

NM2 - _____3_____

**MONITORING
REPORTS
YEAR(S):**

_____2009 - 2011_____

BLAGG ENGINEERING, INC.

P.O. Box 87, Bloomfield, New Mexico 87413

Phone: (505)632-1199 Fax: (505)632-3903

RECEIVED OCD

SENT VIA CERTIFIED MAIL

7007 0220 0004 3556 7776

2011 NOV 28 A 10:55

November 22, 2011

Mr. Brad Jones
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: BP America Production Company
Crouch Mesa Waste Management Facility, Permit NM-02-003
Annual Report on Treatment Zone Monitoring

Dear Mr. Jones:

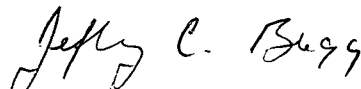
On behalf of BP America Production Company, Blagg Engineering, Inc. (BEI) is submitting 2011 annual treatment zone monitoring test results for the Crouch Mesa Waste Management Facility pursuant to Permit NM-02-003, dated November 25, 1998. This report is for the December 1, 2010 through November 30, 2011 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). The northeast portion of the facility (identified as 'unused cell') is used for equipment, materials and unused compost media storage only.

Sampling protocol specifies collection of subsurface samples in each cell from the native ground surface below the treatment zone 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 September 14-15, 2011 sample event.

Questions or comments concerning this transmittal may be directed to myself at (505)632-1199 or to Jeff Peace with BP at (505)326-9200.

Respectfully submitted:
Blagg Engineering, Inc.



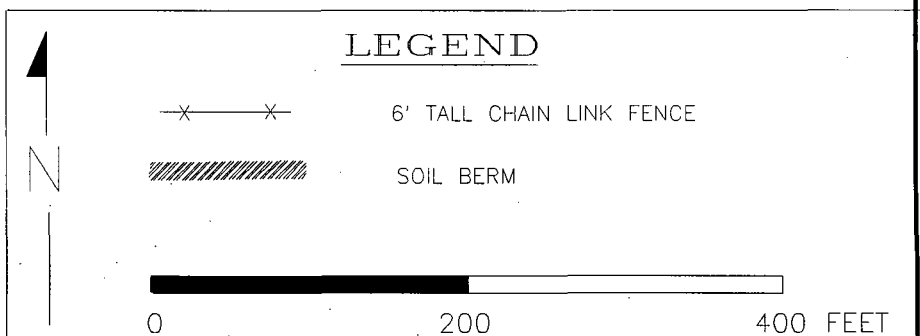
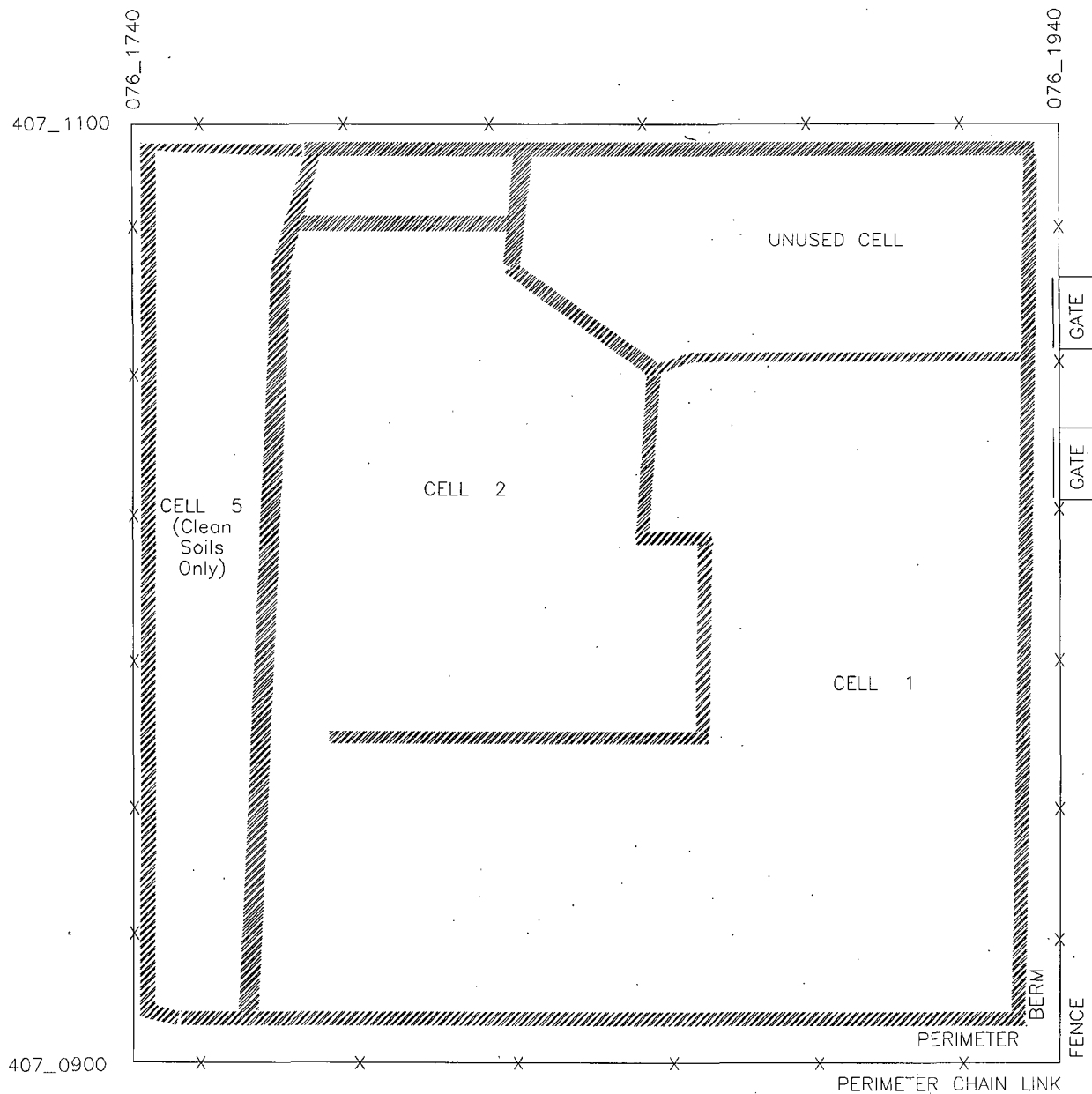
Jeffrey C. Blagg, P.E.
President

