b>LGT</b>
Chloride	ND	1.5	mg/Kg	1	2/6/2015 12:11:25 PM	17607

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

### 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

Page 2 of 7

- P Sample pH greater than 2.
- RL Reporting Detection Limit

### Lab Order 1502135

Date Reported: 2/10/2015

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: Cell 5

Project: Crouch Mesa LF

**Collection Date:** 2/2/2015 8:20:00 AM

Lab ID: 1502135-003

Matrix: SOIL

Received Date: 2/4/2015 8:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE	ORGANICS	-			Analys	t: JME
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	2/6/2015 4:42:40 PM	17564
Surr: DNOP	87.0	63.5-128	%REC	1	2/6/2015 4:42:40 PM	17564
EPA METHOD 8015D: GASOLINE RANG	GE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	2/5/2015 10:38:46 PM	17567
Surr: BFB	99.7	80-120	%REC	1	2/5/2015 10:38:46 PM	17567
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.047	mg/Kg	1	2/5/2015 10:38:46 PM	17567
Toluene	ND	0.047	mg/Kg	1	2/5/2015 10:38:46 PM	17567
Ethylbenzene	ND	0.047	mg/Kg	1	2/5/2015 10:38:46 PM	17567
Xylenes, Total	ND	0.094	mg/Kg	1	2/5/2015 10:38:46 PM	17567
Surr: 4-Bromofluorobenzene	114	80-120	%REC	1	2/5/2015 10:38:46 PM	17567
EPA METHOD 300.0: ANIONS					Analys	t: LGT
Chloride	ND	1.5	mg/Kg	1	2/6/2015 1:01:04 PM	17607

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

### 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

Page 3 of 7

- P Sample pH greater than 2.
- RL Reporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1502135

10-Feb-15

Client:

Blagg Engineering

Project:

Crouch Mesa LF

Sample ID MB-17607

SampType: MBLK

TestCode: EPA Method 300.0: Anions

Client ID:

PBS

Batch ID: 17607

Result

RunNo: 24171

Prep Date: 2/6/2015

Analysis Date: 2/6/2015

SeqNo: 712654

Units: mg/Kg

Analyte

SPK value SPK Ref Val %REC LowLimit

HighLimit

%RPD **RPDLimit**  Qual

Chloride

1.5

Sample ID LCS-17607

SampType: LCS

14

RunNo: 24171

TestCode: EPA Method 300.0: Anions

Client ID: LCSS

Prep Date: 2/6/2015

Batch ID: 17607

SeqNo: 712655

Units: mg/Kg

**RPDLimit** %RPD

Analyte

Analysis Date: 2/6/2015

**PQL** 

SPK value SPK Ref Val

0

%REC LowLimit 93.6

90

HighLimit 110

Chloride

Result

1.5

15.00

Qual

Qualifiers:

Value exceeds Maximum Contaminant Level.

Value above quantitation range Е

Analyte detected below quantitation limits

0 RSD is greater than RSDlimit

R RPD outside accepted recovery limits

Spike Recovery outside accepted recovery limits

Analyte detected in the associated Method Blank В

Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Sample pH greater than 2.

Reporting Detection Limit

Page 4 of 7

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1502135

10-Feb-15

Client:

Blagg Engineering

Project:

Crouch Mesa LF

Sample ID MB-17564	Samp	ype: ME	BLK	Tes	tCode: El	PA Method	8015D: Dies	el Range (	Organics	
Client ID: PBS	Batcl	h ID: 17	564	F	RunNo: 2	4136				
Prep Date: 2/4/2015	Analysis [	Date: 2/	6/2015	8	SeqNo: 7	12630	Units: mg/F	ζg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	9.0		10.00		89.7	63.5	128			
Sample ID LCS-17564	Samp	ype: LC	s	Tes	tCode: El	PA Method	8015D: Dies	el Range (	Organics	
Client ID: LCSS	Batcl	h ID: 17	564	F	RunNo: 2	4136				
Prep Date: 2/4/2015	Analysis [	Date: <b>2</b> /	6/2015	8	SeqNo: 7	12631	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	10	50.00	0	97.8	67.8	130			
• • • • •										

### 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.
- RL Reporting Detection Limit

Page 5 of 7

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1502135

10-Feb-15

**Client:** 

Blagg Engineering

**Project:** 

Crouch Mesa LF

Sample ID MB-17567

SampType: MBLK

TestCode: EPA Method 8015D: Gasoline Range

Client ID: PBS

Batch ID: 17567

RunNo: 24122

Prep Date: 2/4/2015

Analysis Date: 2/5/2015

SPK value SPK Ref Val

SPK value SPK Ref Val

SegNo: 711439

Units: mg/Kg

Analyte

Result ND

5.0

%REC LowLimit HighLimit %RPD

**RPDLimit** 

Qual

Qual

Gasoline Range Organics (GRO)

Surr: BFB

940

1000

94.1

80 120

Sample ID LCS-17567

SampType: LCS

Batch ID: 17567

TestCode: EPA Method 8015D: Gasoline Range

RunNo: 24122

LowLimit

Prep Date: 2/4/2015 Analyte

Client ID: LCSS

Analysis Date: 2/5/2015

PQL

**PQL** 

SeqNo: 711440 %REC

Units: mg/Kg

%RPD **RPDLimit** 

Gasoline Range Organics (GRO)

Result 26

5.0 25.00 105

64

HighLimit 130

Surr: BFB

1100

1000

106

80 120

# Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- Analyte detected below quantitation limits J
- O RSD is greater than RSDImit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- Η Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RLReporting Detection Limit

Page 6 of 7

# Hall Environmental Analysis Laboratory, Inc.

1.1

3.4

1.2

0.050

0.10

1.000

3.000

1.000

WO#:

1502135

10-Feb-15

S

Client:

Blagg Engineering

Project:

Ethylbenzene

Xylenes, Total

Surr: 4-Bromofluorobenzene

Crouch Mesa LF

Sample ID MB-17567	SampT	уре: МЕ	BLK	Tes	TestCode: EPA Method 8021B: Volatiles						
Client ID: PBS	Batch	n ID: <b>17</b>	567	F	RunNo: 24122						
Prep Date: 2/4/2015	Analysis D	)ate: <b>2/</b>	5/2015	S	SeqNo: 7	11478	Units: mg/K	(g			
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-17567	SampT	ype: LC	s	Tes	tCode: El	PA Method	8021B: Volat	tiles			
Client ID: LCSS	Batch	n ID: 17	567	F	RunNo: 2	4122					
Prep Date: 2/4/2015	Analysis D	ate: 2/	5/2015	S	SeqNo: 7	11479	Units: mg/K	(g			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	1.1	0.050	1.000	0	112	80	120				
Toluene	1.1	0.050	1.000	0	108	80	120				

0

0

113

112

122

80

80

80

120

120

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.
- RL Reporting Detection Limit

Page 7 of 7



### 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: B	BLAGG	Work Order Number	1502135		RoptNo:	1
Received by/date:	XXI	02/04/15			***************************************	
Logged By:	Ashley Gallegos	2/4/2015 8:30:00 AM		A.		
Completed By:	Ashley Gallegos	2/4/2015 9:52:44 AM		*		
Reviewed By:	Ar ozlallis			v		
Chain of Custo	, - ,	***************************************				
1, Custody seals	intact on sample bottle	9\$?	Yes 🗌	No 🗆	Not Present 🗹	
2. Is Chain of Cur	stody complete?		Yes 🗹	No □	Not Present	
3. How was the s	ample delivered?		Client			
<u>Log In</u>						
4. Was an attem	pt made to cool the sa	mples?	Yes 🗹	No □	NA []	
5. Were all samp	les received at a temp	erature of >0°C to 6.0°C	Yes 🗹	No 🗔	NA 🗔	
6. Sample(s) in p	proper container(s)?		Yes 🗹	No 🗌		
7. Sufficient samp	ple volume for indicate	d test(s)?	Yes 😾	No 🗌		
8. Are samples (e	except VOA and ONG)	properly preserved?	Yes 🗹	No 🗌		
9. Was preservat	ive added to bottles?		Yes 🗌	No 🗹	NA □	
10.VOA viele have	e zero headspaco?		Yes 🔲	No []	No VOA Vials 🗹	
11, Were any sam	nple containers receive	d broken?	Yes	No 🗹	# of preserved	e de la catalante de la catala
12. Does paperwo	rk match bottle labels?		Yes 🔽	No 🗀	bottles checked for pH:	0.0000000000000000000000000000000000000
	ncies on chain of custo		[7]	N. [7]	(<2 o Adjusted?	>12 unless noted)
	crrectly identified on C		Yes 🗹 Yes 🗹	No L.I No □		***************************************
	analyses were reques ig times able to be me		Yes 🗹	No 🗌	Checked by:	
	istomer for authorization		ico (E)	***************************************		
Special Handili	ng (If applicable)					
16. Was client noti	ified of all discrepance	s with this order?	Yes 🗆	No 🗀	NA 🗹	
Person N	Notified:	Date	····			
By Whor	n:	Via:	eMait [] i	Phone 🔲 Fax	In Person	
Regardin	ng:					4
Client Ins	structions:					
17. Additional rem	narks:					
18. Cooler Inforn	nation					
Cooler No	Temp °C Condition		Seal Date	Signed By		
11	2.4 Good	Not Present				

Project Name:   Project Name:	RY
Bloomfield, NM 87413   Project #:   Tel. 505-345-3975   Fax 505-345-4107	
Bloomfield, NM 87413	9
Phone #: (505)320-1183  email or Fax#:	
email or Fax#:  QA/QC Package:  Standard  Level 4 (Full Validation)  Other  EDD (Type)  Date  Time  Matrix  Project Manager:  Jeff Blagg  On Ice: Type  HEAL No.  Type  HEAL No.  Jeff Blagg  On Ice: Type  Type  HEAL No.  Jeff Blagg  On Ice: Type  Type  HEAL No.  Jeff Blagg  On Ice: Type  Type  HEAL No. Type	
Date Time Matrix Sample Request ID Container Type and # Type HEAL No. 29 HEAL No. 25 Type Jeff Blagg	
Standard	
Date Time Matrix Sample Request ID Container Type and # Type HEAL No. 100 Preservative Type and # Type	
Date Time Matrix Sample Request ID Container Type and # Type HEAL No. 100 Preservative Type and # Type	=
Date Time Matrix Sample Request ID Container Type and # Type HEAL No. 100 Preservative Type and # Type	ō
Date Time Matrix Sample Request ID Container Type and # Preservative Type HEAL No.	λ) s
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Air Bubbles (Y or N)
02/02/2015 7:20 Soil Cell 1 4oz x 1 cool Col x x	
02/02/2015 7:50 Soil Cell 2 4oz x 1 cool - DCA x x	
02/02/2015 8:20 Soil Cell 5 4oz x 1 cool - 0 x x x	
	1
	+   -
Date: Time: Relinquished by: Received by: Date Time Remarks: Bill BP	
2/3/2015 1034 Jeff Blagy Mutulialla 2/3/15 1033 BP Contact Jeff Peace Please copy results to	<b>&gt;</b> :
Date: Time: Relinquished by: Received by: Date Time	
2/3/15 1747 Mustur Walter To the Subcontracted to other acceptanced laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical rep	n#



Hall Environmental Analysis Laboratory
4901 Hawkins NE

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

July 14, 2015

Jeff Blagg Blagg Engineering P. O. Box 87

Bloomfield, NM 87413 TEL: (505) 320-1183 FAX (505) 632-3903

RE: Crouch Mesa Landfarm

OrderNo.: 1507054

### Dear Jeff Blagg:

Hall Environmental Analysis Laboratory received 3 sample(s) on 7/1/2015 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 <a href="www.hallenvironmental.com">www.hallenvironmental.com</a> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

Andy Freeman

Laboratory Manager

andsl

4901 Hawkins NE

Albuquerque, NM 87109

### Lab Order 1507054

Date Reported: 7/14/2015

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: Cell #1 @ 2'-3'

Project: Crouch Mesa Landfarm

**Collection Date:** 6/29/2015 10:10:00 AM

Lab ID: 1507054-001

Matrix: SOIL Received Date: 7/1/2015 7:15:00 AM

Analyses	Result	RL Q	ıal Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	: LGT
Chloride	ND	30	mg/Kg	20	7/9/2015 2:54:23 PM	20182
EPA METHOD 8015M/D: DIESEL RA	ANGE ORGANIC	S			Analyst	: KJH
Diesel Range Organics (DRO)	ND	9.4	mg/Kg	1	7/6/2015 6:17:47 PM	20084
Surr: DNOP	99.2	57.9-140	%REC	1	7/6/2015 6:17:47 PM	20084
EPA METHOD 8015D: GASOLINE R	ANGE				Analyst	:: NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	7/6/2015 11:50:49 PM	20074
Surr: BFB	86.3	75.4-113	%REC	1	7/6/2015 11:50:49 PM	20074
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	ND	0.048	mg/Kg	1	7/6/2015 11:50:49 PM	20074
Toluene	ND	0.048	mg/Kg	1	7/6/2015 11:50:49 PM	20074
Ethylbenzene	ND	0.048	mg/Kg	1	7/6/2015 11:50:49 PM	20074
Xylenes, Total	ND	0.097	mg/Kg	1	7/6/2015 11:50:49 PM	20074
Surr: 4-Bromofluorobenzene	89.0	80-120	%REC	1	7/6/2015 11:50:49 PM	20074

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

### 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

Page 1 of 7

- P Sample pH Not In Range
- RL Reporting Detection Limit

### Lab Order 1507054

Date Reported: 7/14/2015

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering Client Sample 1D: Cell #2 @ 2'-3'

 Project:
 Crouch Mesa Landfarm
 Collection Date: 6/29/2015 10:30:00 AM

 Lab ID:
 1507054-002
 Matrix: SOIL
 Received Date: 7/1/2015 7:15:00 AM

Result **RL Qual Units DF** Date Analyzed Batch Analyses **EPA METHOD 300.0: ANIONS** Analyst: LGT ND 7/9/2015 3:06:47 PM Chloride 30 20182 mg/Kg **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** Analyst: KJH ND 7/6/2015 6:44:51 PM 20084 Diesel Range Organics (DRO) 9.5 mg/Kg Surr: DNOP 20084 98.3 57.9-140 %REC 7/6/2015 6:44:51 PM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: NSB Gasoline Range Organics (GRO) 7/7/2015 12:19:35 AM 20074 ND 4.8 mg/Kg %REC Surr: BFB 85.3 75.4-113 7/7/2015 12:19:35 AM 20074 **EPA METHOD 8021B: VOLATILES** Analyst: NSB Benzene ND 0.048 mg/Kg 7/7/2015 12:19:35 AM 20074 Toluene ND 0.048 7/7/2015 12:19:35 AM 20074 mg/Kg Ethylbenzene ND 0.048 mg/Kg 7/7/2015 12:19:35 AM 20074 Xylenes, Total ND 0.096 7/7/2015 12:19:35 AM 20074 mg/Kg 20074 Surr: 4-Bromofluorobenzene 87.6 80-120 %REC 7/7/2015 12:19:35 AM

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

### 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 Not In Range
- RL Reporting Detection Limit

Page 2 of 7

### Lab Order 1507054

Date Reported: 7/14/2015

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: Cell #5 @ 2'-3'

Project: Crouch Mesa Landfarm

Collection Date: 6/29/2015 10:50:00 AM

**Lab ID:** 1507054-003

Matrix: SOIL

Received Date: 7/1/2015 7:15:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: <b>LGT</b>
Chloride	ND	30	mg/Kg	20	7/9/2015 3:19:12 PM	20182
EPA METHOD 8015M/D: DIESEL RANG	SE ORGANIC	s			Analys	t: KJH
Diesel Range Organics (DRO)	18	9.5	mg/Kg	1	7/6/2015 7:11:55 PM	20084
Surr: DNOP	98.0	57.9-140	%REC	1	7/6/2015 7:11:55 PM	20084
EPA METHOD 8015D: GASOLINE RAN	IGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	7/7/2015 12:48:17 AM	20074
Surr: BFB	85.7	75.4-113	%REC	1	7/7/2015 12:48:17 AM	20074
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.047	mg/Kg	1	7/7/2015 12:48:17 AM	20074
Toluene	ND	0.047	mg/Kg	1	7/7/2015 12:48:17 AM	20074
Ethylbenzene	ND	0.047	mg/Kg	1	7/7/2015 12:48:17 AM	20074
Xylenes, Total	ND	0.094	mg/Kg	1	7/7/2015 12:48:17 AM	20074
Surr: 4-Bromofluorobenzene	88.0	80-120	%REC	1	7/7/2015 12:48:17 AM	20074

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

### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSD limit
- 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

Page 3 of 7

- P Sample pH Not In Range
- RL Reporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1507054

14-Jul-15

Client:

Blagg Engineering

Project:

Crouch Mesa Landfarm

Sample ID MB-20182

SampType: MBLK

TestCode: EPA Method 300.0: Anions

Client ID:

PBS

Batch ID: 20182

**PQL** 

RunNo: 27409

Prep Date: 7/9/2015

Units: mg/Kg

Analysis Date: 7/9/2015

SeqNo: 822344

Analyte

Result

ND 1.5

SPK value SPK Ref Val %REC LowLimit

HighLimit

%RPD

**RPDLimit** 

Qual

Chloride

Sample ID LCS-20182

SampType: LCS

TestCode: EPA Method 300.0: Anions RunNo: 27409

Prep Date: 7/9/2015

Client ID: LCSS

Batch ID: 20182 Analysis Date: 7/9/2015

SeqNo: 822345

Units: mg/Kg

%RPD

Qual

Analyte

**PQL** 

1.5

SPK value SPK Ref Val

%REC 0

LowLimit 94.9

HighLimit

**RPDLimit** 

Chloride

Result 14

15.00

90

110

Qualifiers:

Value exceeds Maximum Contaminant Level.

Value above quantitation range Е

Analyte detected below quantitation limits

RSD is greater than RSDlimit O

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits Analyte detected in the associated Method Blank

Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

P Sample pH Not In Range

RLReporting Detection Limit Page 4 of 7

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1507054

14-Jul-15

Client:

Blagg Engineering

Project:

Crouch Mesa Landfarm

	Triesa Banare									
Sample ID MB-20084	SampTy	pe: ME	BLK	Tes	tCode: El	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID: PBS	Batch	ID: <b>20</b>	084	F	RunNo: 2	7290				
Prep Date: 7/2/2015	Analysis Da	ate: 7/	6/2015	8	SeqNo: 8	17786	Units: mg/K	ζg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	8.8		10.00		88.0	57.9	140			
Sample ID LCS-20084	SampTy	/pe: LC	S	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID: LCSS	Batch	ID: <b>20</b>	084	F	RunNo: 2	7290				
Prep Date: 7/2/2015	Analysis Da	ate: <b>7</b> /	6/2015	S	SeqNo: 8	17787	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	10	50.00	0	103	57.4	139			
Surr: DNOP	5.5		5.000		110	57.9	140			

### 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 Not In Range

RL Reporting Detection Limit

Page 5 of 7

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1507054

14-Jul-15

Client:

Blagg Engineering

Project:

Crouch Mesa Landfarm

Sample ID MB-20074

SampType: MBLK

TestCode: EPA Method 8015D: Gasoline Range

Client ID: PBS

Batch ID: 20074

RunNo: 27293

Prep Date: 7/2/2015

Analysis Date: 7/6/2015

SeqNo: 818229

Units: mg/Kg

HighLimit

Analyte

Result PQL

SPK value SPK Ref Val %REC LowLimit

%RPD

Qual

Gasoline Range Organics (GRO)

Surr: BFB

ND 840

1000

84.3

75.4

**RPDLimit** 

Qual

Client ID: LCSS

SampType: LCS

TestCode: EPA Method 8015D: Gasoline Range

SeqNo: 818230

%REC

113

Sample ID LCS-20074

Prep Date: 7/2/2015

Batch ID: 20074

Result

24

920

0

RunNo: 27293

Units: mg/Kg

Gasoline Range Organics (GRO)

Surr: BFB

**PQL** 5.0

Analysis Date: 7/6/2015

5.0

SPK value SPK Ref Val 25.00 1000

94.9 91.9

75.4

LowLimit

64

130 113

HighLimit %RPD **RPDLimit** 

Qualifiers:

Value exceeds Maximum Contaminant Level.