Attachments: Site Diagram
Soil Treatment Zone Monitoring Reports

cc: Brandon Powell, NMOCD Aztec District Office
Jeff Peace, BP San Juan Operations Center

Blagg Engineering, Inc.
Consulting Engineers

BP America Production Company
Crouch Mesa Waste Management Facility



BP AMERICA PRODUCTION CO.
CROUCH MESA WASTE MGMT FAC
SW/4 SE/4 SEC 2 T29N R12W
SAN JUAN CO., NEW MEXICO

NOVEMBER 2011

BLAGG ENGINEERING, INC.
CONSULTING ENGINEERING SERVICES

P.O. BOX 87
BLOOMFIELD, NEW MEXICO 87413

PHONE: (505) 632-1199

**SITE
SCHEMATIC**

FIGURE 1

DRWN BY:
JCB

CRMESA4

PROJ MGR:
JCB



COVER LETTER

Friday, March 25, 2011

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

TEL: (505) 632-1199
FAX (505) 632-3903

RE: Crouch Mesa Landfarm

Order No.: 1103467

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory, Inc. received 3 sample(s) on 3/9/2011 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. Below is a list of our accreditations. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites.

Reporting limits are determined by EPA methodology.

Please do not hesitate to contact HEAL for any additional information or clarifications.

Sincerely,



Andy Freeman, Laboratory Manager

NM Lab # NM9425 NM0901
AZ license # AZ0682
ORELAP Lab # NM100001
Texas Lab# T104704424-08-TX



Hall Environmental Analysis Laboratory, Inc.

Date: 25-Mar-11

CLIENT: Blagg Engineering
Lab Order: 1103467
Project: Crouch Mesa Landfarm
Lab ID: 1103467-01

Client Sample ID: Cell 1
Collection Date: 3/7/2011 10:20:00 AM
Date Received: 3/9/2011
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JB
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	3/17/2011 2:24:45 PM
Surr: DNOP	98.3	81.8-129		%REC	1	3/17/2011 2:24:45 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: DAM
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	3/18/2011 2:37:49 PM
Surr: BFB	89.3	89.7-125	S	%REC	1	3/18/2011 2:37:49 PM
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Benzene	ND	0.050		mg/Kg	1	3/18/2011 2:37:49 PM
Toluene	ND	0.050		mg/Kg	1	3/18/2011 2:37:49 PM
Ethylbenzene	ND	0.050		mg/Kg	1	3/18/2011 2:37:49 PM
Xylenes, Total	ND	0.10		mg/Kg	1	3/18/2011 2:37:49 PM
Surr: 4-Bromofluorobenzene	100	85.3-139		%REC	1	3/18/2011 2:37:49 PM
EPA METHOD 300.0: ANIONS						Analyst: LJB
Chloride	4.7	1.5		mg/Kg	1	3/16/2011 11:21:27 PM

Qualifiers:

* Value exceeds Maximum Contaminant Level
E Estimated value
J Analyte detected below quantitation limits
NC Non-Chlorinated
PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
MCL Maximum Contaminant Level
ND Not Detected at the Reporting Limit
S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: 25-Mar-11

CLIENT: Blagg Engineering
Lab Order: 1103467
Project: Crouch Mesa Landfarm
Lab ID: 1103467-02

Client Sample ID: Cell 2
Collection Date: 3/7/2011 11:15:00 AM
Date Received: 3/9/2011
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JB
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	3/17/2011 4:07:05 PM
Surr: DNOP	94.3	81.8-129		%REC	1	3/17/2011 4:07:05 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: DAM
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	3/18/2011 3:07:56 PM
Surr: BFB	99.8	89.7-125		%REC	1	3/18/2011 3:07:56 PM
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Benzene	ND	0.050		mg/Kg	1	3/18/2011 3:07:56 PM
Toluene	ND	0.050		mg/Kg	1	3/18/2011 3:07:56 PM
Ethylbenzene	ND	0.050		mg/Kg	1	3/18/2011 3:07:56 PM
Xylenes, Total	ND	0.10		mg/Kg	1	3/18/2011 3:07:56 PM
Surr: 4-Bromofluorobenzene	112	85.3-139		%REC	1	3/18/2011 3:07:56 PM
EPA METHOD 300.0: ANIONS						Analyst: LJB
Chloride	ND	7.5		mg/Kg	5	3/16/2011 11:56:15 PM

Qualifiers:

* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
E Estimated value	H Holding times for preparation or analysis exceeded
J Analyte detected below quantitation limits	MCL Maximum Contaminant Level
NC Non-Chlorinated	ND Not Detected at the Reporting Limit
PQL Practical Quantitation Limit	S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: 25-Mar-11

CLIENT: Blagg Engineering
Lab Order: 1103467
Project: Crouch Mesa Landfarm
Lab ID: 1103467-03

Client Sample ID: Cell 5
Collection Date: 3/7/2011 10:35:00 AM
Date Received: 3/9/2011
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JB
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	3/17/2011 4:41:13 PM
Surr: DNOP	96.9	81.8-129		%REC	1	3/17/2011 4:41:13 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: DAM
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	3/18/2011 3:37:58 PM
Surr: BFB	91.4	89.7-125		%REC	1	3/18/2011 3:37:58 PM
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Benzene	ND	0.050		mg/Kg	1	3/18/2011 3:37:58 PM
Toluene	ND	0.050		mg/Kg	1	3/18/2011 3:37:58 PM
Ethylbenzene	ND	0.050		mg/Kg	1	3/18/2011 3:37:58 PM
Xylenes, Total	ND	0.10		mg/Kg	1	3/18/2011 3:37:58 PM
Surr: 4-Bromofluorobenzene	99.3	85.3-139		%REC	1	3/18/2011 3:37:58 PM
EPA METHOD 300.0: ANIONS						Analyst: LJB
Chloride	ND	1.5		mg/Kg	1	3/17/2011 1:05:55 AM

Qualifiers:

* Value exceeds Maximum Contaminant Level
E Estimated value
J Analyte detected below quantitation limits
NC Non-Chlorinated
PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
MCL Maximum Contaminant Level
ND Not Detected at the Reporting Limit
S Spike recovery outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: Crouch Mesa Landfarm

Work Order: 1103467

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Method: EPA Method 300.0: Anions

Sample ID: MB-25996 MBLK Batch ID: 25996 Analysis Date: 3/16/2011 6:08:06 PM

Chloride ND mg/Kg 1.5

Sample ID: LCS-25996 LCS Batch ID: 25996 Analysis Date: 3/16/2011 6:25:30 PM

Chloride 14.01 mg/Kg 1.5 15 0 93.4 90 110

Method: EPA Method 8015B: Diesel Range Organics

Sample ID: 1103467-01AMSD MSD Batch ID: 25991 Analysis Date: 3/17/2011 3:32:58 PM