Ε Value above quantitation range

Analyte detected below quantitation limits

0 RSD is greater than RSDlimit

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits В Analyte detected in the associated Method Blank

Holding times for preparation or analysis exceeded Η

ND Not Detected at the Reporting Limit

P Sample pH Not In Range

Reporting Detection Limit

Page 6 of 7

# Hall Environmental Analysis Laboratory, Inc.

0.95

WO#:

1507054

14-Jul-15

Client:

Blagg Engineering

Project:

Surr: 4-Bromofluorobenzene

Crouch Mesa Landfarm

Sample ID MB-20074	Sampl	Гуре: МЕ	BLK	Tes	tCode: E	PA Method	8021B: Vola	tiles		
Client ID: PBS	Batcl	h ID: 20	074	F	RunNo: 2	7293				
Prep Date: 7/2/2015	Analysis E	Date: <b>7/</b>	6/2015	5	SeqNo: 8	18262	Units: mg/h	<b>(</b> g		
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	0.90		1.000		89.6	80	120			
Sample ID LCS-20074	SampT	Гуре: <b>LC</b>	s	Tes	tCode: E	PA Method	8021B: Vola	tiles		
Client ID: LCSS	Batcl	h ID: 20	074	F	RunNo: 2	7293				
Prep Date: 7/2/2015	Analysis [	Date: 7/	6/2015	8	SeqNo: 8	18263	Units: mg/F	<b>(</b> g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	102	76.6	128			
Toluene	0.97	0.050	1.000	0	9 <b>7</b> .0	75	124			
Ethylbenzene	1.0	0.050	1.000	0	101	79.5	126			
Xylenes, Total	3.1	0.10	3.000	0	102	78.8	124			
•										

94.7

1.000

### 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

120

80

- ND Not Detected at the Reporting Limit
- P Sample pH Not In Range
- RL Reporting Detection Limit

Page 7 of 7



Half 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 Or	der Number:	15070	)54			Rcp	tNo: 1	
Received by/date	e: ڪار Lindsay Ma	ingin	07/0	) /5 7:15:00 AM			Jody A				
Completed By:	Ashley Gall	J	7/2/2015 7	:27:54 AM			A				
Reviewed By:	للم	I Ma	<b>0</b> 4.	102/15			. 0				
Chain of Cus	tody	100	1	102113							
1. Custody sea	ils intact on sa	mple bottles?			Yes		No		Not Present		
2. Is Chain of C	Custody compi	lete?			Yes		No [	]	Not Present	[_]	
3. How was the	sample deliv	ered?			Cour	<u>ier</u>					
<u>Log In</u>											
4. Was an atte	empt made to	cool the sampl	es?		Yes		No		NA		
5. Were all sar	nples received	d at a temperat	ure of >0° C to	o 6.0°C	Yes		No L	_]	NA		
6. Sample(s) ii	n proper conta	iner(s)?			Yes		No				
7. Sufficient sa	ımple volume i	for indicated te	st(s)?		Yes		No [				
8. Are samples	s (except VOA	and ONG) pro	perly preserve	d?	Yes		· <b>N</b> o [				
9. Was presen	vative added to	o bottles?			Yes		No		NA		
10.VOA vials ha	ave zero head	space?			Yes		No		No VOA Vials		
11. Were any s			roken?		Yes		No			-	
									# of preserved bottles checke		
12. Does paper					Yes		No 1		for pH:	(<2 or >	12 unless noted)
13. Are matrices	•	ain of custody) ntified on Chair			Yes		No !	["]	Adjusted	-	
14. Is it clear wh					Yes		No				
15. Were all hol		e to be met?			Yes		No		Checked	by:	
Special Hand	lling (if app	olicable)									
16. Was client n	notified of all di	iscrepancies w	ith this order?		Yes		No l		NA		
Person	n Notified:	**************************************	NAME OF TAXABLE PARTY O	Date		*******		NOTE: NA			
By Wh	nom:	LLULU JALLANII (ALLO LALANIAI MARISANI M	an image a paragram and a subject to the first term of the first t	Via:	[]] eMa	ail [_	] Phone [ ]	Fax	In Person		
Regar	ding:		VIETATEA (Beaumaille ann amhail i seann an ann an Airinn an Airinn an Airinn an Airinn an Airinn an Airinn an		i bila bad di Menderan	··················			A Part of the Part		
Client	Instructions:										
17. Additional re	emarks:										
18. Cooler Info			, .								
Cooler N	<del>`</del>	Condition	Seal Intact	Seal No	Seal D	ate	Signed B	у			
1	1.3	Good	Yes					]			

Chain-of-Custody Record		Turn-Around Time:						L			FI	NV	TE	20	N	ИF	МТ	ΔI		
Client: BP America  BLAGG Engineery Inc.  Mailing Address:																				
			Project Name:  CROCH MESA LANDFARM			www.hallenvironmental.com														
																			Project #:	
#: <b>5</b> 0	5-320	2-1183									Α	naly	sis	Req	uest					
email or Fax#:			Project Manager:				(yl	$\widehat{\mathfrak{P}}$					(4)					$\top$		Т
QA/QC Package:			J. BLAGE			\$ (8021	(Gas or	##/ O			SIMS)		,PO <sub>4</sub> ,SC	PCB's						
Accreditation			Sampler: J. BLAGE			H	H.	0	=	=	20		Š Š	308						9
□ NELAP □ Other			On Ice: ☑Yes □ No			1 4-1	+	8	118	25	182	S	õ	) / S		(A)				ō
□ EDD (Type)			Sample Temperature: 1,3				IBE	3 (G	7 po	В	$^{\circ}$	etal	Z	cide	<b>€</b>	)-i	E			\\ \text{\scalable}{\scalable}
Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO.	BTEX ++	BTEX + MT	<b>TPH 8015E</b>	TPH (Meth	EDB (Meth	PAH's (831	RCRA 8 M	Anions (F,	8081 Pesti	8260B (VC	8270 (Sem	CHEOCID			Air Bubbles (Y or N)
1010	SOIL	CELL#1 C 2'-3'	402×1	wx	-001	X		χ									×			
1030	tr		ų	ч	-002	×		х									×			
1050	4	ceu *5 e 2-3	٧/	17	-003	×		×									×			
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Time:	Relinquish	ed by: U Bloss	Received by:	طالبالك	Date Time	Rer	nark	s: B P:	114 (	3P	-ite	. 0.0								
Time: 1837	mi	ote Walter	Received by:	illios	07/01/15 07/5															
	BP BLAG Address #: 50 r Fax#: Package: dard Itation AP (Type) Time  1010 1030 1050 Time: 1136 Time: 1837	BP Amenic BLAGE Engin Address:  #: 505 - 320 r Fax#: Package: dard Itation AP	BLAGE Engineery Inc. Address:  #: 525-320-1103 r Fax#: Package: dard	Branca  Buage Engineery Inc.  Address:  Project Name CRACK I  Project #:  #: \$505 - 320 - 11073  r Fax#:  Package: dard	BP Anewica  BLAGE Engineerry Inc.  Address:  Reserved by:  BCStandard   Rush Project Name:  CROCK MESA LAW Project #:  Project #:  Project Manager:  Frax#:  Project Manager:  J. BLAGE On loe:  DYes Sample Temperature:  I Time Matrix   Sample Request ID   Container Type and # Preservative Type and # Project Manager:  I Time Matrix   Sample Request ID   Container Type and # Preservative Ty	BP America  BLAGE Engineery Inc.  Address:  Project Name:  CRACH MESA LANDFARM  Project #:  #: 525-320-11873  Project Manager:  Fax#:  Project Manager:  J. BLAGE  Gard   Level 4 (Full Validation)  Sampler: J. BLAGE  On Ice: Yes   No  Sample Temperature: 1, 3  Time Matrix Sample Request ID  Container Type and # Preservative Type and # Preser	Branca Standard Rush  BLAGE Engineery Inc.  Address: Project Name:  CRACH MESA LANDFARM  Project #:  #: 525-320-1103  Project Manager:  J. BLAGE  Project Manager:  J. BLAGE  Address: Project Manag	BAGE Engineery Inc.  Address:    Project Name:   Project Name:   Project Name:   Project Name:   Project #:   Project #:   Project #:   Project #:   Project Manager:   Project Manager:	Branch Container Type Inc. Sample Request ID Container Type Address:    Container Type Address	Sempler of the seminary of the	BY America  BY America  BY America  BY Address:    CRACK MESA LANDFARM	Address:    Standard   Rush   Project Name: www.hall Address:   CROCK MESA LANDFARM   4901 Hawkins NETEL 505-320-1103   Fax#.   Project Manager:   Tel. 505-345-3975   Tel. 505-345-345-3975   Tel. 505-345-345-345-345-345-345-345-345-345-34	Analyses:    Standard   Rush   Project Name:   CROCH MESA LANDFARM   Project Name:   CROCH MESA LANDFARM   Project #:   Falsos-345-3975   Falsos   Project Manager:   Fax#:	ANALYSIS  BLAGE Engineery Inc.  Project Name:  CROCK MESA LANDFAKM  Project #:  #: 505-320-1103  Project Manager:  Fax#:  Package:  On Ice:  Time Matrix Sample Request ID  Time Relinquished by:  Time Relin	Address:  Project Name:  CRACK MESA LANDFAKM  Project Name:  CRACK MESA LANDFAKM  Project Manager:  Project Manager:  Project Manager:  Decknesse:  Analysis Record of Container Type and # Type   HEAL No.   Type and # Type   Type	Address:    Project Name:   Respect to the project Name:   Respect to the period of th	ANALYSIS LABO  Www.hallenvironmental.com  Andress:  Project Manager:  Project Manage	ANALYSIS LABORA  School Engineers Inc.  Crock Mesa Lawsfarm  Project Name:  Crock Mesa Lawsfarm  Project Manager:  Frack:  On loe:  Preservative  Type  Time Matrix Sample Request ID  Container  Type and #  Type And #  Frack:  Container  Type And #  Frack:  Frack:  Frack:  Frack:  On loe:  Preservative  Type And #  Frack:  Frack:  Frack:  Frack:  On loe:  Preservative  Type And #  Frack:  Frack	Second   Standard   Rush   R	Standard   Rush   Project Name:   CRACK   MESA   LANDFARM   Project Name:   CRACK   MESA   LANDFARM   Project R.   Proje



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

October 09, 2015

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

TEL: (505) 320-1183 FAX (505) 632-3903

RE: Crouch Mesa LF OrderNo.: 1510085

### Dear Jeff Blagg:

Hall Environmental Analysis Laboratory received 3 sample(s) on 10/1/2015 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 <a href="www.hallenvironmental.com">www.hallenvironmental.com</a> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

Andy Freeman

Laboratory Manager

andy

4901 Hawkins NE

Albuquerque, NM 87109

### Lab Order 1510085

Date Reported: 10/9/2015

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: Cell 1 @ 2'-3'

Project: Crouch Mesa LF

Collection Date: 9/30/2015 2:30:00 PM

Lab ID: 1510085-001

Matrix: SOIL

Received Date: 10/1/2015 8:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analy	st: <b>LGT</b>
Chloride	ND	30	mg/Kg	20	10/7/2015 12:23:47 P	M 21726
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	S			Analy	st: <b>KJH</b>
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	10/7/2015 12:18:22 A	M 21629
Surr: DNOP	104	57.9-140	%REC	1	10/7/2015 12:18:22 A	M 21629
EPA METHOD 8015D: GASOLINE RAI	NGE				Analy	st: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	10/6/2015 11:27:19 P	M 21665
Surr: BFB	88.9	75.4-113	%REC	1	10/6/2015 11:27:19 P	M 21665
EPA METHOD 8021B: VOLATILES					Analy	st: NSB
Benzene	ND	0.049	mg/Kg	1	10/6/2015 11:27:19 P	M 21665
Toluene	ND	0.049	mg/Kg	1	10/6/2015 11:27:19 P	M 21665
Ethylbenzene	ND	0.049	mg/Kg	1	10/6/2015 11:27:19 P	M 21665
Xylenes, Total	ND	0.099	mg/Kg	1	10/6/2015 11:27:19 P	M 21665
Surr: 4-Bromofluorobenzene	106	80-120	%REC	1	10/6/2015 11:27:19 P	M 21665

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

- 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 Page 1 of 7
- P Sample pH Not In Range
- RL Reporting Detection Limit

### Lab Order 1510085

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 10/9/2015

CLIENT: Blagg Engineering Client Sample ID: Cell 2 @ 2'-3'

 Project:
 Crouch Mesa LF
 Collection Date: 9/30/2015 2:55:00 PM

 Lab ID:
 1510085-002
 Matrix: SOIL
 Received Date: 10/1/2015 8:00:00 AM

**RL Qual Units DF** Date Analyzed Batch Result Analyses **EPA METHOD 300.0: ANIONS** Analyst: LGT ND 10/7/2015 1:01:00 PM 21726 Chloride 30 mg/Kg **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** Analyst: KJH Diesel Range Organics (DRO) 23 9.6 mg/Kg 1 10/7/2015 12:45:42 AM 21629 Surr: DNOP 115 57.9-140 %REC 10/7/2015 12:45:42 AM 21629 **EPA METHOD 8015D: GASOLINE RANGE** Analyst: NSB 10/6/2015 11:50:30 PM 21665 Gasoline Range Organics (GRO) ND 4.7 mg/Kg Surr: BFB 88.1 75.4-113 %REC 10/6/2015 11:50:30 PM 21665 **EPA METHOD 8021B: VOLATILES** Analyst: NSB 10/6/2015 11:50:30 PM 21665 Benzene ND 0.047 mg/Kg 1 10/6/2015 11:50:30 PM 21665 Toluene ND 0.047 mg/Kg Ethylbenzene ND 0.047 mg/Kg 10/6/2015 11:50:30 PM 21665 Xylenes, Total ND 0.095 mg/Kg 1 10/6/2015 11:50:30 PM 21665 Surr: 4-Bromofluorobenzene 104 80-120 %REC 10/6/2015 11:50:30 PM 21665

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

- 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 Page 2 of 7
- P Sample pH Not In Range
- RL Reporting Detection Limit

### Lab Order 1510085

Date Reported: 10/9/2015

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: Cell 5 @ 2'-3'

Project: Crouch Mesa LF

Collection Date: 9/30/2015 3:10:00 PM

**Lab ID:** 1510085-003

Matrix: SOIL Received Date: 10/1/2015 8:00:00 AM

Analyses	Result	RL Q	ual Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	st: <b>LGT</b>
Chloride	ND	30	mg/Kg	20	10/7/2015 1:13:24 PM	21726
EPA METHOD 8015M/D: DIESEL RANG	GE ORGANIC	s			Analys	st: <b>KJH</b>
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	10/7/2015 1:13:01 AM	21629
Surr: DNOP	94.7	57.9-140	%REC	1	10/7/2015 1:13:01 AM	21629
EPA METHOD 8015D: GASOLINE RAN	NGE				Analys	st: NSB
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	10/7/2015 1:23:16 AM	21665
Surr: BFB	88.3	75.4-113	%REC	1	10/7/2015 1:23:16 AM	21665
EPA METHOD 8021B: VOLATILES					Analys	st: NSB
Benzene	ND	0.047	mg/Kg	1	10/7/2015 1:23:16 AM	21665
Toluene	ND	0.047	mg/Kg	1	10/7/2015 1:23:16 AM	21665
Ethylbenzene	ND	0.047	mg/Kg	1	10/7/2015 1:23:16 AM	21665
Xylenes, Total	ND	0.094	mg/Kg	1	10/7/2015 1:23:16 AM	21665
Surr: 4-Bromofluorobenzene	104	80-120	%REC	1	10/7/2015 1:23:16 AM	21665

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

- 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 Page 3 of 7
- P Sample pH Not In Range
- RL Reporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1510085

09-Oct-15

Client:

Blagg Engineering

Project:

Crouch Mesa LF

Sample ID MB-21726

SampType: MBLK

TestCode: EPA Method 300.0: Anions

Client ID:

PBS

Batch ID: 21726

RunNo: 29393

Units: mg/Kg

HighLimit

Prep Date: 10/7/2015

Analysis Date: 10/7/2015

SeqNo: 894029

**RPDLimit** %RPD

Qual

Analyte Chloride

Result PQL ND 1.5

Sample ID LCS-21726

SampType: LCS Batch ID: 21726

RunNo: 29393

TestCode: EPA Method 300.0: Anions

Client ID: LCSS Prep Date: 10/7/2015

Analysis Date: 10/7/2015

SeqNo: 894030

Units: mg/Kg

Result

PQL SPK value SPK Ref Val 1.5

91.3

**RPDLimit** 

Page 4 of 7

14

0

SPK value SPK Ref Val %REC LowLimit

%RPD

Analyte

15.00

%REC

LowLimit

HighLimit

Qual

Chloride

110

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R

В Analyte detected in the associated Method Blank

Ε Value above quantitation range J

Analyte detected below quantitation limits

P Sample pH Not In Range

RLReporting Detection Limit

RPD outside accepted recovery limits

% Recovery outside of range due to dilution or matrix S

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1510085

09-Oct-15

Client: Project: Blagg Engineering

Crouch Mesa LF

Sample ID	MB-21652

SampType: MBLK

TestCode: EPA Method 8015M/D: Diesel Range Organics

Client ID: PBS

Batch ID: 21652

RunNo: 29273

78.7

140

Prep Date: 10/5/2015

Analysis Date: 10/5/2015

SeqNo: 890900

Units: %REC HighLimit

Analyte Result POL SPK value SPK Ref Val Surr: DNOP 7.9 10.00

%REC Lowl imit

**RPDLimit** Qual

Sample ID LCS-21652

Client ID: LCSS SampType: LCS

TestCode: EPA Method 8015M/D: Diesel Range Organics

%RPD

%RPD

Prep Date: 10/5/2015

Sample ID MB-21629

PBS

Batch ID: 21652 Analysis Date: 10/5/2015 RunNo: 29273

Units: %REC

Analyte

Result

SPK value SPK Ref Val %REC

SeqNo: 890901 LowLimit

HighLimit

**RPDLimit** 

Qual

Surr: DNOP

4.7

5.000

94.7

140

Client ID:

SampType: MBLK Batch ID: 21629

**PQL** 

TestCode: EPA Method 8015M/D: Diesel Range Organics

RunNo: 29273

Units: mg/Kg

Prep Date: 10/2/2015 Analyte

Result

ND

10

Analysis Date: 10/6/2015

10.00

SeqNo: 892312

103

SPK value SPK Ref Val %REC LowLimit

57.9

57.9

HighLimit

**RPDLimit** 

Qual

Diesel Range Organics (DRO) Surr: DNOP

PQL 10

%RPD

Sample ID LCS-21629

Client ID: LCSS

SampType: LCS

TestCode: EPA Method 8015M/D: Diesel Range Organics

48

Result

Result

Result

5.1

9.9

Batch ID: 21629

Analyte

Prep Date: 10/2/2015

Analysis Date: 10/6/2015

RunNo: 29273 SeqNo: 892314

Units: mg/Kg

140

Qual

Diesel Range Organics (DRO) Surr: DNOP

Client ID:

Prep Date:

5.3

Batch ID: 21737

Analysis Date: 10/8/2015

PQL

**PQL** 

10

50.00 5.000

SPK value SPK Ref Val

SPK value SPK Ref Val

SPK value SPK Ref Val

%REC 96.7 107

LowLimit 57.4

HighLimit %RPD 139

**RPDLimit** 

Sample ID MB-21737

10/8/2015

PBS

SampType: MBLK

10.00

5.000

TestCode: EPA Method 8015M/D: Diesel Range Organics

140

%RPD

%RPD

0

RunNo: 29273 SeqNo: 894229

%REC

SeqNo: 894230

103

%REC

Units: %REC

**RPDLimit** 

Qual

Analyte Surr: DNOP

Prep Date: 10/8/2015

SampType: LCS

HighLimit 140 57.9 TestCode: EPA Method 8015M/D: Diesel Range Organics

Sample ID LCS-21737

Client ID: LCSS

Batch ID: 21737

Analysis Date: 10/8/2015

RunNo: 29273

LowLimit

LowLimit

57.9

Units: %REC

HighLimit

140

**RPDLimit** Qual

Analyte Surr: DNOP

R

- **Oualifiers:** Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix Holding times for preparation or analysis exceeded Н
- ND Not Detected at the Reporting Limit

RPD outside accepted recovery limits

- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Р
- Sample pH Not In Range Reporting Detection Limit

Page 5 of 7

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1510085

09-Oct-15

Client:

Blagg Engineering

Project:

Crouch Mesa LF

Sample ID MB-21665

SampType: MBLK

TestCode: EPA Method 8015D: Gasoline Range

Client ID: PBS

Batch ID: 21665

RunNo: 29332

Prep Date: 10/5/2015

Analysis Date: 10/6/2015 **PQL** 

SeqNo: 892336

Units: mg/Kg

Qual

Analyte Gasoline Range Organics (GRO)

ND 880

1000

88.5 75.4

LowLimit

%RPD

**RPDLimit** 

Surr: BFB

Prep Date: 10/5/2015

LCSS

SampType: LCS

113

Sample ID LCS-21665

**PQL** 

5.0

TestCode: EPA Method 8015D: Gasoline Range

HighLimit

Batch ID: 21665 Analysis Date: 10/6/2015

RunNo: 29332

%REC

SeqNo: 892337

Units: mg/Kg HighLimit

Qual

Analyte Gasoline Range Organics (GRO)

Client ID:

Result 24 SPK value SPK Ref Val 25.00

SPK value SPK Ref Val %REC

95.4

79.6

%RPD **RPDLimit** 

Surr: BFB

950

5.0

1000

95.5

75.4

LowLimit

122 113

### Qualifiers:

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

Page 6 of 7

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1510085

09-Oct-15

Client: Project:

Blagg Engineering

Crouch Mesa LF

Sample ID MB-21665	SampT	уре: М	BLK	Tes		·					
Client ID: PBS	Batch	atch ID: 21665 RunNo: 29332									
Prep Date: 10/5/2015	Analysis D	ate: 10	0/6/2015	8	SeqNo: 8	92380	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										
Surr: 4-Bromofluorobenzene	1.1	1.1 1.000			106 80						

Sample ID LCS-21665	Sampl	ype: LC	s	Tes							
Client ID: LCSS	Batc	h ID: 21	665	F	RunNo: 2	9332					
Prep Date: 10/5/2015	Analysis [	Date: 10	0/6/2015	S	SeqNo: 8	92381 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	103	80	120				
Toluene	0.99	0.050	1.000	0 99.1 80			120				
Ethylbenzene	1.0	0.050	1.000	0	100	80	120				
Xylenes, Total	3.0	3.0 0.10 3.000			0 99.8 80						
Surr: 4-Bromofluorobenzene	1.1 1.000				113	80	120				

### 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

on limits Page 7 of 7



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109

TEL: 505-345-3975 FAX: 505-343-4107 Website: www.hallenvironmental.com

# Sample Log-In Check List

Client Name:	BLAGG	ŀ	Work Order Numbe	r: 1510085		RoptN	n: 1
Received by/dai	te: ≅A	10/5	M15				
Logged By:	Lindsay Man	ıgin	10/1/2015 8:00:00 AN	A.	July Allego		
Completed By:	Lindsay Man	ıgin	10/2/2015 1:23:36 PN	A	And Allego		
Reviewed By:		2,	10/05/15		000		
Chain of Cus	itody	7	70/0//				
	als intact on sam	pie bottles?		Yes	No 🗔	Not Present	* C 100
2. Is Chain of	Custody complet	te?		Yes 🗸	No 🗔	Not Present	Someone S
3. How was the	e sample deliver	ed?		Courier			
<u>Log In</u>							
4. Was an atte	empt made to co	ol the samples?		Yes 🗹	No	NA [	
5. Were all sai	mples received a	at a temperalure	of >0° C to 6.0°C	Yes 😾	No 🗍	NA T	
6. Sample(s) i	in proper contain	er(s)?		Yes 🔽	No 🗌		
7, Sufficient sa	imple volume for	r indicated test(s	)7	Yes 🗹	No 🗍		
8. Are samples	s (except VOA a	nd ONG) proper	ly preserved?	Yes 🗹	No 🗌		
9. Was presen	vative added to b	oottles?		Yes 🗌	No 🐼	NA 🗀	<b>4</b>
10. VOA vials h	ave zero headsp	ace?		Yes 🗆	No 🗆	No VOA Viais ✓	***************************************
11, Were any s	ample container	s received broke	n?	Yes 🛄	No 🗹	# of preserved bottles checked	emminhem (mm) (mm)
	work match bottl pancies on chall			Yes 🔽	No 🗆	for pH: {<	2 or >12 unless noted)
13, Are matrices	s correctly identif	fied on Chain of	Custody?	Yes 🗹	No 🗔	Adjusted?	W
14, is it clear wit	nat analyses wer	e requested?		Yes 🗸	No 🗌		
15. Were all hold (If no, notify	ding times able t customer for au	and the same of th		Yes 🗸	No 🗌	Checked by	
Special Hand	lling (if appli	icable)					
16, Was client n			his order?	Yes 🗌	No 🗆	NA 💆	e e e e e e e e e e e e e e e e e e e
Person	n Notified:		Date			w:	
By Wi	ioin:		Via:	eMail	Phone 🔲 Fax	In Person	
Regar	ding:						
Client	Instructions:						
17. Additional r	emarks:						
18. Cooler Info	rmation						
Cooler N			eal Intact   Seal No	Seal Date	Signed By		
1	1.0	Good Yes	<b>;</b>				
				. Y.S			

Ct	nain-of-	Custo	dy Record	Turn-Around	Time:				НΔ	1 I F	=NV	TR	ONI	MEN	ITA	L
Client:	Blagg Engil	neering, In	C.	Standard	☐ Rush									RAT		
The state of the s	BP America			Project Name						ww.h					-	
Mailing Addr	'ess:	P.O. Box	√ 87	1	Crouch Mesa	ı LF		4901 F							7109	
			eld, NM 87413	Project #:			1							45-410		
Phone #:		(505)320		-				, 0,, 0	30-0-10		lysis			<b>V V</b>   <b>V</b>		
email or Fax	#:			Project Mana	ager:											
QA/QC Packa					Jeff Blagg											
<b>≭</b> Standard	-		□ Level 4 (Full Validation	<u>,</u>				Q								
□ Other				Sampler:	Jeff Blagg			(GRO / DRO)								2
□ EDD (Typ	oe)			On ice:		□ No		18								ē
		T		Sample Tem	perature: /. (	7	12	9 8								2
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1510085	BTEX (8021)	TPH 8015B							Chloride	Air Bubbles (Y or N)
09/30/2015	14:30	Soil	Cell 1 @ 2 - 3	40z x 1	cool	-001	x	×							x	
09/30/2015	14:55	Soil	Cell 2 @ Z 2 3	40z x 1	cool	- <i>6</i> 02	x	×							х	
09/30/2015	15:10	Soil	Cell 5 そこ-ろ (	4oz x 1	cool	-003	х	×							x	
Vermentalis																$\bot$
										_	<b> </b>					$\bot$
							-				-		_		$\vdash \vdash$	+
							-		$\vdash$	+-	_					_
							+	_	$\vdash$		+		-	-	$\vdash$	+
							1 1	-	┢		-		+		$\vdash$	$\dashv$
			t nove and distinguish				H			_	╁-					
Date: 10/1/2015	Time:	Relinquish	( Blogg	Received by:	alt	Date Time	BP C	arks: E contact: ritchie@	John		ie	Plea	se co	py rest	uits to	<u></u>
Date:	Time: 1934	Relinquish	ed by:	Received by:	lit	Date Time 10/01/19 ()800			3-P. O	1 - 5						



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

November 25, 2015

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

TEL: (505) 320-1183 FAX (505) 632-3903

RE: Crouch Mesa LF OrderNo.: 1511325

### Dear Jeff Blagg:

Hall Environmental Analysis Laboratory received 3 sample(s) on 11/7/2015 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued November 18, 2015.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <a href="www.hallenvironmental.com">www.hallenvironmental.com</a> or the state specific web sites. 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. All samples are reported as received unless otherwise indicated.

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

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

### Lab Order 1511325

Date Reported: 11/25/2015

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: Cell 1 @ 2'-3' Depth

**Project:** Crouch Mesa LF **Collection Date:** 11/3/2015 8:20:00 AM

Lab ID: 1511325-001 Matrix: SOIL Received Date: 11/7/2015 8:45:00 AM

Analyses	Result	RL Qu	ual Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analy	/st: <b>LGT</b>
Fluoride	0.83	0.30	mg/Kg	1	11/12/2015 9:17:47 F	PM 22318
Chloride	ND	1.5	mg/Kg	1	11/12/2015 9:17:47 F	PM 22318
Nitrogen, Nitrite (As N)	ND	0.30	mg/Kg	1	11/12/2015 9:17:47 F	PM 22318
Bromide	ND	0.30	mg/Kg	1	11/12/2015 9:17:47 F	PM 22318
Nitrogen, Nitrate (As N)	0.49	0.30	mg/Kg	1	11/12/2015 9:17:47 F	PM 22318
Phosphorus, Orthophosphate (As P)	ND	1.5	mg/Kg	1	11/12/2015 9:17:47 F	PM 22318
Sulfate	55	1.5	mg/Kg	1	11/12/2015 9:17:47 F	PM 22318
EPA METHOD 7471: MERCURY					Analy	st: DBD
Mercury	ND	0.032	mg/Kg	1	11/16/2015 5:42:24 F	PM 22353
EPA METHOD 6010B: SOIL METALS					Analy	st: MED
Arsenic	ND	2.5	mg/Kg	1	11/13/2015 10:18:45	AM 22298
Barium	130	0.099	mg/Kg	1	11/13/2015 10:18:45	AM 22298
Cadmium	ND	0.099	mg/Kg	1	11/13/2015 10:18:45	AM 22298
Calcium	4800	50	mg/Kg	2	11/24/2015 10:27:07	AM 22298
Chromium	2.1	0.30	mg/Kg	1	11/13/2015 10:18:45	AM 22298
Lead	3.2	0.25	mg/Kg	1	11/13/2015 10:18:45	AM 22298
Magnesium	1600	50	mg/Kg	2	11/24/2015 10:27:07	AM 22298
Potassium	660	99	mg/Kg	2	11/24/2015 10:27:07	AM 22298
Selenium	ND	2.5	mg/Kg	1	11/13/2015 10:18:45	AM 22298
Silver	ND	0.25	mg/Kg	1	11/13/2015 10:18:45	AM 22298
Sodium	78	50	mg/Kg	2	11/24/2015 10:27:07	AM 22298
EPA METHOD 8015M/D: DIESEL RAI	NGE ORGANIC	S			Analy	/st: <b>KJH</b>
Diesel Range Organics (DRO)	11	9.4	mg/Kg	1	11/10/2015 1:59:59 F	PM 22220
Surr: DNOP	125	70-130	%REC	1	11/10/2015 1:59:59 F	PM 22220
EPA METHOD 8015D: GASOLINE RA	NGE				Analy	st: NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	11/11/2015 3:40:36 A	M 22241
Surr: BFB	86.3	75.4-113	%REC	1	11/11/2015 3:40:36 A	M 22241
EPA METHOD 8021B: VOLATILES					Analy	st: NSB
Benzene	ND	0.050	mg/Kg	1	11/11/2015 3:40:36 A	AM 22241
Toluene	ND	0.050	mg/Kg	1	11/11/2015 3:40:36 A	AM 22241
Ethylbenzene	ND	0.050	mg/Kg	1	11/11/2015 3:40:36 A	M 22241
Xylenes, Total	ND	0.099	mg/Kg	1	11/11/2015 3:40:36 A	M 22241
Surr: 4-Bromofluorobenzene	109	80-120	%REC	1	11/11/2015 3:40:36 A	AM 22241

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

### 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 Page 1 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit

### Lab Order 1511325

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 11/25/2015

Client Sample ID: Cell 2 @ 2'-3' Depth **CLIENT:** Blagg Engineering

Project: Crouch Mesa LF Collection Date: 11/3/2015 8:40:00 AM 1511325-002 Matrix: SOIL Received Date: 11/7/2015 8:45:00 AM

Analyses	Result	RL Qu	ıal Units	DF	Date Analyzed Ba	tch
EPA METHOD 300.0: ANIONS					Analyst: LG	3T
Fluoride	1.4	0.30	mg/Kg	1	11/12/2015 9:42:35 PM 223	318
Chloride	ND	1.5	mg/Kg	1	11/12/2015 9:42:35 PM 223	318
Nitrogen, Nitrite (As N)	ND	0.30	mg/Kg	1	11/12/2015 9:42:35 PM 223	318
Bromide	ND	0.30	mg/Kg	1	11/12/2015 9:42:35 PM 223	318
Nitrogen, Nitrate (As N)	ND	0.30	mg/Kg	1	11/12/2015 9:42:35 PM 223	318
Phosphorus, Orthophosphate (As P)	ND	1.5	mg/Kg	1	11/12/2015 9:42:35 PM 223	318
Sulfate	2.6	1.5	mg/Kg	1	11/12/2015 9:42:35 PM 223	318
EPA METHOD 7471: MERCURY					Analyst: DB	3D
Mercury	ND	0.034	mg/Kg	1	11/16/2015 5:44:10 PM 223	353
EPA METHOD 6010B: SOIL METALS					Analyst: ME	ED
Arsenic	ND	2.5	mg/Kg	1	11/13/2015 9:54:10 AM 222	298
Barium	21	0.099	mg/Kg	1	11/13/2015 9:54:10 AM 222	298
Cadmium	ND	0.099	mg/Kg	1	11/13/2015 9:54:10 AM 222	298
Calcium	4200	25	mg/Kg	1	11/24/2015 11:22:07 AM 222	298
Chromium	1.7	0.30	mg/Kg	1	11/13/2015 9:54:10 AM 222	298
Lead	2.4	0.25	mg/Kg	1	11/13/2015 9:54:10 AM 222	298
Magnesium	960	25	mg/Kg	1	11/24/2015 11:22:07 AM 222	298
Potassium	380	49	mg/Kg	1	11/24/2015 11:22:07 AM 222	298
Selenium	ND	2.5	mg/Kg	1	11/13/2015 9:54:10 AM 222	298
Silver	ND	0.25	mg/Kg	1	11/13/2015 9:54:10 AM 222	298
Sodium	29	25	mg/Kg	1	11/24/2015 11:22:07 AM 222	298
EPA METHOD 8015M/D: DIESEL RAM	IGE ORGANIC	S			Analyst: KJ	JH
Diesel Range Organics (DRO)	19	9.5	mg/Kg	1	11/10/2015 2:27:04 PM 222	220
Surr: DNOP	129	70-130	%REC	1	11/10/2015 2:27:04 PM 222	220
EPA METHOD 8015D: GASOLINE RA	NGE				Analyst: NS	SB
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	11/11/2015 4:03:58 AM 222	241
Surr: BFB	87.6	75.4-113	%REC	1	11/11/2015 4:03:58 AM 222	241
EPA METHOD 8021B: VOLATILES					Analyst: <b>NS</b>	SB
Benzene	ND	0.047	mg/Kg	1	11/11/2015 4:03:58 AM 222	241
Toluene	ND	0.047	mg/Kg	1	11/11/2015 4:03:58 AM 222	241
Ethylbenzene	ND	0.047	mg/Kg	1	11/11/2015 4:03:58 AM 222	241
Xylenes, Total	ND	0.094	mg/Kg	1	11/11/2015 4:03:58 AM 222	241
Surr: 4-Bromofluorobenzene	109	80-120	%REC	1	11/11/2015 4:03:58 AM 222	241

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

#### Qualifiers:

Lab ID:

- Value exceeds Maximum Contaminant Level.
- 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
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 2 of 11 J
- P Sample pH Not In Range
- Reporting Detection Limit

### Lab Order 1511325

Date Reported: 11/25/2015

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: Cell 5 @ 2'-3' Depth

Project: Crouch Mesa LF Collection Date: 11/3/2015 9:05:00 AM

Lab ID: 1511325-003 Matrix: SOIL Received Date: 11/7/2015 8:45:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Anal	yst: <b>LGT</b>
Fluoride	0.72	0.30	mg/Kg	1	11/12/2015 10:32:14	PM 22318
Chloride	ND	1.5	mg/Kg	1	11/12/2015 10:32:14	PM 22318
Nitrogen, Nitrite (As N)	ND	0.30	mg/Kg	1	11/12/2015 10:32:14	PM 22318
Bromide	ND	0.30	mg/Kg	1	11/12/2015 10:32:14	PM 22318
Nitrogen, Nitrate (As N)	ND	0.30	mg/Kg	1	11/12/2015 10:32:14	PM 22318
Phosphorus, Orthophosphate (As P)	ND	30	mg/Kg	20	11/12/2015 10:44:39	PM 22318
Sulfate	1500	30	mg/Kg	20	11/12/2015 10:44:39	PM 22318
EPA METHOD 7471: MERCURY					Anal	yst: DBD
Mercury	ND	0.033	mg/Kg	1	11/16/2015 5:49:30	PM 22353
EPA METHOD 6010B: SOIL METALS					Anal	yst: MED
Arsenic	2.7	2.5	mg/Kg	1	11/13/2015 10:01:07	' AM 22298
Barium	15	0.098	mg/Kg	1	11/13/2015 10:01:07	' AM 22298
Cadmium	ND	0.098	mg/Kg	1	11/13/2015 10:01:07	7 AM 22298
Calcium	3400	25	mg/Kg	1	11/24/2015 11:23:52	2 AM 22298
Chromium	0.40	0.30	mg/Kg	1	11/13/2015 10:01:07	' AM 22298
Lead	2.3	0.25	mg/Kg	1	11/13/2015 10:01:07	' AM 22298
Magnesium	950	25	mg/Kg	1	11/24/2015 11:23:52	2 AM 22298
Potassium	310	49	mg/Kg	1	11/24/2015 11:23:52	2 AM 22298
Selenium	ND	2.5	mg/Kg	1	11/13/2015 10:01:07	' AM 22298
Silver	ND	0.25	mg/Kg	1	11/13/2015 10:01:07	' AM 22298
Sodium	40	25	mg/Kg	1	11/24/2015 11:23:52	2 AM 22298
EPA METHOD 8015M/D: DIESEL RAM	NGE ORGANIC	S			Anal	yst: <b>KJH</b>
Diesel Range Organics (DRO)	ND	9.4	mg/Kg	1	11/10/2015 3:05:51	PM 22220
Surr: DNOP	120	70-130	%REC	1	11/10/2015 3:05:51	PM 22220
EPA METHOD 8015D: GASOLINE RA	NGE				Anal	yst: NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	11/11/2015 4:27:20	AM 22241
Surr: BFB	85.8	75.4-113	%REC	1	11/11/2015 4:27:20	AM 22241
EPA METHOD 8021B: VOLATILES					Anal	yst: <b>NSB</b>
Benzene	ND	0.050	mg/Kg	1	11/11/2015 4:27:20	AM 22241
Toluene	ND	0.050	mg/Kg	1	11/11/2015 4:27:20	AM 22241
Ethylbenzene	ND	0.050	mg/Kg	1	11/11/2015 4:27:20	AM 22241
Xylenes, Total	ND	0.10	mg/Kg	1	11/11/2015 4:27:20	AM 22241
Surr: 4-Bromofluorobenzene	108	80-120	%REC	1	11/11/2015 4:27:20	AM 22241

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

### 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 Page 3 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit

## Hall Environmental Analysis Laboratory, Inc.

ND

ND

1.5

1.5

WO#: 1511325

25-Nov-15

Client: Project:

Sulfate

Phosphorus, Orthophosphate (As P

Blagg Engineering Crouch Mesa LF

Sample ID MB-22318 SampType: MBLK TestCode: EPA Method 300.0: Anions Batch ID: 22318 Client ID: PBS RunNo: 30221 Prep Date: 11/12/2015 Analysis Date: 11/12/2015 SeqNo: 920945 Units: mg/Kg Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Analyte 0.30 Fluoride ND ND 1.5 Chloride ND 0.30 Nitrogen, Nitrite (As N) Bromide ND 0.30 Nitrogen, Nitrate (As N) ND 0.30

Sample ID LCS-22318	SampT	ype: LC	s	Tes	tCode: El	s				
Client ID: LCSS	Batch	n ID: 22	318	F	RunNo: 3	0221				
Prep Date: 11/12/2015	Analysis D	ate: 11	1/12/2015	8	Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	1.5	0.30	1.500	0	97.8	90	110			
Chloride	14	1.5	15.00	0	92.1	90	110			
Nitrogen, Nitrite (As N)	2.8	0.30	3.000	0	94.3	90	110			
Bromide	6.9	0.30	7.500	0	91.8	90	110			
Nitrogen, Nitrate (As N)	7.2	0.30	7.500	0	96.4	90	110			
Phosphorus, Orthophosphate (As P	14	1.5	15.00	0	93.9	90	110			
Sulfate	29	1.5	30.00	0	95.8	90	110			

### 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

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## Hall Environmental Analysis Laboratory, Inc.