Diesel Range Organics (DRO) 51.92 mg/Kg 10 50 0 104 57.5 128 0.0925 19.7

Sample ID: MB-25991 MBLK Batch ID: 25991 Analysis Date: 3/17/2011 9:11:59 AM

Diesel Range Organics (DRO) ND mg/Kg 10

Sample ID: LCS-25991 LCS Batch ID: 25991 Analysis Date: 3/17/2011 9:46:08 AM

Diesel Range Organics (DRO) 50.57 mg/Kg 10 50 0 101 66.2 120

Sample ID: LCSD-25991 LCSD Batch ID: 25991 Analysis Date: 3/17/2011 10:20:00 AM

Diesel Range Organics (DRO) 51.60 mg/Kg 10 50 0 103 66.2 120 2.02 14.3

Sample ID: 1103467-01AMS MS Batch ID: 25991 Analysis Date: 3/17/2011 2:58:52 PM

Diesel Range Organics (DRO) 51.87 mg/Kg 10 50 0 104 57.5 128

Method: EPA Method 8015B: Gasoline Range

Sample ID: MB-25985 MBLK Batch ID: 25985 Analysis Date: 3/18/2011 7:09:43 PM

Gasoline Range Organics (GRO) ND mg/Kg 5.0

Sample ID: LCS-25985 LCS Batch ID: 25985 Analysis Date: 3/18/2011 6:39:46 PM

Gasoline Range Organics (GRO) 23.99 mg/Kg 5.0 25 0 96.0 88.8 124

Method: EPA Method 8021B: Volatiles

Sample ID: MB-25985 MBLK Batch ID: 25985 Analysis Date: 3/18/2011 7:09:43 PM

Benzene ND mg/Kg 0.050

Toluene ND mg/Kg 0.050

Ethylbenzene ND mg/Kg 0.050

Xylenes, Total ND mg/Kg 0.10

Sample ID: LCS-25985 LCS Batch ID: 25985 Analysis Date: 3/18/2011 6:09:37 PM

Benzene 1.007 mg/Kg 0.050 1 0 101 83.3 107

Toluene 0.9544 mg/Kg 0.050 1 0.006 94.8 74.3 115

Ethylbenzene 1.017 mg/Kg 0.050 1 0 102 80.9 122

Xylenes, Total 3.203 mg/Kg 0.10 3 0 107 85.2 123

Qualifiers:

E Estimated value
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded
NC Non-Chlorinated
R RPD outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name: **BLAGG**

Date Received:

3/9/2011

Work Order Number: **1103467**

Received by: **LNM**

Checklist completed by:

Signature

Date

Sample ID labels checked by:

Initials

Matrix:

Carrier name: Greyhound

Shipping container/cooler in good condition?

Yes ☒

No

Not Present

Custody seals intact on shipping container/cooler?

Yes ☒

No

Not Present

Not Shipped

Custody seals intact on sample bottles?

Yes

No

N/A

☒

Chain of custody present?

Yes ☒

No

Chain of custody signed when relinquished and received?

Yes ☒

No

Chain of custody agrees with sample labels?

Yes ☒

No

Samples in proper container/bottle?

Yes ☒

No

Sample containers intact?

Yes ☒

No

Sufficient sample volume for indicated test?

Yes ☒

No

All samples received within holding time?

Yes ☒

No

Water - VOA vials have zero headspace?

No VOA vials submitted ☒

Yes

No

Water - Preservation labels on bottle and cap match?

Yes

No

N/A

☒

Water - pH acceptable upon receipt?

Yes

No

N/A

☒

Container/Temp Blank temperature?

2.6°

<6° C. Acceptable

If given sufficient time to cool.

Number of preserved bottles checked for pH:

<2 >12 unless noted below.

COMMENTS:

Client contacted

Date contacted:

Person contacted

Contacted by:

Regarding:

Comments:

Corrective Action

Client: **BLAGG ENGINEERING**

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

Phone #: 505-632-1199

email or Fax#:

QA/QC Package

☒ Standard ☐ Level 4 (Full Validation)

Accreditation

☐ NELAP ☐ Other☐ EDD (Type)

Turn-Around Time:

☒ Standard ☐ Rush

Project Name:

CROUCH MESA LANDFARM

Project #:

Project Manager:

JEFF BLAKE

Sampler: JEFF BLAKE

On Ice: ☒ Yes ☐ No

Sample Temperature

[illegible]

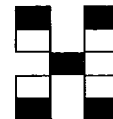
Date: 3/8/11	Time: 1430	Relinquished by: Jef Bugg
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Date:	Time:	Relinquished by:
3/8/11	1450	Christian Wootte

Received by: Christie, L. J. Date 3/8/11 Time 1430

Received by: 	Date: 3/9/11	Time: 1:13
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Remarks:



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

	X	X	X	BTEX + MTBE + THB's (8021)
				BTEX + MTBE + TPH (Gas only)
	X	X	X	TPH Method 8015B (Gas/Diesel)
				TPH (Method 418.1)
				EDB (Method 504.1)
				8310 (PNA or PAH)
				RCRA 8 Metals
				Anions (F, Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄)
				8081 Pesticides / 8082 PCB's
				8260B (VOA)
				8270 (Semi-VOA)
	X	X	X	CHLORIDE
				Air Bubbles (Y or N)

COVER LETTER

Tuesday, June 14, 2011

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

TEL: (505) 632-1199
FAX (505) 632-3903

RE: Crouch Mesa L.F. Quarterly

Order No.: 1106243

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory, Inc. received 3 sample(s) on 6/7/2011 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. Below is a list of our accreditations. 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 do not hesitate to contact HEAL for any additional information or clarifications.

Sincerely,


Andy Freeman, Laboratory Manager

NM Lab # NM9425 NM0901
AZ license # AZ0682



CLIENT: Blagg Engineering
Project: Crouch Mesa L.F. Quarterly
Lab Order: 1106243

CASE NARRATIVE

See Corrective Action: [3627] 8015 DRO Soil: Sample 1106243-02 had low surrogate recovery due to matrix interference.

Hall Environmental Analysis Laboratory, Inc.