Result

63

7.4

10

WO#:

1511325

25-Nov-15

Client:

Blagg Engineering

Project:

Analyte

Surr: DNOP

Diesel Range Organics (DRO)

Crouch Mesa LF

Sample ID MB-22220	SampType					8015M/D: Die	esel Rang	e Organics	
Client ID: PBS	Batch ID	: 22220	Ru	un <b>N</b> o: 3	0124				
Prep Date: 11/6/2015	Analysis Date	: 11/10/2015	Se	eqNo: 9	17919	Units: mg/K	(g		
Analyte	Result P	QL SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10							
Surr: DNOP	12	10.00		117	70	130			
Sample ID LCS-22220	SampType	: LCS	Test	Code: E	PA Method	8015M/D: Die	esel Rang	e Organics	
Client ID: LCSS	Batch ID	22220	RunNo: 30124						
Prep Date: 11/6/2015	Analysis Date	: 11/10/2015	SeqNo: 917920			Units: mg/K	ξg		

SPK value SPK Ref Val %REC

50.00

5.000

LowLimit

57.4

70

126

147

HighLimit

139

130

%RPD

**RPDLimit** 

S

#### 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

tion limits Page 5 of 11

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1511325

25-Nov-15

Client:

Blagg Engineering

Project:

Crouch Mesa LF

Sample ID MB-22241

SampType: MBLK

TestCode: EPA Method 8015D: Gasoline Range

Client ID:

PBS

Batch ID: 22241

RunNo: 30136

Units: mg/Kg

Prep Date: 11/9/2015

Analysis Date: 11/10/2015

SeqNo: 918420

Analyte

Result **PQL** 

Analysis Date: 11/10/2015

5.0

5.0

SPK value SPK Ref Val %REC LowLimit

75.**4** 

%RPD

**RPDLimit** 

Qual

Gasoline Range Organics (GRO) Surr: BFB

ND 860

1000

85.6

113

SampType: LCS

TestCode: EPA Method 8015D: Gasoline Range

Sample ID LCS-22241

HighLimit

Client ID: LCSS Prep Date: 11/9/2015

Batch ID: 22241

RunNo: 30136 SeqNo: 918421

Units: mg/Kg

SPK value SPK Ref Val %REC Analyte Result PQL

LowLimit 101

HighLimit 122 %RPD **RPDLimit** Qual

Gasoline Range Organics (GRO) Surr: BFB

25 930 25.00 1000

92.7

75.4

79.6 113

Qualifiers:

Value exceeds Maximum Contaminant Level.

Sample Diluted Due to Matrix D

Η Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

% Recovery outside of range due to dilution or matrix S

Analyte detected in the associated Method Blank

Е Value above quantitation range

Analyte detected below quantitation limits

Sample pH Not In Range

RL Reporting Detection Limit Page 6 of 11

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1511325

25-Nov-15

Client:

Blagg Engineering

Project:

Crouch Mesa LF

Sample ID MB-22241	SampT	Гуре: МЕ	BLK	Tes	Code: El	PA Method	8021B: Volat	iles		
Client ID: PBS	Batcl	h ID: 22	241	F	RunNo: 30	0136				
Prep Date: 11/9/2015	Analysis D	Date: 11	1/10/2015	S	SeqNo: 9	18501	Units: mg/K	(g		
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			
Surr: 4-Bromofluorobenzene Sample ID LCS-22241		Type: LC		Tes			120 8021B: Volat	tiles		
	SampT	Type: <b>LC</b>	s			PA Method		tiles		
Sample ID LCS-22241	SampT	h ID: 22	:S 241	F	tCode: EI	PA Method 0136				
Sample ID LCS-22241 Client ID: LCSS	Samp1 Batcl	h ID: 22	S 241 1/10/2015	F	tCode: El	PA Method 0136	8021B: Volat		RPDLimit	Qual
Sample ID LCS-22241 Client ID: LCSS Prep Date: 11/9/2015 Analyte	Sampī Batci Analysis D	h ID: <b>22</b> : Date: <b>1</b> 1	S 241 1/10/2015	Fi S	tCode: El tunNo: 3 SeqNo: 9	PA Method 0136 18502	8021B: Volat	(g	RPDLimit	Qual
Sample ID LCS-22241 Client ID: LCSS Prep Date: 11/9/2015	SampT Batcl Analysis E Result	h ID: <b>22</b> Date: <b>1</b> 1	241 1/10/2015 SPK value	SPK Ref Val	tCode: El RunNo: 36 SeqNo: 9 %REC	PA Method 0136 18502 LowLimit	8021B: Volat  Units: mg/K  HighLimit	(g	RPDLimit	Qual
Sample ID LCS-22241 Client ID: LCSS Prep Date: 11/9/2015 Analyte Benzene Toluene	Samp1 Batcl Analysis D Result 0.99	h ID: <b>22</b> : Date: <b>1</b> 1 PQL 0.050	241 1/10/2015 SPK value 1.000	SPK Ref Val	RunNo: 36 SeqNo: 9 %REC 99.0	PA Method 0136 18502 LowLimit 80	8021B: Volat  Units: mg/K  HighLimit  120	(g	RPDLimit	Qual
Sample ID LCS-22241 Client ID: LCSS Prep Date: 11/9/2015 Analyte Benzene	Samp1 Batcl Analysis E Result 0.99 0.98	PQL 0.050 0.050	241 1/10/2015 SPK value 1.000 1.000	SPK Ref Val 0 0	RunNo: 36 SeqNo: 9 %REC 99.0 98.1	PA Method 0136 18502 LowLimit 80 80	8021B: Volat  Units: mg/K  HighLimit  120 120	(g	RPDLimit	Qual

### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- 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

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### Hall Environmental Analysis Laboratory, Inc.

WO#:

1511325 25-Nov-15

Client:

Blagg Engineering

Project:

Crouch Mesa LF

Sample ID MB-22353

SampType: MBLK

TestCode: EPA Method 7471: Mercury

Client ID:

PBS

Batch ID: 22353

**PQL** 

RunNo: 30272

SeqNo: 923042

Units: mg/Kg

Prep Date:

11/16/2015

Analysis Date: 11/16/2015

Result

SPK value SPK Ref Val %REC LowLimit

HighLimit

**RPDLimit** %RPD

Qual

Analyte Mercury

0.033

Sample ID LCS-22353

Client ID: LCSS

SampType: LCS Batch ID: 22353

RunNo: 30272

TestCode: EPA Method 7471: Mercury

Lowl imit

LowLimit

75

Units: mg/Kg

Analyte

Prep Date: 11/16/2015

Analysis Date: 11/16/2015

SeqNo: 923043

80

%RPD

Qual

Mercury

**PQL** Result 0.17 0.033

SPK value SPK Ref Val 0.1667

100

HighLimit 120 **RPDLimit** 

Sample ID 1511325-002BMS

Client ID: Cell 2 @ 2'-3' Depth

SampType: MS Batch ID: 22353

Analysis Date: 11/16/2015

**PQL** 

0.033

TestCode: EPA Method 7471: Mercury

%REC

RunNo: 30272 SeqNo: 923052

Units: mg/Kg

%RPD

0.1685

SPK value SPK Ref Val %REC 94.7

HighLimit 125 **RPDLimit** 

Qual

Analyte Mercury

Sample ID 1511325-002BMSD

SampType: MSD

Analysis Date: 11/16/2015

TestCode: EPA Method 7471: Mercury

Client ID: Cell 2 @ 2'-3' Depth Prep Date: 11/16/2015

Prep Date: 11/16/2015

Batch ID: 22353

RunNo: 30272 SegNo: 923053

Units: mg/Kg

Qual

Analyte

Result

Result

0.16

SPK value SPK Ref Val %REC **PQL** 

LowLimit

HighLimit

%RPD 0.444 **RPDLimit** 

Page 8 of 11

Mercury

0.16 0.033

0.1674

0

94.9

75

125

20

Value exceeds Maximum Contaminant Level.

Sample Diluted Due to Matrix D

Holding times for preparation or analysis exceeded Н

Not Detected at the Reporting Limit ND

R RPD outside accepted recovery limits Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RLReporting Detection Limit

Qualifiers:

S % Recovery outside of range due to dilution or matrix

## Hall Environmental Analysis Laboratory, Inc.

ND

0.25

WO#:

1511325

25-Nov-15

Client: Project:

Silver

Blagg Engineering Crouch Mesa LF

Sample ID MB-22298 SampType: MBLK TestCode: EPA Method 6010B: Soil Metals Client ID: PBS Batch ID: 22298 RunNo: 30218 Prep Date: 11/11/2015 Analysis Date: 11/13/2015 SeqNo: 920723 Units: mg/Kg Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Arsenic ND 2.5 Barium ND 0.10 Cadmium ND 0.10 Chromium ND 0.30 ND 0.25 Lead Selenium ND 2.5

Sample ID LCS-22298	SampT	ype: LC	:s	Tes	TestCode: EPA Method 6010B: Soil Metals							
Client ID: LCSS	Batch	n ID: 22	298	F	RunNo: 3	0218						
Prep Date: 11/11/2015	Analysis D	oate: 11	1/13/2015	\$	SeqNo: 9	20724	Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Arsenic	25	2.5	25.00	0	98.3	80	120					
Barium	25	0.10	25.00	0	98.2	80	120					
Cadmium	24	0.10	25.00	0	97.3	80	120					
Chromium	25	0.30	25.00	0	98.1	80	120					
Lead	24	0.25	25.00	0	97.2	80	120					
Selenium	24	2.5	25.00	0	96.0	80	120					
Silver	4.9	0.25	5.000	0	98.2	80	120					

Sample ID 1511325-00	<b>1BMS</b> SampT	Гуре: МS	3	TestCode: EPA Method 6010B: Soil Metals						
Client ID: Cell 1 @ 2'-	3' Depth Batch	h ID: 22:	298	F	RunNo: 3	0218				
Prep Date: 11/11/2015	5 Analysis D	)ate: 11	1/13/2015	SeqNo: 920765 Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	22	2.4	24.36	1.009	86.2	75	125		,	
Barium	180	0.097	24.36	127.4	232	75	125			S
Cadmium	21	0.097	24.36	0	87.3	75	125			
Chromium	24	0.29	24.36	2.073	90.7	75	125			
Lead	22	0.24	24.36	3.225	79.1	75	125			В
Selenium	19	2.4	24.36	0	76.0	75	125			
Silver	4.3	0.24	4.872	0	87.2	75	125			

Sample ID 1511325-001BMS	<b>D</b> SampT	ype: MS	SD	Tes	tCode: E	PA Method	6010B: Soil I	Metals		
Client ID: Cell 1 @ 2'-3' Dep	<b>th</b> Batch	ID: <b>22</b> :	298	F	RunNo: 3	0218				
Prep Date: 11/11/2015	Analysis D	ate: <b>1</b> 1	/13/2015	S	SeqNo: 9	20767	Units: mg/K	ζg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	22	2.5	24.63	1.009	86.5	75	125	1.43	20	

#### 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

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- P Sample pH Not In Range
- RL Reporting Detection Limit

## Hall Environmental Analysis Laboratory, Inc.

WO#: 15

1511325

25-Nov-15

Client: Blagg Engineering
Project: Crouch Mesa LF

Sample ID 1511325-001BN	ISD SampT	ype: MS	SD	Tes	TestCode: EPA Method 6010B: Soil Metals						
Client ID: Cell 1 @ 2'-3' D	epth Batch	n ID: 22	298	F	RunNo: 3	0218					
Prep Date: 11/11/2015	Analysis D	)ate: 11	/13/2015	8	SeqNo: 920767 Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Barium	160	0.099	24.63	127.4	130	75	125	14.4	20	S	
Cadmium	21	0.099	24.63	0	86.1	75	125	0.223	20		
Chromium	24	0.30	24.63	2.073	88.9	<b>7</b> 5	125	0.803	20		
Lead	23	0.25	24.63	3.225	81.0	75	125	3.05	20		
Selenium	19	2.5	24.63	0	76.8	75	125	2.14	20		
Silver	4.2	0.25	4.927	0	85.0	75	125	1.48	20		

Sample ID MB-22298	SampT	ype: ME	BLK	Tes	tCode: E	PA Method	6010B: Soil	Vietals		
Client ID: PBS	Batch	1D: 22	298	F	RunNo: 3	0443				
Prep Date: 11/11/2015	Analysis D	ate: 11	1/24/2015	5	SeqNo: 9	28963	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	25								
Magnesium	ND	25								
Potassium	ND	50								
Sodium	ND	25								

Sample ID LCS-22298	SampT	ype: LC	s	Tes	tCode: El	PA Method	6010B: Soil I	Metals		
Client ID: LCSS	Batch	ID: 22	298	F	RunNo: 3	0443				
Prep Date: 11/11/2015	Analysis D	ate: 11	1/24/2015	8	SeqNo: 9	28964	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	2500	25	2500	0	98.3	80	120			
Magnesium	2500	25	2500	0	98.6	80	120			
Potassium	2400	50	2500	0	95.1	80	120			
Sodium	2400	25	2500	0	97.3	80	120			

Sample ID 1511325-001	BMS SampT	ype: MS	3	Tes	tCode: El	PA Method	6010B: Soil	Metals		
Client ID: Cell 1 @ 2'-3'	<b>Depth</b> Batch	ID: 22	298	F						
Prep Date: 11/11/2015	Analysis D	ate: 11	/24/2015	8	SeqNo: 9	29121	Units: mg/F	ζg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	6800	49	2436	4807	81.3	75	125			
Magnesium	4200	49	2436	1560	109	75	125			
Potassium	3000	97	2436	657.7	95.8	75	125			
Sodium	2300	49	2436	77.85	91.3	75	125			

### 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

Page 10 of 11

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1511325

25-Nov-15

Qual

Client:

Blagg Engineering

Project:

Prep Date:

Crouch Mesa LF

Sample ID 1511325-001BMSD

SampType: MSD

TestCode: EPA Method 6010B: Soil Metals

Client ID: Cell 1 @ 2'-3' Depth

11/11/2015

h Batch ID: 22298 Analysis Date: 11/24/2015 RunNo: **30443** SeqNo: **929122** 

Units: mg/Kg

Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Analyte 2463 4807 91.5 75 125 3.97 20 Calcium 7100 49 4200 49 2463 1560 107 75 125 0.285 20 Magnesium 2463 94.5 75 125 0.224 20 3000 99 657.7 Potassium 20 77.85 75 125 0.665 Sodium 2300 49 2463 89.6

#### 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

Page 11 of 11



### 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	151132	25		ReptNo	: 1
Received by/d	late:	11/07/15						
Logged By:	Anne Thor	ne 11/7/201	5 8:45:00 AM			ane In	-	
Completed By	: Anne Thor	ne 11/9/201	5			Anne Str		
Reviewed By:						Cine pro		
Chain of Cu	<u>istody</u>							
1. Custody s	eals intact on sa	ample bottles?		Yes		No 🗔	Not Present	
2. Is Chain o	f Custody comp	lete?		Yes	✓	No 🗌	Not Present	
3. How was t	the sample deliv	ered?		<u>Courie</u>	<u> </u>			
Log In								
	ttempt made to	cool the samples?		Yes	$\checkmark$	No 🗆	NA [	
5. Were all s	amples received	i at a temperature of >0° C	to 6.0°C	Yes [		No 🗔	na 🗆	
6. Sample(s)	) in proper conta	niner(s)?		Yes	<b>✓</b>	No 🗆		
7. Sufficient	sample volume	for indicated test(s)?		Yes	<b>✓</b>	No 🗌		
8. Are sample	es (except VOA	and ONG) properly preserv	ed?	Yes	<b>Y</b>	No 🗆		
9. Was prese	ervative added to	bottles?		Yes		No 🗹	NA 🗆	
10.VOA vials	have zero head	space?		Yes		No 🗆	No VOA Vials	
11. Were any	sample contain	ers received broken?		Yes		No 🗹	# of preserved	,
					_	$\square$	bottles checked	
	erwork match bo repancies on ch			Yes	<b>✓</b>	No 🗀	for pH: (<2	or >12 unless noted)
		ntified on Chain of Custody?	,	Yes	<b>✓</b>	No 🗆	Adjusted?	
14. Is it clear v	what analyses w	ere requested?		Yes	✓	No 🗌		
	olding times able fy customer for a			Yes	✓	No 🗌	Checked by:	
	idling (if app							
16. Was client	t notified of all di	screpancies with this order	?	Yes		No 🗆	NA 🗹	 <del></del>
Pers	on Notified:		Date					
1	Vhom:		Via:	eMai	l 🗌 Ph	one 🗌 Fax	⟨	
_	arding:		<del>, , , , , , , , , , , , , , , , , , , </del>					
	nt Instructions:							
17. Additional	I remarks:							
18. Cooler In	No Temp ℃		Seai No	Seal Dat	e S	Signed By	_	
1	1.2	Good Yes	<u>:</u>					

CI	hain-of-	Custo	dy Record	i urn-Arouna	rime.		1 🍍					. I Z <i>E</i>	TD.				
Client:	Blagg Engir	neering, in	C.	Standard	□ Rush		-							-	MEN		
	BP America	3	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Project Name			<u> </u>		_ ^						RA	ŲH	K Y
Mailing Add		<del></del>	07		Crouch Mesa	ı LF	1	40					ronme				
		P.O. Bo	x 87 eld, NM 87413	Project #:			$\dashv$		)1 Hav								
Dh #.		(505)320	·					Te	l. 505-						5-410	7	
Phone #: email or Fax	~#:	(303)32	0-1103	Drain at Mana						, A	many	SIS	Reque	451	1		
				Project Mana	_												
QA/QC Pack	•		□ Level 4 (Full Validation	)	Jeff Blagg				RO)								
Other_				Sampler:	Jeff Blagg										1		Î
☐ EDD (Typ	oe)			10.75	∠ Yes	☐ Nole Sign	4		잃	ည္ဆ		8					٥
		T		Sample Tem	perature: ¿.	<u> </u>	12		98	Neta		힏					) se
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.  51 325	L BTEX (8021)		TPH 8015B (GRO / DRO)	RCRA 8 Metals		Cations/Anions					Air Bubbles (Y or N)
11/03/2015	8:20	Soil	Cell 1 @ 2'-3' Depth	40z x 2	cool	-001	×		×	x		x		$\top$			
11/03/2015	8:40	Soil	Cell 2 @ 2'-3' Depth	40z x 2	cool	700-	2 X		×	х		×	$\dashv$	$\top$			
11/03/2015	9:05	Soil	Cell 5 @ 2'-3' Depth	40z x 2	cool	-00			×	х		x		$\top$			
							_					$\neg$		+	$\top$		$\dashv$
												_	+	_	<del></del>		
							+				-		$\top$	十	+	$\vdash$	_
		1					_		_			$\dashv$	+	+	+	$\Box$	_
							+		_	+	$\Box$		+	$\top$	$\top$		$\top$
							<b>-</b>		_	_		_	$\dashv$	$\top$	+	$\Box$	
												$\neg$	十	$\top$	+		
										<u> </u>			$\dashv$	$\top$	<del></del>	$\Box$	
							$\top$							$\top$	$\top$	$\Box$	
Date: / 2015	Time: 1540	Relinguish	1 Blegy	Received by:	West	Date Time	BP	Cont	s: Bill act: Jo nie@bi	ohn Ri	tchie		Pleas	e cot	by res	ults to	):
Date:	Time: \$800	Relinquish	Bet Waller	Received by:	11	Date Time 107-15 084	5										
	essary, samples	submitted to H	lall Environmental may be subcontracte	ed to other accredite	aboratories. This	serves as notice of this pos	sibility. A	ny sub	contracte	d data w	ill be cl	early n	otated	on the a	nalytica	report.	

# RECEIVED OCD

Z015 DEC -2 P 2: 37



November 30, 2015

### Via Email and U.S. Mail

Mr. Brad Jones
Environmental Engineer
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87505
Email: brad.a.jones@state.nm.us

Re:

BP America Production Company, Permit NM-02-0003 Crouch Mesa Waste Management Facility 2015 Annual Report on Treatment Zone Monitoring

Dear Mr. Jones:

BP America Production Company is submitting the 2015 Annual Treatment Zone Monitoring Report for the above referenced facility pursuant to the November 25, 1998 issued Permit NM-02-0003. Sampling was conducted by Blagg Engineering, Inc. and represents the period of December 1, 2014 through November 30, 2015. The report and analytical test results attached to his cover letter indicate that the facility met the applicable action levels in each of the four sampling events.

Should you have questions or comments concerning this report, please contact me at (281) 366 -7305.

Respectfully,

Roxana Herrera Water / Waste SME

**BP America Production Company** 

Cc: Steve Moskal, Field Environmental Coordinator; Kirk Steinle, Area Operations Env. Team Lead; Gabrielle Sitomer, Lead Counsel - HSSE

**Enclosures** 

## BLAGG ENGINEERING, INC.

P.O. Box 87, Bloomfield, New Mexico 87413 Fax: (505)632-3903 Phone: (505)632-1199

November 25, 2015

Roxana Herrera BP America Production Co. 737 N. Eldridge Parkway Houston, TX 77079

Re: **BP America Production Company** 

Crouch Mesa Waste Management Facility, Permit NM-02-003

2015 Annual Report on Treatment Zone Monitoring

Dear Ms. Herrera:

On behalf of BP America Production Company, Blagg Engineering, Inc. (BEI) conducted 2015 annual treatment zone monitoring at the Crouch Mesa Waste Management Facility pursuant to Permit NM-02-003, dated November 25, 1998. This report is for the December 1, 2014 through November 30, 2015 reporting period. Analytical test results (attached) indicate the facility met standards with each sample event.

The landfarm is presently configured into three (3) active cells, identified as Cell 1, Cell 2 and Cell 5 (Figure 1). Cell 5 is used for storage of remediated soils only. The northeast portion of the facility (identified as 'unused cell') is used for equipment, materials, remediated soils storage and unused compost media storage.

Sampling protocol specifies collection of subsurface samples in each cell from the native ground surface below the treatment zone at a depth of between 2' - 3' during quarterly monitoring. Quarterly test procedures include total petroleum hydrocarbons (TPH), chloride and benzene, toluene, ethyl-benzene and xylenes (BTEX). Heavy metals and major cations/anions are to be collected for at least one quarterly sample event. During this reporting period, metals and cations/anions were tested on the November 3, 2015 sample event.

Questions or comments concerning the this transmittal may be directed to myself at (505)320-1183.

Respectfully submitted:

Blagg Engineering, Inc.

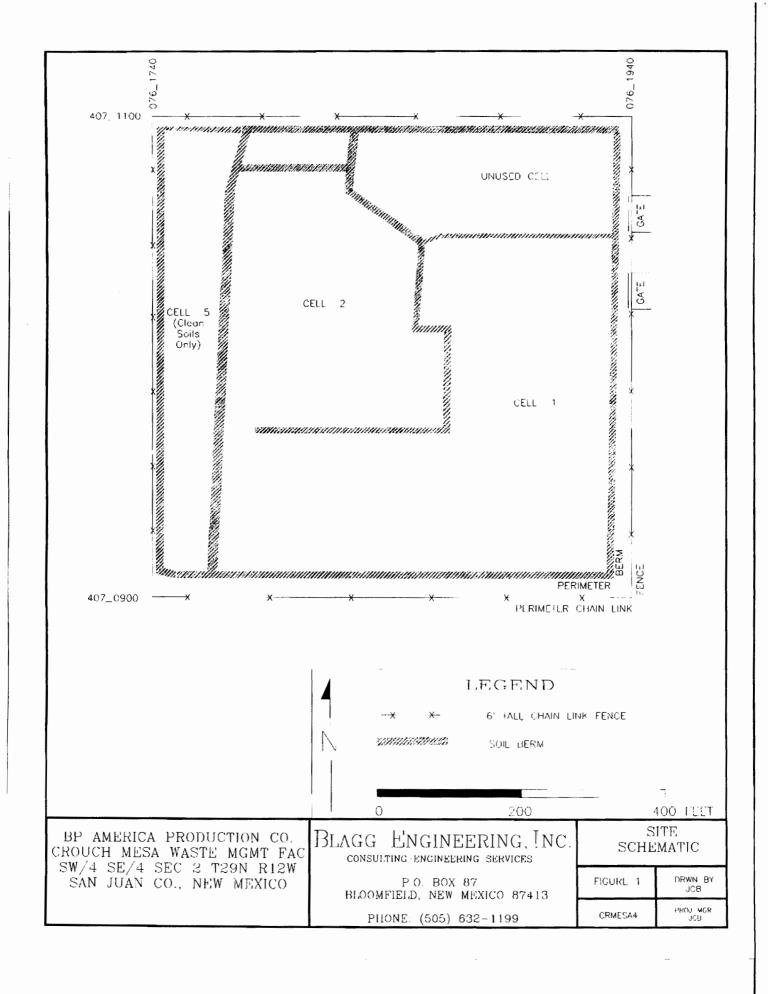
Digitally signed by Jeffrey C Blagg, PE DN: cn=Jeffrey C Blagg, PE, o, ou, email=jeffcblagg@aol.com, c=US Date: 2015.11.25 13:59:19 -07'00'

Jeffrey C. Blagg, P.E. President

Attachments:

Site Diagrams for each Sample Event (2/2/15, 6/29/15, 9/30/15, 11/3/15)

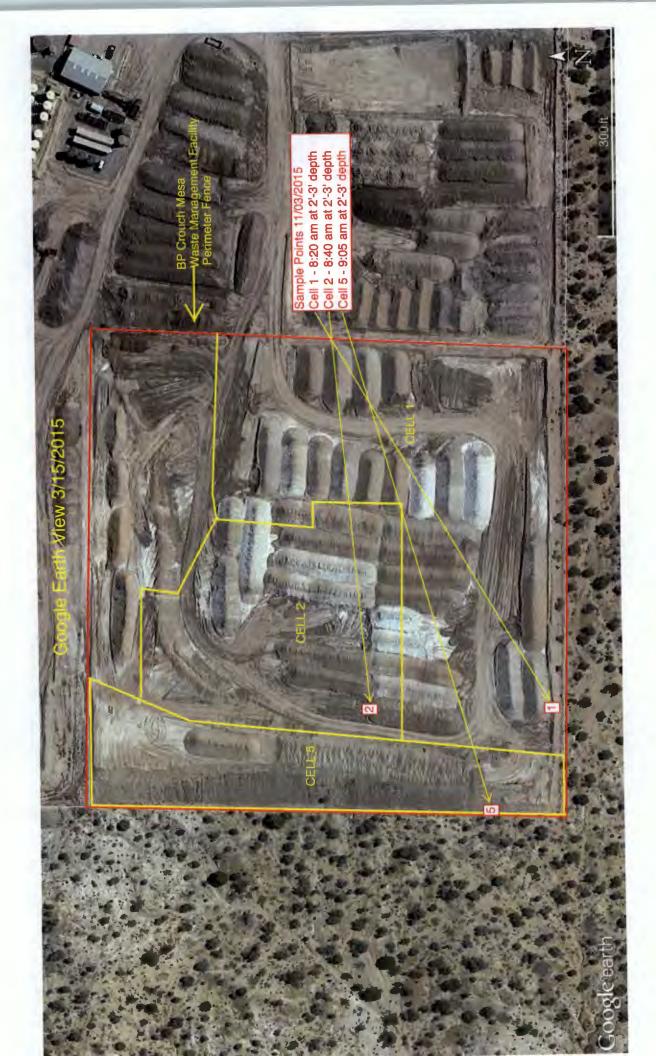
Soil Treatment Zone Laboratory Monitoring Reports













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

OrderNo.: 1502135

February 10, 2015

Jeff Blagg

Blagg Engineering

P. O. Box 87

Bloomfield, NM 87413

TEL: (505) 320-1183

FAX (505) 632-3903

RE: Crouch Mesa LF

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory received 3 sample(s) on 2/4/2015 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 <a href="www.hallenvironmental.com">www.hallenvironmental.com</a> 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

andyl

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order 1502135

Date Reported: 2/10/2015

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Lab ID:

Project: Crouch Mesa LF

1502135-001

Client Sample ID: Cell 1

**Collection Date:** 2/2/2015 7:20:00 AM

Received Date: 2/4/2015 8:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	GE ORGANICS				Analys	: JME
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	2/6/2015 3:59:08 PM	17564
Surr: DNOP	80.3	63.5-128	%REC	1	2/6/2015 3:59:08 PM	17564
EPA METHOD 8015D: GASOLINE R.	ANGE				Analys	: NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	2/5/2015 9:41:22 PM	17567
Surr: BFB	100	80-120	%REC	1	2/5/2015 9:41:22 PM	17567
EPA METHOD 8021B: VOLATILES					Analys	: NSB
Benzene	ND	0.048	mg/Kg	1	2/5/2015 9:41:22 PM	17567
Toluene	ND	0.048	mg/Kg	1	2/5/2015 9:41:22 PM	17567
Ethylbenzene	ND	0.048	mg/Kg	1	2/5/2015 9:41:22 PM	17567
Xylenes, Total	ND	0.095	mg/Kg	1	2/5/2015 9:41:22 PM	17567
Surr: 4-Bromofluorobenzene	117	80-120	%REC	1	2/5/2015 9:41:22 PM	17567
EPA METHOD 300.0: ANIONS					Analys	: LGT
Chloride	ND	1.5	mg/Kg	1	2/6/2015 11:21:47 AM	17607

Matrix: SOIL

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

#### 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

Page 1 of 7

- P Sample pH greater than 2.
- RL Reporting Detection Limit

Lab Order 1502135

Date Reported: 2/10/2015

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Project:

Crouch Mesa LF

Client Sample ID: Cell 2

Collection Date: 2/2/2015 7:50:00 AM

**Lab ID:** 1502135-002 **Matrix:** SOIL

Received Date: 2/4/2015 8:30:00 AM

Analyses	Result	RL Q	ual Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANG	GE ORGANICS				Analys	st: JME
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	2/6/2015 4:20:50 PM	17564
Surr: DNOP	71.4	63.5-128	%REC	1	2/6/2015 4:20:50 PM	17564
EPA METHOD 8015D: GASOLINE R	ANGE				Analys	st: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	2/5/2015 10:10:03 PM	17567
Surr: BFB	99.7	80-120	%REC	1	2/5/2015 10:10:03 PM	17567
EPA METHOD 8021B: VOLATILES					Analys	st: NSB
Benzene	ND	0.049	mg/Kg	1	2/5/2015 10:10:03 PM	17567
Toluene	ND	0.049	mg/Kg	1	2/5/2015 10:10:03 PM	17567
Ethylbenzene	ND	0.049	mg/Kg	1	2/5/2015 10:10:03 PM	17567
Xylenes, Total	ND	0.098	mg/Kg	1	2/5/2015 10:10:03 PM	17567
Surr: 4-Bromofluorobenzene	114	80-120	%REC	1	2/5/2015 10:10:03 PM	17567
EPA METHOD 300.0: ANIONS					Analys	st: <b>LGT</b>
Chloride	ND	1.5	mg/Kg	1	2/6/2015 12:11:25 PM	17607

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

#### 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

Page 2 of 7

- P Sample pH greater than 2.
- RL Reporting Detection Limit

Lab Order 1502135

Date Reported: 2/10/2015

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Project: Crouch Mesa LF

Lab ID: 1502135-003

Client Sample ID: Cell 5

Collection Date: 2/2/2015 8:20:00 AM

Received Date: 2/4/2015 8:30:00 AM

Analyses	Result	RL Qı	ıal Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RAN	GE ORGANICS				Analys	: JME
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	2/6/2015 4:42:40 PM	17564
Surr: DNOP	87.0	63.5-128	%REC	1	2/6/2015 4:42:40 PM	17564
EPA METHOD 8015D: GASOLINE R	ANGE				Analys	: NSB
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	2/5/2015 10:38:46 PM	17567
Surr: BFB	99.7	80-120	%REC	1	2/5/2015 10:38:46 PM	17567
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	ND	0.047	mg/Kg	1	2/5/2015 10:38:46 PM	17567
Toluene	ND	0.047	mg/Kg	1	2/5/2015 10:38:46 PM	17567
Ethylbenzene	ND	0.047	mg/Kg	1	2/5/2015 10:38:46 PM	17567
Xylenes, Total	ND	0.094	mg/Kg	1	2/5/2015 10:38:46 PM	17567
Surr: 4-Bromofluorobenzene	114	80-120	%REC	1	2/5/2015 10:38:46 PM	17567
EPA METHOD 300.0: ANIONS					Analyst	: LGT
Chloride	ND	1.5	mg/Kg	1	2/6/2015 1:01:04 PM	17607

Matrix: SOIL

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

#### 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

Page 3 of 7

- P Sample pH greater than 2.
- RL Reporting Detection Limit

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1502135

10-Feb-15

Client:

**Blagg Engineering** 

Project:

Crouch Mesa LF

Sample ID MB-17607

SampType: MBLK

TestCode: EPA Method 300.0: Anions

Client ID: PBS

Batch ID: 17607

RunNo: 24171

SPK value SPK Ref Val %REC LowLimit

Prep Date: 2/6/2015

Analysis Date: 2/6/2015

SeqNo: 712654

Units: mg/Kg

%RPD

**RPDLimit** 

%RPD

**RPDLimit** Qual

Qual

Analyte Chloride

Result **PQL** ND 1.5

Sample ID LCS-17607

Client ID: LCSS

SampType: LCS

TestCode: EPA Method 300.0: Anions

RunNo: 24171

HighLimit

90

HighLimit

Prep Date: 2/6/2015

Analysis Date: 2/6/2015

SeqNo: 712655

Units: mg/Kg

110

%REC **PQL** SPK value SPK Ref Val LowLimit Analyte Result 93.6 Chloride 14 1.5 15.00 0

Batch ID: 17607

#### Qualifiers:

Value exceeds Maximum Contaminant Level.

Е Value above quantitation range

Analyte detected below quantitation limits

o RSD is greater than RSDlimit

RPD outside accepted recovery limits

Spike Recovery outside accepted recovery limits

Analyte detected in the associated Method Blank В

Holding times for preparation or analysis exceeded Н

Not Detected at the Reporting Limit

Sample pH greater than 2. P

Reporting Detection Limit

Page 4 of 7

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1502135

10-Feb-15

Client:

Blagg Engineering

Project:

Crouch Mesa LF

Sample ID MB-17564	SampT	уре: МЕ	BLK	Tes	tCode: El	PA Method	8015D: Diese	el Range (	Organics	
Client ID: PBS	Batch	ID: 17	564	R	RunNo: 2	4136				
Prep Date: 2/4/2015	Analysis D	ate: 2/	6/2015	S	SeqNo: 7	12630	Units: mg/K	<b>(</b> g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	9.0		10.00		89.7	63.5	128			

Sample ID LCS-17564	SampT	ype: LC	s	Tes	tCode: E	PA Method	8015D: Dies	el Range (	Organics	
Client ID: LCSS	Batch	ID: <b>17</b>	564	F	RunNo: 2	4136				
Prep Date: 2/4/2015	Analysis D	ate: 2/	6/2015	S	SeqNo: 7	12631	Units: mg/h	<b>(</b> g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	10	50.00	0	97.8	67.8	130			
Surr: DNOP	4.9		5.000		98.2	63.5	128			

### 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.

RL Reporting Detection Limit

Page 5 of 7

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1502135

10-Feb-15

Client:

Blagg Engineering

**Project:** 

Crouch Mesa LF

Sample ID MB-17567

Prep Date: 2/4/2015

SampType: MBLK

TestCode: EPA Method 8015D: Gasoline Range

Batch ID: 17567

RunNo: 24122

Client ID: PBS

Analysis Date: 2/5/2015

SeqNo: 711439

HighLimit

120

Units: mg/Kg

Qual

Analyte Gasoline Range Organics (GRO)

Surr: BFB

940

Result

ND

1000

94.1

80

%RPD

**RPDLimit** 

Sample ID LCS-17567

Prep Date: 2/4/2015

Client ID: LCSS

SampType: LCS

SPK value SPK Ref Val %REC LowLimit

TestCode: EPA Method 8015D: Gasoline Range RunNo: 24122

SeqNo: 711440

Units: mg/Kg

Analyte

Result

Analysis Date: 2/5/2015 PQL

Batch ID: 17567

5.0

SPK value SPK Ref Val %REC LowLimit HighLimit

%RPD **RPDLimit** Qual

Gasoline Range Organics (GRO) Surr: BFB

26 1100

5.0 25.00 1000

105 106 64 80

130 120

### 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
- В Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded Н
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- Reporting Detection Limit

Page 6 of 7

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1502135

10-Feb-15

Client:

Blagg Engineering

**Project:** 

Crouch Mesa LF

Sample ID MB-17567	SampT	ype: ME	BLK	TestCode: EPA Method 8021B: Volatiles							
Client ID: PBS	Batch ID: 17567			RunNo: 24122							
Prep Date: 2/4/2015	Analysis D	Date: 2/	2/5/2015 SeqNo: 711478			11478	478 Units: mg/Kg				
Analyte	Result	<b>PQL</b>	SPK value	SPK value SPK Ref Val %REC LowL		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-17567	ple ID LCS-17567 SampType: LCS					TestCode: EPA Method 8021B: Volatiles						
Client ID: LCSS	Batcl	h ID: <b>17</b>	ID: 17567 RunNo: 24122									
Prep Date: 2/4/2015	Analysis [	Date: 2/	5/2015	SeqNo: 711479			SeqNo: 711479 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	112	80	120					
Toluene	1.1	0.050	1.000	0	108	80	120					
Ethylbenzene	1.1	0.050	1.000	0	113	80	120					
Xylenes, Total	3.4	0.10	3.000	0	112	80	120					
Surr: 4-Bromofluorobenzene	1.2		1.000		122	80	120			S		

#### 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.
- RL Reporting Detection Limit

Page 7 of 7



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:	1502135		RoptNo: 1	
Received by/da	I MEX.	02/04/15	V 11-4-1	۸		
Logged By:	Ashley Gallegos	2/4/2015 8:30:00 AM		4		
Completed By:	Ashley Gallegos	2/4/2015 9:52:44 AM		Ay		
Reviewed By	Ar ozlavili	5				
Chain of Cus	stody					
1. Custody se	als intact on sample bo	illes?	Yes 🗌	No 🗌	Not Present	
2. Is Chain of	Custody complete?		Yes 🗸	No 🗍	Not Present	
3. How was th	e sample delivered?		Ctlent			
Log In						
	empt made to cool the	samples?	Yes 💆	No LJ	NA 🗀	
5. Were all sa	imples received at a ten	nperature of >0° C to 6.0°C	Yes 🗹	No 🗀	NA T.	
6. Sample(s)	in proper container(s)?		Yes 😾	No 🗌		
7. Sufficient sa	ample volume for indica	ted test(s)?	Yes 🗹	No 🔝		
8. Are sample	s (except VOA and ON	G) properly preserved?	Yes 🗹	No []		
9. Was presen	vative added to bottles	?	Yes	No 🗹	NA []	
10.VOA vials h	nave zero headspaco?		Yes 🗌	No 🗀	No VOA Vials 🗹	
11, Were any s	sample containers recei	ved broken?	Yes 🗆	No M	# of preserved bottles checked	
• •	work match bottle label epancies on chain of cu		Yes 🗹	No 🗔	for pH; (<2 or >12 unless no	ted)
·	s correctly identified on		Yes 🗹	No [	Adjusted?	
14, is it clear w	hat analyses were requ	ested?	Yes 🗹	No 🗍		
	lding times able to be n customer for authoriza		Yes 🗹	No [	Checked by:	
Special Hand	dling (if applicable	<u>•)</u>				
16. Was client i	notified of all discrepand	cies with this order?	Yes	No 🗌	NA 🗹	
Perso	on Notified:	Date				
By W	hom:	Via: [	eMall [] F	Phone 🔲 Fax	n Person	
Rega						
'	Instructions:				* * * * * All ***	
17. Additional						
18. <u>Cooler Infi</u> Cooler N		Not Present	Seal Date	Signed By		

Client:	Blagg Engi	neering, In	IC.	Standard □ Rush				ANALYSIS LABORATORY									
	BP America	a		Project Name	<b>e</b> :					w	ww.ha	allen	rironm	iental	l.com		
Mailing Add	ress:	P.O. Box	× 87		Crouch Mesa	LF		49	Ю1 H	awkins						7109	
		Bloomfie	eld, NM 87413	Project #:				T	el. 50	5-345	-3975	i	Fax 5	05-3	45-410	07	
Phone #:		(505)320	0-1183								Ana	ysis	Requ	est			
email or Fax	κ <b>#</b> :			Project Mana	ager:												
QA/QC Pack	age:				Jeff Blagg												
<b>★</b> Standard	I		☐ Level 4 (Full Validation	)					80								
□ Other				Sampler:	Jeff Blagg				0/0								2
□ EDD (Ty	pe)			On loe:	# Yes	□ No	_		SRC								ŏ
	1	<u> </u>	T	Sample Tem	perature: 2,	7	ᅴᇵ		B (C							The state of the s	2
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1502135	) BTEX (8021)		TPH 8015B (GRO / DRO)							Chloride	Air Bubbles (Y or N)
02/02/2015	7:20	Soil	Celi 1	40z x 1	cool	cci	×	1	x		1			1		x	
02/02/2015	7:50	Soil	Cell 2	40z x 1	cool	- D03	×		х							х	
02/02/2015	8:20	Soil	Cell 5	40z x 1	cool	- 003	, x		x		1					x	
												_			$\bot$		
																$\perp$	
								-			-	╀		+	_	1	
	<b> </b>						_	-			+	1	+	$\dashv$	+	+	_
								-			+	-	$\vdash \vdash$	+		+	
Date:	Time:	Relinquis	hed by:	Received by:		Date Time	Re	mark	s: B	ill BP		1					
2/3/2015	1034	Jell Blogg		V pristulatelen 2/3/1× 1033			3 BF	CD Content Leff Doors Disease converge to									
Date:	Time:	Relinquisi	hed by:	Received by:	/ i	Date Time	pe	ace.ji	enre)	y@op.	JOITI						
2/3/15	1747	$\frac{1}{2}$	ristu Waller		SZID	1/15 0830											
ifne	cessary, samples	submitted to	Hall Environmental may be subcontract	ed to other acceptant	ed laboratories. This	serves as notice of this po	ossibility.	Any su	p-cous	acted dat	a will be	clear	notated	on the	analytic	# report	