Date: 14-Jun-11
Analytical Report

CLIENT: Blagg Engineering

Client Sample ID: Cell #1

Lab Order: 1106243

Collection Date: 6/3/2011 1:20:00 PM

Project: Crouch Mesa L.F. Quarterly

Date Received: 6/7/2011

Lab ID: 1106243-01

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JB
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	6/9/2011 1:31:01 PM
Surr: DNOP	82.1	73.4-123		%REC	1	6/9/2011 1:31:01 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: RAA
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/9/2011 9:12:05 PM
Surr: BFB	108	89.7-125		%REC	1	6/9/2011 9:12:05 PM
EPA METHOD 8021B: VOLATILES						Analyst: RAA
Benzene	ND	0.050		mg/Kg	1	6/9/2011 9:12:05 PM
Toluene	ND	0.050		mg/Kg	1	6/9/2011 9:12:05 PM
Ethylbenzene	ND	0.050		mg/Kg	1	6/9/2011 9:12:05 PM
Xylenes, Total	ND	0.099		mg/Kg	1	6/9/2011 9:12:05 PM
Surr: 4-Bromofluorobenzene	104	85.3-139		%REC	1	6/9/2011 9:12:05 PM
EPA METHOD 300.0: ANIONS						Analyst: SRM
Chloride	ND	7.5		mg/Kg	5	6/13/2011 7:08:12 PM

Qualifiers:

* Value exceeds Maximum Contaminant Level
E Estimated value
J Analyte detected below quantitation limits
NC Non-Chlorinated
PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
MCL Maximum Contaminant Level
ND Not Detected at the Reporting Limit
S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: 14-Jun-11

Analytical Report

CLIENT: Blagg Engineering

Client Sample ID: Cell #2

Lab Order: 1106243

Collection Date: 6/3/2011 2:10:00 PM

Project: Crouch Mesa L.F. Quarterly

Date Received: 6/7/2011

Lab ID: 1106243-02

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JB
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	6/10/2011 9:20:57 AM
Surr: DNOP	70.6	73.4-123	S	%REC	1	6/10/2011 9:20:57 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: RAA
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/9/2011 11:36:22 PM
Surr: BFB	110	89.7-125		%REC	1	6/9/2011 11:36:22 PM
EPA METHOD 8021B: VOLATILES						Analyst: RAA
Benzene	ND	0.050		mg/Kg	1	6/9/2011 11:36:22 PM
Toluene	ND	0.050		mg/Kg	1	6/9/2011 11:36:22 PM
Ethylbenzene	ND	0.050		mg/Kg	1	6/9/2011 11:36:22 PM
Xylenes, Total	ND	0.10		mg/Kg	1	6/9/2011 11:36:22 PM
Surr: 4-Bromofluorobenzene	106	85.3-139		%REC	1	6/9/2011 11:36:22 PM
EPA METHOD 300.0: ANIONS						Analyst: SRM
Chloride	150	30		mg/Kg	20	6/13/2011 8:00:26 PM

Qualifiers:

* Value exceeds Maximum Contaminant Level

E Estimated value

J Analyte detected below quantitation limits

NC Non-Chlorinated

PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: 14-Jun-11

Analytical Report

CLIENT: Blagg Engineering

Client Sample ID: Cell #5

Lab Order: 1106243

Collection Date: 6/3/2011 3:00:00 PM

Project: Crouch Mesa L.F. Quarterly

Date Received: 6/7/2011

Lab ID: 1106243-03

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JB
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	6/9/2011 3:58:12 PM
Surr: DNOP	93.4	73.4-123		%REC	1	6/9/2011 3:58:12 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: RAA
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	6/10/2011 12:05:13 AM
Surr: BFB	110	89.7-125		%REC	1	6/10/2011 12:05:13 AM
EPA METHOD 8021B: VOLATILES						Analyst: RAA
Benzene	ND	0.050		mg/Kg	1	6/10/2011 12:05:13 AM
Toluene	ND	0.050		mg/Kg	1	6/10/2011 12:05:13 AM
Ethylbenzene	ND	0.050		mg/Kg	1	6/10/2011 12:05:13 AM
Xylenes, Total	ND	0.10		mg/Kg	1	6/10/2011 12:05:13 AM
Surr: 4-Bromofluorobenzene	107	85.3-139		%REC	1	6/10/2011 12:05:13 AM
EPA METHOD 300.0: ANIONS						Analyst: SRM
Chloride	130	30		mg/Kg	20	6/13/2011 8:35:14 PM

Qualifiers:

* Value exceeds Maximum Contaminant Level

E Estimated value

J Analyte detected below quantitation limits

NC Non-Chlorinated

PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Blagg Engineering
 Project: Crouch Mesa L.F. Quarterly

Work Order: 1106243

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 300.0: Anions											
Sample ID: MB-27170		MBLK									
Chloride	ND	mg/Kg	1.5								
Sample ID: LCS-27170		LCS									
Chloride	14.41	mg/Kg	1.5	15	0	96.1	90	110			

Method: EPA Method 8015B: Diesel Range Organics											
Sample ID: MB-27119		MBLK									
Diesel Range Organics (DRO)	ND	mg/Kg	10								
Sample ID: MB-27155		MBLK									
Diesel Range Organics (DRO)	ND	mg/Kg	10								
Sample ID: LCS-27119		LCS									
Diesel Range Organics (DRO)	49.89	mg/Kg	10	50	0	99.8	66.7	119			
Sample ID: LCS-27155		LCS									
Diesel Range Organics (DRO)	46.52	mg/Kg	10	50	0	93.0	66.7	119			
Sample ID: LCSD-27119		LCSD									
Diesel Range Organics (DRO)	50.76	mg/Kg	10	50	0	102	66.7	119	1.74	18.9	
Sample ID: LCSD-27155		LCSD									
Diesel Range Organics (DRO)	51.56	mg/Kg	10	50	0	103	66.7	119			

Method: EPA Method 8015B: Gasoline Range											
Sample ID: MB-27117		MBLK									
Gasoline Range Organics (GRO)	ND	mg/Kg	5.0								
Sample ID: LCS-27117		LCS									
Gasoline Range Organics (GRO)	25.79	mg/Kg	5.0	25	0	103	88.8	124			

Qualifiers:

E Estimated value
 J Analyte detected below quantitation limits
 ND Not Detected at the Reporting Limit
 H Holding times for preparation or analysis exceeded
 NC Non-Chlorinated
 R RPD outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Blagg Engineering
 Project: Crouch Mesa L.F. Quarterly

Work Order: 1106243

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Method: EPA Method 8021B: Volatiles

Sample ID: 1106243-02AMS

MSD

Batch ID: 27117 Analysis Date: 6/10/2011 1:25:08 PM

Benzene	1.019	mg/Kg	0.050	0.998	0.0173	100	67.2	113	5.60	14.3	
Toluene	1.108	mg/Kg	0.050	0.998	0.0186	109	62.1	116	9.35	15.9	
Ethylbenzene	1.128	mg/Kg	0.050	0.998	0.013	112	67.9	127	9.48	14.4	
Xylenes, Total	3.436	mg/Kg	0.10	2.994	0.0529	113	60.6	134	8.62	12.6	

Sample ID: MB-27117

MBLK

Batch ID: 27117 Analysis Date: 6/10/2011 4:53:37 AM

Benzene	ND	mg/Kg	0.050								
Toluene	ND	mg/Kg	0.050								
Ethylbenzene	ND	mg/Kg	0.050								
Xylenes, Total	ND	mg/Kg	0.10								

Sample ID: LCS-27117

LCS

Batch ID: 27117 Analysis Date: 6/10/2011 4:24:51 AM

Benzene	1.000	mg/Kg	0.050	1	0.0172	98.3	83.3	107			
Toluene	1.010	mg/Kg	0.050	1	0.0129	99.7	74.3	115			
Ethylbenzene	1.014	mg/Kg	0.050	1	0.0130	100	80.9	122			
Xylenes, Total	3.091	mg/Kg	0.10	3	0.0391	102	85.2	123			

Sample ID: 1106243-02AMS

MS

Batch ID: 27117 Analysis Date: 6/10/2011 12:56:18 PM

Benzene	0.9637	mg/Kg	0.050	0.994	0.0173	95.2	67.2	113			
Toluene	1.009	mg/Kg	0.050	0.994	0.0186	99.6	62.1	116			
Ethylbenzene	1.026	mg/Kg	0.050	0.994	0.013	102	67.9	127			
Xylenes, Total	3.152	mg/Kg	0.099	2.982	0.0529	104	60.6	134			

Qualifiers:

E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	NC	Non-Chlorinated
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name: BLAGG

Date Received: 6/7/2011

Work Order Number: 1106243

Received by: LNM

Checklist completed by: Michelle Garcia

Signature

Date

Sample ID labels checked by: 6/7/11

Initials [Signature]

Matrix:

Carrier name: Greyhound

Shipping container/cooler in good condition?

Yes ☒

No ☐

Not Present ☐

Custody seals intact on shipping container/cooler?

Yes ☒

No ☐

Not Present ☐

Not Shipped ☐

Custody seals intact on sample bottles?

Yes ☐

No ☐

N/A ☒

Chain of custody present?

Yes ☒

No ☐

Chain of custody signed when relinquished and received?

Yes ☒

No ☐

Chain of custody agrees with sample labels?

Yes ☒

No ☐

Samples in proper container/bottle?

Yes ☒

No ☐

Sample containers intact?

Yes ☒

No ☐

Sufficient sample volume for indicated test?

Yes ☒

No ☐

All samples received within holding time?

Yes ☒

No ☐

Water - VOA vials have zero headspace?

No VOA vials submitted ☒

Yes ☐

No ☐

Water - Preservation labels on bottle and cap match?

Yes ☐

No ☐

N/A ☒

Water - pH acceptable upon receipt?

Yes ☐

No ☐

N/A ☒

Container/Temp Blank temperature?

1.0°

<6° C Acceptable

If given sufficient time to cool.

Number of preserved
bottles checked for
pH:

<2 >12 unless noted
below.