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

July 14, 2015

Jeff Blagg

**Blagg Engineering** 

P. O. Box 87

Bloomfield, NM 87413

TEL: (505) 320-1183

FAX (505) 632-3903

RE: Crouch Mesa Landfarm

OrderNo.: 1507054

### Dear Jeff Blagg:

Hall Environmental Analysis Laboratory received 3 sample(s) on 7/1/2015 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman

Laboratory Manager

andyl

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order 1507054

Date Reported: 7/14/2015

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: Cell #1 @ 2'-3'

Project:

Crouch Mesa Landfarm

Collection Date: 6/29/2015 10:10:00 AM

Lab ID:

1507054-001

Matrix: SOIL

Received Date: 7/1/2015 7:15:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	st: <b>LGT</b>
Chloride	ND	30	mg/Kg	20	7/9/2015 2:54:23 PM	20182
EPA METHOD 8015M/D: DIESEL RA	NGE ORGANIC	s			Analys	st: <b>KJH</b>
Diesel Range Organics (DRO)	ND	9.4	mg/Kg	1	7/6/2015 6:17:47 PM	20084
Surr: DNOP	99.2	57.9-140	%REC	1	7/6/2015 6:17:47 PM	20084
EPA METHOD 8015D: GASOLINE RA	ANGE				Analys	st: NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	7/6/2015 11:50:49 PM	20074
Surr: BFB	86.3	75.4-113	%REC	1	7/6/2015 11:50:49 PM	20074
EPA METHOD 8021B: VOLATILES					Analys	st: NSB
Benzene	ND	0.048	mg/Kg	1	7/6/2015 11:50:49 PM	20074
Toluene	ND	0.048	mg/Kg	1	7/6/2015 11:50:49 PM	20074
Ethylbenzene	ND	0.048	mg/Kg	1	7/6/2015 11:50:49 PM	20074
Xylenes, Total	ND	0.097	mg/Kg	1	7/6/2015 11:50:49 PM	20074
Surr: 4-Bromofluorobenzene	89.0	80-120	%REC	1	7/6/2015 11:50:49 PM	20074

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

#### 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

Page 1 of 7

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1507054

Date Reported: 7/14/2015

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: Cell #2 @ 2'-3'

Project: (

Crouch Mesa Landfarm

Collection Date: 6/29/2015 10:30:00 AM

Lab ID: 150

1507054-002

Matrix: SOIL

Received Date: 7/1/2015 7:15:00 AM

Analyses	Result	RL Q	ual Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: LGT
Chloride	ND	30	mg/Kg	20	7/9/2015 3:06:47 PM	20182
EPA METHOD 8015M/D: DIESEL RA	NGE ORGANIC	s			Analys	t: KJH
Diesel Range Organics (DRO)	ND	9.5	mg/Kg	1	7/6/2015 6:44:51 PM	20084
Surr: DNOP	98.3	57.9-140	%REC	1	7/6/2015 6:44:51 PM	20084
EPA METHOD 8015D: GASOLINE RA	ANGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	7/7/2015 12:19:35 AM	20074
Surr: BFB	85.3	75.4-113	%REC	1	7/7/2015 12:19:35 AM	20074
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.048	mg/Kg	1	7/7/2015 12:19:35 AM	20074
Toluene	ND	0.048	mg/Kg	1	7/7/2015 12:19:35 AM	20074
Ethylbenzene	ND	0.048	mg/Kg	1	7/7/2015 12:19:35 AM	20074
Xylenes, Total	ND	0.096	mg/Kg	1	7/7/2015 12:19:35 AM	20074
Surr: 4-Bromofluorobenzene	87.6	80-120	%REC	1	7/7/2015 12:19:35 AM	20074

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

#### 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

Page 2 of 7

- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1507054

Date Reported: 7/14/2015

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Crouch Mesa Landfarm

Lab ID: 1507054-003

Project:

Client Sample ID: Cell #5 @ 2'-3'

Collection Date: 6/29/2015 10:50:00 AM

Received Date: 7/1/2015 7:15:00 AM

Analyses	Result	RL (	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: LGT
Chloride	ND	30	mg/Kg	20	7/9/2015 3:19:12 PM	20182
EPA METHOD 8015M/D: DIESEL RA	NGE ORGANIC	s			Analys	t: <b>KJH</b>
Diesel Range Organics (DRO)	18	9.5	mg/Kg	1	7/6/2015 7:11:55 PM	20084
Surr: DNOP	98.0	57.9-140	%REC	1	7/6/2015 7:11:55 PM	20084
EPA METHOD 8015D: GASOLINE R	ANGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	7/7/2015 12:48:17 AM	20074
Surr: BFB	85.7	75.4-113	%REC	1	7/7/2015 12:48:17 AM	20074
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.047	mg/Kg	1	7/7/2015 12:48:17 AM	20074
Toluene	ND	0.047	mg/Kg	1	7/7/2015 12:48:17 AM	20074
Ethylbenzene	ND	0.047	mg/Kg	1	7/7/2015 12:48:17 AM	20074
Xylenes, Total	ND	0.094	mg/Kg	1	7/7/2015 12:48:17 AM	20074
Surr: 4-Bromofluorobenzene	88.0	80-120	%REC	1	7/7/2015 12:48:17 AM	20074

Matrix: SOIL

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

#### 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

Page 3 of 7

- ND Not Detected at the Reporting Limit
- P Sample pH Not In Range
- RL Reporting Detection Limit

### Hall Environmental Analysis Laboratory, Inc.

WO#:

1507054

14-Jul-15

**Client:** 

**Blagg Engineering** 

Project:

Crouch Mesa Landfarm

Sample ID MB-20182

SampType: MBLK

TestCode: EPA Method 300.0: Anions

Client ID:

PBS

Batch ID: 20182

RunNo: 27409

Prep Date:

7/9/2015

Analysis Date: 7/9/2015

SeqNo: 822344

Units: mg/Kg

%RPD **RPDLimit** 

Qual

Analyte Chloride

Result

**PQL** ND

1.5

HighLimit

Client ID: LCSS

Sample ID LCS-20182

SampType: LCS Batch ID: 20182

RunNo: 27409

TestCode: EPA Method 300.0: Anions

Prep Date: 7/9/2015

Analysis Date: 7/9/2015

SeqNo: 822345

Units: mg/Kg

Analyte

Result

SPK value SPK Ref Val

%REC LowLimit

94.9

**RPDLimit** 

14

**PQL** 

HighLimit

%RPD

Qual

Chloride

1.5

15.00

SPK value SPK Ref Val %REC LowLimit

110

Qualifiers:

Value exceeds Maximum Contaminant Level.

E Value above quantitation range

Analyte detected below quantitation limits

 $\mathbf{o}$ RSD is greater than RSDlimit

R RPD outside accepted recovery limits

Spike Recovery outside accepted recovery limits

В Analyte detected in the associated Method Blank

Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Sample pH Not In Range

Reporting Detection Limit RL

Page 4 of 7

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1507054

14-Jul-15

Client:

Blagg Engineering

Project: Crouch	Mesa Landfarm								
Sample ID MB-20084	SampType: MI	BLK	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID: PBS	Batch ID: 20	084	F	RunNo: 2	7290				
Prep Date: 7/2/2015	Analysis Date: 7/	6/2015	5	SeqNo: 8	17786	Units: mg/M	(g		
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND 10								
Surr: DNOP	8.8	10.00		88.0	57.9	140			
Sample ID LCS-20084	SampType: LC	s	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID: LCSS	Batch ID: 20	084	F	RunNo: 2	7290				
Prep Date: 7/2/2015	Analysis Date: 7/	6/2015	8	SeqNo: 8	17787	Units: mg/K	ζg		
Analyte	Result PQL	SPK_value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51 10	50.00	0	103	57.4	139	-		
Surr: DNOP	5.5	5.000		110	57.9	140			

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- Analyte detected below quantitation limits
- $\mathbf{o}$ RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- Spike Recovery outside accepted recovery limits
- Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- Sample pH Not In Range P
- Reporting Detection Limit

Page 5 of 7

### Hall Environmental Analysis Laboratory, Inc.

WO#:

1507054

14-Jul-15

**Client:** 

**Blagg Engineering** 

Project:

Crouch Mesa Landfarm

Sample ID MB-20074

SampType: MBLK

TestCode: EPA Method 8015D: Gasoline Range

Batch ID: 20074

RunNo: 27293

Client ID: PBS

Prep Date: 7/2/2015

Analysis Date: 7/6/2015

**PQL** 

5.0

SeqNo: 818229

Units: mg/Kg

Qual

Analyte Gasoline Range Organics (GRO)

ND 840

Result

1000

SPK value SPK Ref Val %REC

84.3

75.4

LowLimit

%RPD **RPDLimit** 

Surr: BFB

SampType: LCS

TestCode: EPA Method 8015D: Gasoline Range

113

Sample ID LCS-20074 Client ID: LCSS

Result

RunNo: 27293

HighLimit

Prep Date: 7/2/2015

Batch ID: 20074

**PQL** 

SeqNo: 818230

Units: mg/Kg

Analysis Date: 7/6/2015

SPK value SPK Ref Val %REC LowLimit

%RPD **RPDLimit** Qual

Analyte

64 75.4 HighLimit 130 113

Gasoline Range Organics (GRO) 24 5.0 25.00 94.9 Surr: BFB 920 1000 91.9

Qualifiers:

Value exceeds Maximum Contaminant Level.

E Value above quantitation range Analyte detected below quantitation limits J

0 RSD is greater than RSDlimit

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits В Analyte detected in the associated Method Blank

Н Holding times for preparation or analysis exceeded

Not Detected at the Reporting Limit ND

Sample pH Not In Range P

Reporting Detection Limit

Page 6 of 7

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1507054

14-Jul-15

Client:

Blagg Engineering

**Project:** 

Crouch Mesa Landfarm

Sample ID MB-20074	Imple ID MB-20074 SampType: MBLK TestCode: EPA Method 8021B: Volatiles									
Client ID: PBS	Client ID: PBS Batch ID: 20074 RunNo: 27293									
Prep Date: 7/2/2015	Analysis D	Date: 7/	6/2015	8	SeqNo: 8	18262	Units: mg/M	(g		
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	0.90		1.000		89.6	80	120			

Sample ID LCS-20074	Samp1	SampType: LCS TestCode: EPA Method 8021B: Volatiles									
Client ID: LCSS	Batcl	h ID: 20	074	F	RunNo: 2						
Prep Date: 7/2/2015	Analysis [	Date: 7/	6/2015	8	SeqNo: 818263 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	102	76.6	128				
Toluene	0.97	0.050	1.000	0	97.0	75	124				
Ethylbenzene	1.0	0.050	1.000	0	101	79.5	126				
Xylenes, Total	3.1	0.10	3.000	0	102	78.8	124				
Surr: 4-Bromofluorobenzene	0.95		1.000		94.7	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 Not In Range
- RL Reporting Detection Limit

Page 7 of 7



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 N	Number: 1507	054	-	RcptN	o: 1
Received by/date: Lindsay Me	07/0// angin 7/1/2015 7:15:0	5 00 AM		Julytha	)	
Completed By: Ashley Gall	√ legos 7/2/2015 7:27:5	54 AM		A		
Reviewed By:	1 DOn 07/02/	) }		0		
Chain of Custody	1 Styl	15				
1. Custody seals intact on sa	imple bottlee?	Yes		No 🗍	Not Present	ď
2. Is Chain of Custody compl	lete?	Yes		No 🗔	Not Present	1
3. How was the sample delive	ered?	<u>Cou</u>	<u>ier</u>			
Log In						
4. Was an attempt made to	cool the samples?	Yes		No 🗆	NA [	]
5. Were all samples received	d at a temperature of >0° C to 6.0°	°C Yes		No ∐	NA 🗆	l
6. Sample(s) in proper conta	niner(s)?	Yes		No 🗀		
7. Sufficient sample volume f	for indicated test(s)?	Yes		No 🗌		
8. Are samples (except VOA	and ONG) properly preserved?	Yes		· No 🛄		
9. Was preservative added to	o bottles?	Yes		No 🐼	NA 🗀	]
10. VOA vials have zero heads	space?	Yes		No []	No VOA Vials	3
11. Were any sample contains	ers received broken?	Yes	[]	No 🗹	# of preserved	
			ביים"ו		bottles checked	
12. Does paperwork match bo (Note discrepancies on ch		Yes		No 🗀	for pH: (<)	2 or >12 unless noted)
13. Are matrices correctly iden	• •	Yes		No []	Adjusted?	,
14, is it clear what analyses w		Yes	(1.25	No 🗌		
15. Were all holding times able (If no, notify customer for a		Yes		No 🗌	Checked by	:
Special Handling (If app	olicable)					
16. Was client notified of all di	screpancies with this order?	Yes		No 🗌	NA 🖟	3
Person Notified:	THE COLUMN ASSESSMENT OF THE COLUMN ASSESSMENT	Date	RECTORE LINES AND	and the second s		
By Whom:	Annoted the second control of the second by the second of	Via: (∷) eM	ail []	Phone   Fax	In Person	
Regarding:		NAME OF TAXABLE PARTIES OF TAXAB	~****************		folio company and the second and an analysis of the second	
Client Instructions:	rife die velderigen de lieben der			ye <del>aliya da ba asa da asa da</del>	dad as a phagir sain rian is an in an	
17. Additional remarks:						
18. Cooler Information Cooler No Temp °C 1 1.3	Condition   Seal Intact   Seal Good Yes	No Seal D	ate	Signed By		

C	hain-	of-Cu	stody Record	Turn-Around	Time:		] [			_			<b>E</b> 1	MM	TE	·^	N R	ЯF	NT	ΔI	
Client:	30	Amonic	···	Standard	□ Rush														TO		7
	Ruc	, <del>, , , ,</del>	- T.C	Project Name	<del>.</del> :										nent						
Mailing	Address	to Engr	neeny Inc.	CRACH!	MESA LAN	DFAR M		49	01 H									109			
				Project #:					el. 50												
Phone	# 52	5~ 37/	7-1183	1				16	31. 50	77-34	J-03				Req						
email or		J - JC	- 118 -	Project Mana	ger:			(y	<b>Q</b>												Γ
	Package:		□ Level 4 (Full Validation)	J. 1			\$ (8021)	(Gas on	S / 1448			SIMS)		PO <sub>4</sub> ,SC	PCB's						
Accredi	tation		er	Sampler: J		□ No	HATE A	+ TPH	RO / DF	18.1)	(04.1)	8270 \$		O3,NO <sub>2</sub> ,	s / 8082		(A)				or N)
□ EDD	(Type)			Sample Tem	perature: /,	3	]	BE	<u>©</u>	od 4	od 5	0 O	etals	Ž,	cide	₹	i-VC	الا			≿
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO.	BTEX +-****** (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRG)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270	RCRA 8 Metals	Anions (F,CI,NO3,NO2,PO4,SO4)	8081 Pesticides / 8082	8260B (VOA)	8270 (Semi-VOA)	CHUSCIDE			Air Bubbles (Y or N)
10/2015	{0 0	SOIL	CELL # 1 C 2'-3'	402×1	cex	-001	X		х									×			Γ
K	1030	Ħ	Œu *2 e Z-3		ч	-002	×		х									×			T
τţ	1050	4	ceu #5 e 2-3	V	1/	-003	×		×									×			T
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							_														$\perp$
							_	_	L-										$\rightarrow$		$\perp$
							1													$\perp$	$\perp$
				Descharte		Data Time					20				<u> </u>	L	ì				$\perp$
Date: 9/20/5	Time:	Relinquish	U Blogg	Received by:  / Musti	ullere	Date Time 5/30/2015 1136	Kei	nark	s: B	164 6 20. c 20.te	SP N F	FILE	- rc	P							
Date: 1/30/15	Time:	Relinquish	ot Walter	Received by:	allegos	07/01/15 07/5				24T6	4 .		ett	100	<i>a</i> . E						
	f necessary.	samples sub	mitted to Hall Environmental may be sub	contracted to other a	ccredited laboratori	es. This serves as notice of thi	is poss	bility.	Any si	ıb-con	racted	data	will be	clear	ly nota	ated or	n the a	nalytic	al report.		



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

October 09, 2015

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

TEL: (505) 320-1183 FAX (505) 632-3903

RE: Crouch Mesa LF OrderNo.: 1510085

#### Dear Jeff Blagg:

Hall Environmental Analysis Laboratory received 3 sample(s) on 10/1/2015 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 <a href="www.hallenvironmental.com">www.hallenvironmental.com</a> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

Andy Freeman

Laboratory Manager

andyl

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order 1510085

Date Reported: 10/9/2015

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering Client Sample ID: Cell 1 @ 2'-3'

 Project:
 Crouch Mesa LF
 Collection Date: 9/30/2015 2:30:00 PM

 Lab ID:
 1510085-001
 Matrix: SOIL
 Received Date: 10/1/2015 8:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: LGT
Chloride	ND	30	mg/Kg	20	10/7/2015 12:23:47 PI	M 21726
EPA METHOD 8015M/D: DIESEL RA	ANGE ORGANIC	S			Analys	t: <b>KJH</b>
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	10/7/2015 12:18:22 Al	M 21629
Surr: DNOP	104	57.9-140	%REC	1	10/7/2015 12:18:22 Af	<b>d</b> 21629
EPA METHOD 8015D: GASOLINE R	ANGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	10/6/2015 11:27:19 PI	M 21665
Surr: BFB	88.9	75.4-113	%REC	1	10/6/2015 11:27:19 PM	M 21665
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.049	mg/Kg	1	10/6/2015 11:27:19 PM	M 21665
Toluene	ND	0.049	mg/Kg	1	10/6/2015 11:27:19 PM	M 21665
Ethylbenzene	ND	0.049	mg/Kg	1	10/6/2015 11:27:19 PM	M 21665
Xylenes, Total	ND	0.099	mg/Kg	1	10/6/2015 11:27:19 PM	A 21665
Surr: 4-Bromofluorobenzene	106	80-120	%REC	1	10/6/2015 11:27:19 PM	A 21665

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

- \* 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 Page 1 of 7
- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1510085

Date Reported: 10/9/2015

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering Client Sample ID: Cell 2 @ 2'-3'

 Project:
 Crouch Mesa LF
 Collection Date: 9/30/2015 2:55:00 PM

 Lab ID:
 1510085-002
 Matrix: SOIL
 Received Date: 10/1/2015 8:00:00 AM

Analyses	Result	RL Q	ual Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	: LGT
Chloride	ND	30	mg/Kg	20	10/7/2015 1:01:00 PM	21726
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	s			Analyst	: KJH
Diesel Range Organics (DRO)	23	9.6	mg/Kg	1	10/7/2015 12:45:42 AM	21629
Surr: DNOP	115	57.9-140	%REC	1	10/7/2015 12:45:42 AM	21629
EPA METHOD 8015D: GASOLINE RAI	NGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	10/6/2015 11:50:30 PM	21665
Surr: BFB	88.1	75.4-113	%REC	1	10/6/2015 11:50:30 PM	21665
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	ND	0.047	mg/Kg	1	10/6/2015 11:50:30 PM	21665
Toluene	ND	0.047	mg/Kg	1	10/6/2015 11:50:30 PM	21665
Ethylbenzene	ND	0.047	mg/Kg	1	10/6/2015 11:50:30 PM	21665
Xylenes, Total	ND	0.095	mg/Kg	1	10/6/2015 11:50:30 PM	21665
Surr: 4-Bromofluorobenzene	104	80-120	%REC	1	10/6/2015 11:50:30 PM	21665

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

- \* 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 Page 2 of 7
- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1510085

Date Reported: 10/9/2015

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Project:

Lab ID:

Crouch Mesa LF

1510085-003

Client Sample ID: Cell 5 @ 2'-3'

Collection Date: 9/30/2015 3:10:00 PM

Received Date: 10/1/2015 8:00:00 AM

Analyses	Result	RL Q	ual Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: <b>LGT</b>
Chloride	ND	30	mg/Kg	20	10/7/2015 1:13:24 PM	21726
EPA METHOD 8015M/D: DIESEL RA	ANGE ORGANIC	s			Analys	t: <b>KJH</b>
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	10/7/2015 1:13:01 AM	21629
Surr: DNOP	94.7	57.9-140	%REC	1	10/7/2015 1:13:01 AM	21629
EPA METHOD 8015D: GASOLINE F	RANGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	10/7/2015 1:23:16 AM	21665
Surr: BFB	88.3	75.4-113	%REC	1	10/7/2015 1:23:16 AM	21665
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.047	mg/Kg	1	10/7/2015 1:23:16 AM	21665
Toluene	ND	0.047	mg/Kg	1	10/7/2015 1:23:16 AM	21665
Ethylbenzene	ND	0.047	mg/Kg	1	10/7/2015 1:23:16 AM	21665
Xylenes, Total	ND	0.094	mg/Kg	1	10/7/2015 1:23:16 AM	21665
Surr: 4-Bromofluorobenzene	104	80-120	%REC	1	10/7/2015 1:23:16 AM	21665

Matrix: SOIL

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

- 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
- RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 3 of 7

- Sample pH Not In Range
- RL Reporting Detection Limit

### Hall Environmental Analysis Laboratory, Inc.

WO#:

1510085

09-Oct-15

Client:

Blagg Engineering

Project:

Crouch Mesa LF

Sample ID MB-21726

SampType: MBLK

TestCode: EPA Method 300.0: Anions

Client ID:

**PBS** 

Batch ID: 21726

RunNo: 29393

Prep Date: 10/7/2015

Analysis Date: 10/7/2015

SeqNo: 894029

Units: mg/Kg

HighLimit

%RPD

**RPDLimit** Qual

Analyte Chloride

Result **PQL** 

ND 1.5

Sample ID LCS-21726

SampType: LCS Batch ID: 21726 TestCode: EPA Method 300.0: Anions

SPK value SPK Ref Val %REC LowLimit

RunNo: 29393

Client ID: LCSS Prep Date: 10/7/2015

SeqNo: 894030

Units: mg/Kg

Analyte

Analysis Date: 10/7/2015

%REC

HighLimit

%RPD **RPDLimit** 

Qual

Chloride

15.00

0

91.3

90

SPK value SPK Ref Val

110

Page 4 of 7

14

1.5

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Holding times for preparation or analysis exceeded Н

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

% Recovery outside of range due to dilution or matrix

Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

Reporting Detection Limit

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1510085

09-Oct-15

Client: Project:	Blagg Engineering Crouch Mesa LF	
Sample ID MB-2 Client ID: PBS Prep Date: 10/5	Batch ID: 21652 RunNo: 29273	
Analyte Surr: DNOP	Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qua	al
Sample ID LCS-: Client ID: LCSS Prep Date: 10/5	Batch ID: 21652 RunNo: 29273	
Analyte Surr: DNOP	Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qua 4.7 5.000 94.7 57.9 140	al
Sample ID MB-2 Client ID: PBS Prep Date: 10/2	Batch ID: 21629 RunNo: 29273	
Analyte Diesel Range Organics Surr: DNOP	Result         PQL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         %RPD         RPDLimit         Quality           0RO)         ND         10         10.00         103         57.9         140	al
Sample ID LCS-2 Client ID: LCSS Prep Date: 10/2	Batch iD: 21629 RunNo: 29273	
Analyte Diesel Range Organics Surr: DNOP	Result         PQL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         %RPD         RPDLimit         Quality           9RO)         48         10         50.00         0         96.7         57.4         139           5.3         5.000         107         57.9         140	al
Sample ID MB-2: Client ID: PBS Prep Date: 10/8: Analyte Surr: DNOP	Batch ID: 21737 RunNo: 29273	al
Sample ID LCS-2 Client ID: LCSS Prep Date: 10/8	737 SampType: LCS TestCode: EPA Method 8015M/D: Diesel Range Organics Batch ID: 21737 RunNo: 29273	

#### Qualifiers:

Analyte

Surr: DNOP

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded

Result

**PQL** 

SPK value SPK Ref Val

5.000

- 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

LowLimit

57.9

HighLimit

140

%RPD

E Value above quantitation range

%REC

103

- J Analyte detected below quantitation limits
- Page 5 of 7

**RPDLimit** 

Qual

- P Sample pH Not In Range
- RL Reporting Detection Limit

### Hall Environmental Analysis Laboratory, Inc.

WO#:

1510085

09-Oct-15

Client:

Blagg Engineering

Project:

Analyte

Sun: BFB

Crouch Mesa LF

Sample ID MB-21665

SampType: MBLK

TestCode: EPA Method 8015D: Gasoline Range

Client ID: PBS

Batch ID: 21665

PQL

5.0

RunNo: 29332

Result

ND

Prep Date: 10/5/2015

Analysis Date: 10/6/2015

SeqNo: 892336

Units: mg/Kg

**RPDLimit** 

Qual

Gasoline Range Organics (GRO)

880

1000

88.5

HighLimit 113 %RPD

Sample ID LCS-21665

SampType: LCS

SPK value SPK Ref Val %REC

TestCode: EPA Method 8015D: Gasoline Range

LowLimit

75.4

Client ID: LCSS

Batch ID: 21665

RunNo: 29332

%REC

Prep Date: 10/5/2015

Analysis Date: 10/6/2015

**PQL** 

5.0

SeqNo: 892337

Units: mg/Kg

%RPD **RPDLimit** Qual

Analyte Gasoline Range Organics (GRO)

24

25.00

95.4

79.6

LowLimit

HighLimit 122

Surr: BFB

950

Result

1000

SPK value SPK Ref Val

95.5

75.4

113

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Η 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 Analyte detected in the associated Method Blank

E Value above quantitation range

Analyte detected below quantitation limits

P Sample pH Not In Range

Reporting Detection Limit

Page 6 of 7

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1510085

09-Oct-15

Client:

Blagg Engineering

Project:

Crouch Mesa LF

Sample ID MB-21665	SampT	уре: МЕ	BLK	TestCode: EPA Method 8021B: Volatiles							
Client ID: PBS	Batch	n ID: 21	665	F	RunNo: 2						
Prep Date: 10/5/2015	Analysis D	)ate: 10	0/6/2015	8	SeqNo: 8	92380	Units: mg/k	(g			
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		106	80	120				

Sample ID LCS-21665	Samp1	Type: LC	S	Tes	tCode: El	PA Method	8021B: Volat	tiles		
Client ID: LCSS	Batcl	h ID: <b>21</b> 0	665	R	RunNo: 2	9332				
Prep Date: 10/5/2015	Analysis D	)ate: 10	0/6/2015	S	SeqNo: 8	92381	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	103	80	120			
Toluene	0.99	0.050	1.000	0	99.1	80	120			
Ethylbenzene	1.0	0.050	1.000	0	100	80	120			
Xylenes, Total	3.0	0.10	3.000	0	99.8	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		113	80	120			

#### 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

Page 7 of 7



Hall Environmental Analysis Luboratory 1901 Hawkins NE. Albuquerque, NAI 87109 FEL: 505-315-3975 FAX: 505-345-4107 Website: www.halleavironmental.com

# Sample Log-In Check List

Client Name:	BLAGG		Work Order N	umber.	15100	085			Rep	oiNo: 1
Received by/d	ate:	A o	0115							
Logged By:	Lindsay M	angin	10/1/2015 8:00:	MA 00			04	HHGO HI A		
Completed By	Lindsay M	angin	10/2/2015 1:23:				July	Mgo.		
Reviewed By		a	10/05/1	15			V -	•		
Chain of Cu	stody /	711	19011							
1, Custody se	eals intact on sa	ample bottles?			Yes		No		Not Present	<b>2</b>
2. Is Chain of	Custady comp	olete?			Yes	~	No		Not Present	
3. How was t	he sample deliv	vered?			Cour	er				
<u>Log In</u>										
4. Was an at	tempt made to	cool the samples	?		Yes	¥	No		NA	· · · · · · · · · · · · · · · · · · ·
5. Were all s	amples receive	d at a temperalur	e of >0° C to 6.0°0	C	Yes	¥	No		NA	-
6. Sample(s)	in proper conta	ainer(s)?			Yes	7	No	Ш		
7, Sufficient s	sample volume	for indicated test	s)7		Yes	<b>(</b>	No			
8. Are sample	es (except VOA	and ONG) propo	rty preserved?		Yes	$\checkmark$	No			
9. Was prese	rvative added (	o batt <del>les</del> ?			Yes	L:	No		NA.	<u>L</u>
10.VOA vials	have zero head	space?			Yes		No		No VOA Viais	<b>~</b>
		ers received brok	en?		Yes		No	V		
•	•								# of preserved bottles checke	
	rwork match bo				Ycs	¥	No		for pH:	[42 as \$42 codes = saled)
•	•	nain of custody)	f Company C		Yes	77	No	r t	Adjusted	(<2 or >12 unless noted)
		ntified on Chain o were requested?	Custody?		Yes		No		·	
	olding times abl	•			Yes		No		Checked	by <sup>.</sup>
	y customer for									
Special Han	dling (if app	olicable)								
16. Was client	notified of all d	iscrepancies with	this order?		Yes		No		NA	<b>∠</b> i
Pers	on Notified		[	Date [						
Ву₩	/hom:	***************************************	\	/ia:	eMa	il [] F	Phone [	Fax	In Person	
Rega	irding:									
Clien	t Instructions:									
17. Additional	remarks									
18 Cooler In										
Cooler I	No Temp °C	Condition S	eal intact   Seal N	No S	eal Da	ite	Signed	Ву		
1.	1.0	3000 16	:0					ı		

CI	hain-of	-Custo	dy Record	Tum-Around	Time:					IAI	F	NV	TP	ON	MF	NTA	11
Client:	Blagg Engil	neering, In	IC.	Standard												TO	
	BP America	3		Project Name	e:					ww	w ha	ilenv	ironr	nent	ai.com	1	
Mailing Add	ress.	P.O. Box	x 87	1	Crouch Mesa	a LF		490	1 Hav							87109	3
***************************************		Bloomfie	eld, NM 87413	Project #:			1	Tel	505-	345-3	3975	F	ax :	505-:	345-4	107	
Phone #		(505)320	0-1183							,	Analy	ysis	Requ	uest			
email or Fax	<b>c#</b> :			Project Mana	ager:												
QA/QC Packa	age:				Jeff Blagg												
<b>⊠</b> Standard			☐ Level 4 (Full Validation	)			<b>ا</b> ا		ତ୍ର								
☐ Other				Sampler:	Jeff Blagg		╛╽		2	1							Ê
□ EDD (Typ	pe)			On Ice:	)⊠ Yes	□ No	4	1	잃								Ē
	T	<del></del>		Sample Tem	perature: /. (	7	무		9								ي
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1510085	BTEX (8021)		TPH 8015B (GRO / DRO)							Chloride	Air Bubbles (Y or N)
09/30/2015	14:30	Soil	Cell 1 @ 2 - 3 -	4oz x 1	cool	-001	x		×							х	
09/30/2015	14:55	Soil	Cell 2 @ Z [-3]	40z x 1	cool	-002	×		×							×	
09/30/2015	15:10	Soil	Cell 5 きょう	40z x 1	cool	-003	x		x							×	
Date: 1	Time:	Relinquist	l Blogg	Received by:	cult	Date Time	BP (		ct: J	BP ohn R p.com		•	Plea	ise c	эру ге	esuits t	to:
Date:	Time: 1934	Relinquist	ed by:	Received by:	del	Date Time 10/01/15 (300)		.,110111	- Carry	y. <b></b>							



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

November 25, 2015

Jeff Blagg

**Blagg Engineering** 

P. O. Box 87

Bloomfield, NM 87413

TEL: (505) 320-1183 FAX (505) 632-3903

RE: Crouch Mesa LF

OrderNo.: 1511325

#### Dear Jeff Blagg:

Hall Environmental Analysis Laboratory received 3 sample(s) on 11/7/2015 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued November 18, 2015.

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. 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. All samples are reported as received unless otherwise indicated.

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

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order 1511325

Date Reported: 11/25/2015

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Project: Crouch Mesa LF

Lab ID: 1511325-001

Matrix: SOIL

**Collection Date:** 11/3/2015 8:20:00 AM **Received Date:** 11/7/2015 8:45:00 AM

Client Sample ID: Cell 1 @ 2'-3' Depth

Analyses	Result	RL Q	ual Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: LGT
Fluoride	0.83	0.30	mg/Kg	1	11/12/2015 9:17:47 PM	M 22318
Chloride	ND	1.5	mg/Kg	1	11/12/2015 9:17:47 PM	M 22318
Nitrogen, Nitrite (As N)	ND	0.30	mg/Kg	1	11/12/2015 9:17:47 PM	M 22318
Bromide	ND	0.30	mg/Kg	1	11/12/2015 9:17:47 PM	M 22318
Nitrogen, Nitrate (As N)	0.49	0.30	mg/Kg	1	11/12/2015 9:17:47 PM	M 22318
Phosphorus, Orthophosphate (As P)	ND	1.5	mg/Kg	1	11/12/2015 9:17:47 PM	A 22318
Sulfate	55	1.5	mg/Kg	1	11/12/2015 9:17:47 PM	<i>I</i> 22318
EPA METHOD 7471: MERCURY					Analys	t: DBD
Mercury	ND	0.032	mg/Kg	1	11/16/2015 5:42:24 PM	M 22353
EPA METHOD 6010B: SOIL METALS					Analys	t: MED
Arsenic	ND	2.5	mg/Kg	1	11/13/2015 10:18:45 A	M 22298
Barium	130	0.099	mg/Kg	1	11/13/2015 10:18:45 A	M 22298
Cadmium	ND	0.099	mg/Kg	1	11/13/2015 10:18:45 A	M 22298
Calcium	4800	50	mg/Kg	2	11/24/2015 10:27:07 A	M 22298
Chromium	2.1	0.30	mg/Kg	1	11/13/2015 10:18:45 A	M 22298
Lead	3.2	0.25	mg/Kg	1	11/13/2015 10:18:45 A	M 22298
Magnesium	1600	50	mg/Kg	2	11/24/2015 10:27:07 A	M 22298
Potassium	660	99	mg/Kg	2	11/24/2015 10:27:07 A	M 22298
Selenium	ND	2.5	mg/Kg	1	11/13/2015 10:18:45 A	M 22298
Silver	ND	0.25	mg/Kg	1	11/13/2015 10:18:45 A	M 22298
Sodium	78	50	mg/Kg	2	11/24/2015 10:27:07 A	M 22298
EPA METHOD 8015M/D: DIESEL RAI	NGE ORGANIC	S			Analys	t: <b>KJH</b>
Diesel Range Organics (DRO)	11	9.4	mg/Kg	1	11/10/2015 1:59:59 PM	M 22220
Surr: DNOP	125	70-130	%REC	1	11/10/2015 1:59:59 PM	M 22220
EPA METHOD 8015D: GASOLINE RA	NGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	11/11/2015 3:40:36 AM	M 22241
Surr: BFB	86.3	75.4-113	%REC	1	11/11/2015 3:40:36 AM	M 22241
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.050	mg/Kg	1	11/11/2015 3:40:36 AM	M 22241
Toluene	ND	0.050	mg/Kg	1	11/11/2015 3:40:36 AM	M 22241
Ethylbenzene	ND	0.050	mg/Kg	1	11/11/2015 3:40:36 AM	M 22241
Xylenes, Total	ND	0.099	mg/Kg	1	11/11/2015 3:40:36 AM	A 22241
Surr: 4-Bromofluorobenzene	109	80-120	%REC	1	11/11/2015 3:40:36 AM	M 22241

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

- \* 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 Page 1 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1511325

Date Reported: 11/25/2015

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Project:

Lab ID:

Crouch Mesa LF

1511325-002

25-002 Matrix: SOIL

Client Sample ID: Cell 2 @ 2'-3' Depth

**Collection Date:** 11/3/2015 8:40:00 AM

Received Date: 11/7/2015 8:45:00 AM

Analyses	Result	RL Qu	ıal Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS		•			Analys	st: LGT
Fluoride	1.4	0.30	mg/Kg	1	11/12/2015 9:42:35 PI	M 22318
Chloride	ND	1.5	mg/Kg	1	11/12/2015 9:42:35 PI	M 22318
Nitrogen, Nitrite (As N)	ND	0.30	mg/Kg	1	11/12/2015 9:42:35 PI	M 22318
Bromide	ND	0.30	mg/Kg	1	11/12/2015 9:42:35 PI	M 22318
Nitrogen, Nitrate (As N)	ND	0.30	mg/Kg	1	11/12/2015 9:42:35 Pt	M 22318
Phosphorus, Orthophosphate (As P)	ND	1.5	mg/Kg	1	11/12/2015 9:42:35 PI	M 22318
Sulfate	2.6	1.5	mg/Kg	1	11/12/2015 9:42:35 PI	M 22318
EPA METHOD 7471: MERCURY					Analys	st: DBD
Mercury	ND	0.034	mg/Kg	1	11/16/2015 5:44:10 Pt	M 22353
EPA METHOD 6010B: SOIL METALS					Analys	st: MED
Arsenic	ND	2.5	mg/Kg	1	11/13/2015 9:54:10 Af	M 22298
Barium	21	0.099	mg/Kg	1	11/13/2015 9:54:10 Al	M 22298
Cadmium	ND	0.099	mg/Kg	1	11/13/2015 9:54:10 Al	M 22298
Calcium	4200	25	mg/Kg	1	11/24/2015 11:22:07 A	AM 22298
Chromium	1.7	0.30	mg/Kg	1	11/13/2015 9:54:10 At	M 22298
Lead	2.4	0.25	mg/Kg	1	11/13/2015 9:54:10 Al	M 22298
Magnesium	960	25	mg/Kg	1	11/24/2015 11:22:07 A	M 22298
Potassium	380	49	mg/Kg	1	11/24/2015 11:22:07 A	M 22298
Selenium	ND	2.5	mg/Kg	1	11/13/2015 9:54:10 Al	M 22298
Silver	ND	0.25	mg/Kg	1	11/13/2015 9:54:10 A	M 22298
Sodium	29	25	mg/Kg	1	11/24/2015 11:22:07 A	M 22298
EPA METHOD 8015M/D: DIESEL RAI	NGE ORGANIC	S			Analys	st: <b>KJH</b>
Diesel Range Organics (DRO)	19	9.5	mg/Kg	1	11/10/2015 2:27:04 PI	M 22220
Surr: DNOP	129	70-130	%REC	1	11/10/2015 2:27:04 PI	M 22220
EPA METHOD 8015D: GASOLINE RA	NGE				Analys	st: NSB
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	11/11/2015 4:03:58 AI	M 22241
Surr: BFB	87.6	75.4-113	%REC	1	11/11/2015 4:03:58 A	M 22241
EPA METHOD 8021B: VOLATILES					Analys	st: NSB
Benzene	ND	0.047	mg/Kg	1	11/11/2015 4:03:58 Al	M 22241
Toluene	ND	0.047	mg/Kg	1	11/11/2015 4:03:58 AI	M 22241
Ethylbenzene	ND	0.047	mg/Kg	1	11/11/2015 4:03:58 AI	M 22241
Xylenes, Total	ND	0.094	mg/Kg	1	11/11/2015 4:03:58 AI	
Surr: 4-Bromofluorobenzene	109	80-120	%REC	1	11/11/2015 4:03:58 AI	M 22241

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

- 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 Page 2 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1511325

Date Reported: 11/25/2015

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Blagg Engineering

Client Sample ID: Cell 5 @ 2'-3' Depth

Project:

Collection Date: 11/3/2015 9:05:00 AM

Lab ID:

Crouch Mesa LF 1511325-003

Matrix: SOIL

Received Date: 11/7/2015 8:45:00 AM

Analyses	Result	RL Qı	ual Units	DF Date Analyzed	Batch
EPA METHOD 300.0: ANIONS				Analyst:	LGT
Fluoride	0.72	0.30	mg/Kg	1 11/12/2015 10:32:14 PM	22318
Chloride	ND	1.5	mg/Kg	1 11/12/2015 10:32:14 PM	22318
Nitrogen, Nitrite (As N)	ND	0.30	mg/Kg	1 11/12/2015 10:32:14 PM	22318
Bromide	ND	0.30	mg/Kg	1 11/12/2015 10:32:14 PM	22318
Nitrogen, Nitrate (As N)	ND	0.30	mg/Kg	1 11/12/2015 10:32:14 PM	22318
Phosphorus, Orthophosphate (As P)	ND	30	mg/Kg	20 11/12/2015 10:44:39 PM	22318
Sulfate	1500	30	mg/Kg	20 11/12/2015 10:44:39 PM	22318
EPA METHOD 7471: MERCURY				Analyst: I	DBD
Mercury	ND	0.033	mg/Kg	1 11/16/2015 5:49:30 PM	22353
EPA METHOD 6010B: SOIL METALS				Analyst:	MED
Arsenic	2.7	2.5	mg/Kg	1 11/13/2015 10:01:07 AM	22298
Barium	15	0.098	mg/Kg	1 11/13/2015 10:01:07 AM	22298
Cadmium	ND	0.098	mg/Kg	1 11/13/2015 10:01:07 AM	22298
Calcium	3400	25	mg/Kg	1 11/24/2015 11:23:52 AM	22298
Chromium	0.40	0.30	mg/Kg	1 11/13/2015 10:01:07 AM	22298
Lead	2.3	0.25	mg/Kg	1 11/13/2015 10:01:07 AM	22298
Magnesium	950	25	mg/Kg	1 11/24/2015 11:23:52 AM	22298
Potassium	310	49	mg/Kg	1 11/24/2015 11:23:52 AM	22298
Selenium	ND	2.5	mg/Kg	1 11/13/2015 10:01:07 AM	22298
Silver	ND	0.25	mg/Kg	1 11/13/2015 10:01:07 AM	22298
Sodium	40	25	mg/Kg	1 11/24/2015 11:23:52 AM	22298
EPA METHOD 8015M/D: DIESEL RAI	NGE ORGANIC	s		Analyst: I	KJH
Diesel Range Organics (DRO)	ND	9.4	mg/Kg	1 11/10/2015 3:05:51 PM	22220
Surr: DNOP	120	70-130	%REC	1 11/10/2015 3:05:51 PM	22220
EPA METHOD 8015D: GASOLINE RA	NGE			Analyst: 1	NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1 11/11/2015 4:27:20 AM	22241
Surr: BFB	85.8	75.4-113	%REC	1 11/11/2015 4:27:20 AM	22241
EPA METHOD 8021B: VOLATILES				Analyst: 1	NSB
Benzene	ND	0.050	mg/Kg	1 11/11/2015 4:27:20 AM	22241
Toluene	ND	0.050	mg/Kg	1 11/11/2015 4:27:20 AM	22241
Ethylbenzene	ND	0.050	mg/Kg	1 11/11/2015 4:27:20 AM	22241
Xylenes, Total	ND	0.10	mg/Kg	1 11/11/2015 4:27:20 AM	22241
Surr: 4-Bromofluorobenzene	108	80-120	%REC	1 11/11/2015 4:27:20 AM	22241