COMMENTS:

Client contacted: _____

Date contacted: _____

Person contacted: _____

Contacted by: _____

Regarding: _____

Comments: _____

Corrective Action: _____

Chain-of-Custody Record

Client: BLAKE ENGINEERING INC

BP AMERICA

Mailing Address: P.O. Box 87
Bloomfield, NM 87413

Phone #: 505-632-1199

email or Fax#:

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

Accreditation

☐ NELAP ☐ Other

□ EDD (Type)

Turn-Around Time:

☒ ~~Standard~~ ☐ **Rush**

Project Name:

CROUCH MESA L.F. QUARTERLY

Project #:

Project Manager:

J. BLAKE

Sampler: J. BLAGG

On Ice: ☒ Yes ☐ No

Sample Temperature 110

[illegible]

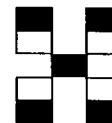
Date: 6/11	Time: 1136	Relinquished by: H. Bugg
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Date:	Time:	Relinquished by:
6/6/11	1657	Chad Wacker

Received by: Christine W. L. L. Date: 6/6/11 Time: 1136

Received by:	Date	Time
<i>[Signature]</i>	6/11/80	800

Remarks: GRO + DRO ON 8015B
BP WORKORDER: N127332Z
BP PARKEY: ZPEACJDENV



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

COVER LETTER

Tuesday, September 27, 2011

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

TEL: (505) 632-1199

FAX (505) 632-3903

RE: Crouch Mesa

Order No.: 1109721

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory, Inc. received 3 sample(s) on 9/20/2011 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. Below is a list of our accreditations. 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 do not hesitate to contact HEAL for any additional information or clarifications.

Sincerely,


Andy Freeman, Laboratory Manager

NM Lab # NM9425 NM0901
AZ license # AZ0682

Hall Environmental Analysis Laboratory, Inc.Date: 27-Sep-11
Analytical ReportCLIENT: Blagg Engineering
Lab Order: 1109721
Project: Crouch Mesa
Lab ID: 1109721-01Client Sample ID: Cell 2
Collection Date: 9/14/2011 3:30:00 PM
Date Received: 9/20/2011
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JB
Diesel Range Organics (DRO)	15	10		mg/Kg	1	9/23/2011 1:55:46 PM
Surr: DNOP	123	73.4-123		%REC	1	9/23/2011 1:55:46 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/23/2011 6:14:22 PM
Surr: BFB	88.1	75.2-136		%REC	1	9/23/2011 6:14:22 PM
EPA METHOD 8021B: VOLATILES						Analyst: RAA
Benzene	ND	0.047		mg/Kg	1	9/23/2011 6:14:22 PM
Toluene	ND	0.047		mg/Kg	1	9/23/2011 6:14:22 PM
Ethylbenzene	ND	0.047		mg/Kg	1	9/23/2011 6:14:22 PM
Xylenes, Total	ND	0.095		mg/Kg	1	9/23/2011 6:14:22 PM
Surr: 4-Bromofluorobenzene	96.5	80-120		%REC	1	9/23/2011 6:14:22 PM
EPA METHOD 300.0: ANIONS						Analyst: SRM
Fluoride	1.9	0.30		mg/Kg	1	9/21/2011 4:58:52 PM
Chloride	170	30		mg/Kg	20	9/21/2011 5:51:05 PM
Nitrogen, Nitrite (As N)	ND	0.30		mg/Kg	1	9/21/2011 4:58:52 PM
Bromide	ND	1.5		mg/Kg	1	9/21/2011 4:58:52 PM
Nitrogen, Nitrate (As N)	2.1	0.30		mg/Kg	1	9/21/2011 4:58:52 PM
Phosphorus, Orthophosphate (As P)	ND	1.5		mg/Kg	1	9/21/2011 4:58:52 PM
Sulfate	4500	75		mg/Kg	50	9/22/2011 5:53:58 PM
EPA METHOD 7471: MERCURY						Analyst: BRM
Mercury	ND	0.033		mg/Kg	1	9/22/2011 4:43:10 PM
EPA METHOD 6010B: SOIL METALS						Analyst: RAGS
Arsenic	ND	2.5		mg/Kg	1	9/23/2011 11:10:37 AM
Barium	62	0.50		mg/Kg	5	9/23/2011 11:12:48 AM
Cadmium	ND	0.10		mg/Kg	1	9/23/2011 11:10:37 AM
Calcium	7300	130		mg/Kg	5	9/23/2011 11:12:48 AM
Chromium	3.8	0.30		mg/Kg	1	9/23/2011 11:10:37 AM
Lead	2.5	0.25		mg/Kg	1	9/23/2011 11:10:37 AM
Magnesium	2900	130		mg/Kg	5	9/23/2011 11:12:48 AM
Potassium	790	250		mg/Kg	5	9/23/2011 11:12:48 AM
Selenium	ND	2.5		mg/Kg	1	9/23/2011 11:10:37 AM
Silver	ND	0.25		mg/Kg	1	9/23/2011 11:10:37 AM
Sodium	420	130		mg/Kg	5	9/23/2011 11:12:48 AM