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- Value above quantitation range
- Analyte detected below quantitation limits Page 3 of 11
- Sample pH Not In Range
- RL Reporting Detection Limit

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1511325

25-Nov-15

Client:

Blagg Engineering

Project:

Crouch Mesa LF

Sample ID MB-22318	SampT	ype: ME	BLK	Tes	tCode: E					
Client ID: PBS	Batch	1D: 22	318	F	RunNo: 3	0221				
Prep Date: 11/12/2015	Analysis D	ate: 11	1/12/2015	8	SeqNo: 9	20945	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.30								
Chloride	ND	1.5								
Nitrogen, Nitrite (As N)	ND	0.30								
Bromide	ND	0.30								
Nitrogen, Nitrate (As N)	ND	0.30								
Phosphorus, Orthophosphate (As P	ND	1.5								
Sulfate	ND	1.5								

Sample ID LCS-22318	SampT	ype: LC	s	Tes	tCode: El	PA Method	300.0: Anion	s		
Client ID: LCSS	Batch	n ID: 22	318	F	RunNo: 3	0221				
Prep Date: 11/12/2015	Analysis D	ate: 1	1/12/2015	5	SeqNo: 9	20946	Units: mg/K	ζg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	1.5	0.30	1.500	0	97.8	90	110			
Chloride	14	1.5	15.00	0	92.1	90	110			
Nitrogen, Nitrite (As N)	2.8	0.30	3.000	0	94.3	90	110			
Bromide	6.9	0.30	7.500	0	91.8	90	110			
Nitrogen, Nitrate (As N)	7.2	0.30	7.500	0	96.4	90	110			
Phosphorus, Orthophosphate (As P	14	1.5	15.00	0	93.9	90	110			
Sulfate	29	1.5	30.00	0	95.8	90	110			

#### 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

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## Hall Environmental Analysis Laboratory, Inc.

WO#:

1511325

25-Nov-15

Client:

**Blagg Engineering** 

Project: Crouch	1 Mesa LF									
Sample ID MB-22220	SampType	: MBL	.K	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID: PBS	Batch ID:	2222	20	F	RunNo: 3	0124				
Prep Date: 11/6/2015	Analysis Date:	: 11/1	10/2015	8	SeqNo: 9	17919	Units: mg/F	(g		
Analyte	Result P	QL S	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	12		10.00		117	70	130			
Sample ID LCS-22220	SampType	: LCS		Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID: LCSS	Batch ID:	2222	20	F	RunNo: 3	0124				
Prep Date: 11/6/2015	Analysis Date:	: 11/1	10/2015	8	SeqNo: 9	17920	Units: mg/K	ζg		
Analyte	Result P	QL S	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	63	10	50.00	0	126	57.4	139			
Surr: DNOP	7.4		5.000		147	70	130			S

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Н 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
- Analyte detected in the associated Method Blank В
- E Value above quantitation range
- J Analyte detected below quantitation limits
- Sample pH Not In Range
- RL Reporting Detection Limit

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### Hall Environmental Analysis Laboratory, Inc.

WO#:

1511325

25-Nov-15

Client:

**Blagg Engineering** 

Project:

Crouch Mesa LF

Sample ID MB-22241

SampType: MBLK

TestCode: EPA Method 8015D: Gasoline Range

Client ID: PBS

Batch ID: 22241

RunNo: 30136

Result

ND

860

SPK value SPK Ref Val %REC LowLimit

Prep Date: 11/9/2015

Analysis Date: 11/10/2015

SeqNo: 918420

Units: mg/Kg

113

HighLimit

**PQL** 5.0

1000

85.6

%RPD

**RPDLimit** 

Qual

Gasoline Range Organics (GRO) Surr: BFB

Sample ID LCS-22241

SampType: LCS

TestCode: EPA Method 8015D: Gasoline Range

Client ID: LCSS

Batch ID: 22241

**PQL** 

5.0

RunNo: 30136

Prep Date: 11/9/2015

SeqNo: 918421

Units: mg/Kg

Analysis Date: 11/10/2015

%REC

%RPD **RPDLimit** HighLimit Qual

Gasoline Range Organics (GRO) Surr: BFB

25 930

Result

25.00 1000

SPK value SPK Ref Val

101 92.7 79.6 75.4

LowLimit

75.4

122 113

#### Qualifiers:

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

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## Hall Environmental Analysis Laboratory, Inc.

WO#:

1511325

25-Nov-15

Client:

**Blagg Engineering** 

Project:

Crouch Mesa LF

Sample ID MB-22241	Samp1	Гуре: МЕ	BLK	Tes	tCode: E	PA Method	8021B: Volat	tiles		
Client ID: PBS	Batc	h ID: 22	241	F	RunNo: 3	0136				
Prep Date: 11/9/2015	Analysis [	Date: 11	1/10/2015	5	SeqNo: 9	18501	Units: mg/K	ίg		
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-22241	Samp1	ype: LC	s	Tes	tCode: El	PA Method	8021B: Volat	tiles		-
Client ID: LCSS	Batcl	h ID: 22	241	F	RunNo: 3	0136				

	•	, .	_							
Client ID: LCSS	Batch	h ID: 22	241	R	RunNo: 30	0136				
Prep Date: 11/9/2015	Analysis D	ate: 11	1/10/2015	S	SeqNo: 9	18502	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.050	1.000	0	99.0	80	120			
Toluene	0.98	0.050	1.000	0	98.1	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		115	80	120			

- \* 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
- Page 7 of 11

- P Sample pH Not In Range
- RL Reporting Detection Limit

### Hall Environmental Analysis Laboratory, Inc.

WO#:

1511325

25-Nov-15

Client:

**Blagg Engineering** 

Project:

Crouch Mesa LF

Sample ID MB-22353

SampType: MBLK

TestCode: EPA Method 7471: Mercury

Client ID: PBS

Batch ID: 22353

RunNo: 30272

Prep Date: 11/16/2015

Analysis Date: 11/16/2015

SeqNo: 923042

Units: mg/Kg

HighLimit

%RPD

**RPDLimit** Qual

Analyte Mercury

SPK value SPK Ref Val %REC LowLimit PQL 0.033

Sample ID LCS-22353

SampType: LCS

0.17

Result

Result

0.16

0.16

TestCode: EPA Method 7471: Mercury

Client ID: LCSS Prep Date: 11/16/2015

Analysis Date: 11/16/2015

Batch ID: 22353

RunNo: 30272

SeqNo: 923043

Units: mg/Kg

120

**RPDLimit** 

Qual

Analyte Mercury

Result PQL 0.033

SPK value SPK Ref Val 0.1667

%REC 100

LowLimit HighLimit %RPD

Sample ID 1511325-002BMS

SampType: MS Batch ID: 22353

TestCode: EPA Method 7471: Mercury

RunNo: 30272

Analyte

Prep Date: 11/16/2015

Client ID: Cell 2 @ 2'-3' Depth

Analysis Date: 11/16/2015

SeqNo: 923052

94.7

Units: mg/Kg

Qual

0.1685

SPK value SPK Ref Val %REC

LowLimit

HighLimit %RPD 125

**RPDLimit** 

Mercury

Sample ID 1511325-002BMSD

SampType: MSD

TestCode: EPA Method 7471: Mercury

75

Client ID: Prep Date: 11/16/2015

Cell 2 @ 2'-3' Depth

Batch ID: 22353

**PQL** 

0.033

RunNo: 30272

Units: mg/Kg

Analyte

Analysis Date: 11/16/2015

SeqNo: 923053

HighLimit

**RPDLimit** Qual

Page 8 of 11

Mercury

**PQL** 0.033 0.1674

SPK value SPK Ref Val

%REC 94.9

125 0.444

%RPD

20

#### Qualifiers:

ND

Value exceeds Maximum Contaminant Level.

% Recovery outside of range due to dilution or matrix

- Sample Diluted Due to Matrix D Н Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

- В
- E Value above quantitation range
- Analyte detected below quantitation limits
- р Sample pH Not In Range
- Reporting Detection Limit

Analyte detected in the associated Method Blank

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1511325

25-Nov-15

Client:

Blagg Engineering

**Project:** 

Crouch Mesa LF

Sample ID MB-22298 Client ID: PBS	•	ype: <b>ME</b>			tCode: E	Metals				
Prep Date: 11/11/2015	Analysis D	ate: 11	/13/2015	8	SeqNo: 9	20723	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	2.5								
Barium	ND	0.10								
Cadmium	ND	0.10								
Chromium	ND	0.30								
Lead	ND	0.25								
Selenium	ND	2.5								
Silver	ND	0.25								

Sample ID LCS-22298	Sampi	ype: LC	5	res	(Code: E	Metais							
Client ID: LCSS	Batch	n ID: 22	298	F	RunNo: 3	0218							
Prep Date: 11/11/2015	Analysis D	)ate: 1	1/13/2015	8	SeqNo: 9	20724	Units: mg/k	Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual			
Arsenic	25	2.5	25.00	0	98.3	80	120						
Barium	25	0.10	25.00	0	98.2	80	120						
Cadmium	24	0.10	25.00	0	97.3	80	120						
Chromium	25	0.30	25.00	0	98.1	80	120						
Lead	24	0.25	25.00	0	97.2	80	120						
Selenium	24	2.5	25.00	0	96.0	80	120						
Silver	4.9	0.25	5.000	0	98.2	80	120						

Sample ID 1511325-001BMS	SampT	ype: MS	6010B: Soil I	Metals								
Client ID: Cell 1 @ 2'-3' Dep	th Batcl	h ID: 22	298	RunNo: 30218								
Prep Date: 11/11/2015	Analysis D	)ate: 11	//13/2015	S	SeqNo: 9	20765	Units: mg/K	(g				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Arsenic	22	2.4	24.36	1.009	86.2	75	125		-			
Barium	180	0.097	24.36	127.4	232	75	125			S		
Cadmium	21	0.097	24.36	0	87.3	75	125					
Chromium	24	0.29	24.36	2.073	90.7	75	125					
Lead	22	0.24	24.36	3.225	79.1	75	125			В		
Selenium	19	2.4	24.36	0	76.0	75	125					
Silver	4.3	0.24	4.872	0	87.2	75	125					

Sample ID 1511325-001BMS	<b>D</b> SampT	ype: <b>M</b> \$	SD	TestCode: EPA Method 6010B: Soil Metals							
Client ID: Cell 1 @ 2'-3' Dep	0218										
Prep Date: 11/11/2015	rep Date: 11/11/2015 Analysis Date: 11/13/2015					20767	Units: mg/Kg				
Analyte	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual			
Arsenic	22	2.5	24.63	1.009	86.5	75	125	1.43	20		

- 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
- Page 9 of 11

- P Sample pH Not In Range
- RL Reporting Detection Limit

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1511325

25-Nov-15

Client:

Blagg Engineering

Project:

Crouch Mesa LF

Sample ID 15	511325-001BMS	) SampT	ype: MS	SD	TestCode: EPA Method 6010B: Soil Metals						
Client ID: Co	ell 1 @ 2'-3' Dept	th Batch	ID: 22	298	F	RunNo: 3	0218				
Prep Date: 1	11/11/2015	Analysis D	ate: 11	1/13/2015	S	SeqNo: 9	g				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium		160	0.099	24.63	127.4	130	75	125	14.4	20	S
Cadmium		21	0.099	24.63	0	86.1	75	125	0.223	20	
Chromium		24	0.30	24.63	2.073	88.9	75	125	0.803	20	
Lead		23	0.25	24.63	3.225	81.0	75	125	3.05	20	
Selenium		19	2.5	24.63	0	76.8	75	125	2.14	20	
Silver		4.2	0.25	4.927	0	85.0	75	125	1.48	20	

Sample ID MB-22298	SampT	ype: ME	BLK	Test	tCode: E	Metals					
Client ID: PBS	Batch	ID: 22	298	R	RunNo: 3	0443					
Prep Date: 11/11/2015	Analysis D	ate: 11	/24/2015	S	SeqNo: 9	28963	Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Calcium	ND	25									
Magnesium	ND	25									
Potassium	ND	50									
Sodium	ND	ND 25									

Sample ID LCS-22298	SampT	ype: LC	s	Tes	tCode: E	PA Method	6010B: Soil	Metals		
Client ID: LCSS	Batch	ID: 22	298	F	RunNo: 3	0443				
Prep Date: 11/11/2015	Analysis D	ate: 11	/24/2015	8	SeqNo: 9	28964	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	2500	25	2500	0	98.3	80	120			
Magnesium	2500	25	2500	0	98.6	80	120			
Potassium	2400	50	2500	0	95.1	80	120			
Sodium	2400	25	2500	0	97.3	80	120			

Sample ID 1511325-	<b>001BMS</b> SampT	BMS SampType: MS TestCode: EPA Method 6010B: Soil Metals												
Client ID: Cell 1 @	2'-3' Depth Batch	298	F											
Prep Date: 11/11/20	115 Analysis D	ate: 11	1/24/2015	SeqNo: 929121 Units: mg/Kg										
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual				
Calcium	6800	49	2436	4807	81.3	75	125							
Magnesium	4200	49	2436	1560	109	75	125							
Potassium	3000	97	2436	657.7	95.8	75	125							
Sodium	2300	49	2436	<b>7</b> 7.85	91.3	75	125							

#### 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

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P Sample pH Not In Range

RL Reporting Detection Limit

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1511325

25-Nov-15

**Client:** 

Blagg Engineering

**Project:** 

Crouch Mesa LF

Sample ID 1511325-001BMSD

SampType: MSD

TestCode: EPA Method 6010B: Soil Metals

Client ID: Cell 1 @ 2'-3' Depth

Batch ID: 22298

RunNo: 30443

Prep Date:	11/11/2015	Analysis D	ate: 1	1/24/2015	٤	seqNo: 9	29122	Units: mg/K	nits: mg/Kg				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Calcium		7100	49	2463	4807	91.5	75	125	3.97	20			
Magnesium		4200	49	2463	1560	107	75	125	0.285	20			
Potassium		3000	99	2463	657.7	94.5	75	125	0.224	20			
Sodium		2300	49	2463	77.85	89.6	75	125	0.665	20			

#### Qualifiers:

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

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Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuguergue, NM 87109

TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

# Sample Log-In Check List

Client I	Name:	BLAGG		Work Or	der Numbe	r: 1511	325			RcptNo:	lo: 1				
Receive	ed by/dat	te:	n 11/0	7/15											
Logged	Ву:	Anne Thor	ne	11/7/2015	B:45:00 A	А		anne,	Il.	_					
Comple	ted By:	Anne Thor	ne	11/9/2015				Aone , Aone ,	J.	_					
Review	ed By:														
Chain	of Cus	tody													
1. Cus	stody sea	als intact on sa	ample bottles?			Yes		No		Not Present 🗹					
2. Is C	chain of (	Custody comp	lete?			Yes	$\checkmark$	No		Not Present					
3. Hov	v was the	e sample deliv	ered?			Cour	ier								
Log Ir	2														
4. Wa	s an atte	empt made to	cool the samp	les?		Yes	$\checkmark$	No		NA 🗆					
5. We	re all sar	mples received	i at a tempera	ture of >0°C to	6.0°C	Yes	<b>✓</b>	No		NA 🗆					
6. Sar	mple(s) i	n proper conta	niner(s)?			Yes	✓	No							
7. Suf	ficient sa	mpte volume	for indicated to	est(s)?		Yes	$\checkmark$	No							
8, Are	samples	except VOA	and ONG) pro	operly preserved	?	Yes	$\checkmark$	No							
9. Wa	s preserv	vative added to	bottles?			Yes		No	V	NA 🗆					
10.VO	A vials h	ave zero head	space?			Yes				No VOA Vials 🗹					
11. We	re any s	ample contain	ers received b	roken?		Yes		No	V	# of preserved					
12 Doe	es napen	work match bo	ttie labels?			Yes	V	No		bottles checked for pH:					
		pancies on ch		)							or >12 unless noted)				
13. Are	matrices	s correctly idea	itified on Chai	n of Custody?		Yes	$ \mathbf{V} $			Adjusted?					
•		nat analyses w		?		Yes	$\checkmark$	No		Charled but					
		ding times ablicustomer for a				Yes		No		Checked by:					
·	•		•												
<u>Specia</u>	l Hano	lling (if app	olicable)												
16. Wa	s client n	otified of all d	screpancies v	vith this order?		Yes		No		NA 🗹					
	Person	n Notified:			Date										
	By Wh	nom:			Via:	☐ eMa	ail 🗀	Phone	Fax	In Person					
	Regar														
	Client	Instructions:													
17. Ad	ditional r	emarks:													
	oler Info Cooler N		Condition	· · · · · · · · · · · · · · · · · · ·	Seal No	Seal D	ate	Signed I	Ву						
1		1.2	Good	Yes					-ne						

CI	hain-of-	-Custo	dy Record	I urn-Around	ıme.				ш		e di	mn.		ENI-	:	
Client:	Blagg Engi	neering, In	C.	Standard	□ Rush							/IRC 5 LA				_
	BP America	3	\ \ \ \	Project Name	<b>)</b> :							rironme			<b>,</b> .	•
Mailing Add	ress:	P.O. Box	x 87	1	Crouch Mesa	LF		4901 H				ouquero			09	
		Bloomfie	eld, NM 87413	Project #:				Tel. 5				Fax 50	•			
Phone #:		(505)320	D-1183	i								Reque				
email or Fax	κ#:			Project Mana	iger:											$\top$
QA/QC Pack	age:				Jeff Blagg					1	İ			1 1		
<b>Standard</b>			☐ Level 4 (Full Validation	)				8								
Other				Sampler:	Jeff Blagg			100			1					Î
□ EDD (Typ	pe)			Office S Sample Tem	و Yes perature: اٍ رَا	<b>立なる。</b>		(GRC		tals	Sus					(Y or
Date	Time	Matrix	Sample Request ID		Preservative Type	HEAL No. [51325	BTEX (8021)	TPH 8015B (GRO / DRO)		RCRA 8 Metals	Cations/Anions					Air Bubbles (Y or N)
11/03/2015	8:20	Soil	Cell 1 @ 2'-3' Depth	4oz x 2	cool	7001	x	×		×	×					
11/03/2015	8:40	Soil	Cell 2 @ 2'-3' Depth	40z x 2	cool	702	х	×		x	×					
11/03/2015	9:05	Soil	Cell 5 @ 2'-3' Depth	40z x 2	cool	-exi3	х	×		x	х					
									-	-	+	- -	+-	$\vdash$	+	_
								-	+	+			+	$\vdash$	+	+
									f	1			+		$\neg$	+
										_					_	
					<u> </u>										Ш.	
Date: // 2015 Date:	Time: 1540	Relinquish	4 Blegy	Received by:	Walt	Date Time  11/4/15 1540  Date Time	BP C	arks: E contact ritchie(	Johr	n Ritc	hie	Pleas	е сору	resul	ts to:	
11/4/15	1800	IW	Ust Waller		1	107/5 0845	<u></u>					••			-	
If nec	cessary, samples	submitted to h	fall Environmental may be subcontract	ed to other accredite	Ni Jaboratories. This	Serves as notice of this possib	ility. Any	y sub-cont	racted d	ata wili l	be clearly	notated o	in the ana	alytical n	aport.	