Qualifiers:

* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
E Estimated value	H Holding times for preparation or analysis exceeded
J Analyte detected below quantitation limits	MCL Maximum Contaminant Level
NC Non-Chlorinated	ND Not Detected at the Reporting Limit
PQL Practical Quantitation Limit	S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: 27-Sep-11

Analytical Report

CLIENT: Blagg Engineering

Client Sample ID: Cell 5

Lab Order: 1109721

Collection Date: 9/14/2011 4:20:00 PM

Project: Crouch Mesa

Date Received: 9/20/2011

Lab ID: 1109721-02

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JB
Diesel Range Organics (DRO)	24	10		mg/Kg	1	9/26/2011 4:17:38 PM
Surr: DNOP	139	73.4-123	S	%REC	1	9/26/2011 4:17:38 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/23/2011 6:43:16 PM
Surr: BFB	86.5	75.2-136		%REC	1	9/23/2011 6:43:16 PM
EPA METHOD 8021B: VOLATILES						Analyst: RAA
Benzene	ND	0.048		mg/Kg	1	9/23/2011 6:43:16 PM
Toluene	ND	0.048		mg/Kg	1	9/23/2011 6:43:16 PM
Ethylbenzene	ND	0.048		mg/Kg	1	9/23/2011 6:43:16 PM
Xylenes, Total	ND	0.097		mg/Kg	1	9/23/2011 6:43:16 PM
Surr: 4-Bromofluorobenzene	95.3	80-120		%REC	1	9/23/2011 6:43:16 PM
EPA METHOD 300.0: ANIONS						Analyst: SRM
Fluoride	1.8	0.30		mg/Kg	1	9/21/2011 3:49:14 PM
Chloride	1.6	1.5		mg/Kg	1	9/21/2011 3:49:14 PM
Nitrogen, Nitrite (As N)	ND	0.30		mg/Kg	1	9/21/2011 3:49:14 PM
Bromide	ND	1.5		mg/Kg	1	9/21/2011 3:49:14 PM
Nitrogen, Nitrate (As N)	0.90	0.30		mg/Kg	1	9/21/2011 3:49:14 PM
Phosphorus, Orthophosphate (As P)	ND	1.5		mg/Kg	1	9/21/2011 3:49:14 PM
Sulfate	4400	150		mg/Kg	100	9/22/2011 6:11:22 PM
EPA METHOD 7471: MERCURY						Analyst: BRM
Mercury	ND	0.033		mg/Kg	1	9/22/2011 4:44:57 PM
EPA METHOD 6010B: SOIL METALS						Analyst: RAGS
Arsenic	3.1	2.5		mg/Kg	1	9/23/2011 11:14:34 AM
Barium	32	0.10		mg/Kg	1	9/23/2011 11:14:34 AM
Cadmium	ND	0.10		mg/Kg	1	9/23/2011 11:14:34 AM
Calcium	17000	130		mg/Kg	5	9/23/2011 11:16:52 AM
Chromium	2.3	0.30		mg/Kg	1	9/23/2011 11:14:34 AM
Lead	3.7	0.25		mg/Kg	1	9/23/2011 11:14:34 AM
Magnesium	1300	130		mg/Kg	5	9/23/2011 11:16:52 AM
Potassium	570	250		mg/Kg	5	9/23/2011 11:16:52 AM
Selenium	ND	2.5		mg/Kg	1	9/23/2011 11:14:34 AM
Silver	ND	0.25		mg/Kg	1	9/23/2011 11:14:34 AM
Sodium	ND	130		mg/Kg	5	9/23/2011 11:16:52 AM

Qualifiers:

* Value exceeds Maximum Contaminant Level

E Estimated value

J Analyte detected below quantitation limits

NC Non-Chlorinated

PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: 27-Sep-11

Analytical Report

CLIENT: Blagg Engineering
Lab Order: 1109721
Project: Crouch Mesa
Lab ID: 1109721-03

Client Sample ID: Cell 1
Collection Date: 9/15/2011 9:03:00 AM
Date Received: 9/20/2011
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JB
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	9/23/2011 4:13:53 PM
Surr: DNOP	118	73.4-123		%REC	1	9/23/2011 4:13:53 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/23/2011 7:12:08 PM
Surr: BFB	86.1	75.2-136		%REC	1	9/23/2011 7:12:08 PM
EPA METHOD 8021B: VOLATILES						Analyst: RAA
Benzene	ND	0.049		mg/Kg	1	9/23/2011 7:12:08 PM
Toluene	ND	0.049		mg/Kg	1	9/23/2011 7:12:08 PM
Ethylbenzene	ND	0.049		mg/Kg	1	9/23/2011 7:12:08 PM
Xylenes, Total	ND	0.098		mg/Kg	1	9/23/2011 7:12:08 PM
Surr: 4-Bromofluorobenzene	94.6	80-120		%REC	1	9/23/2011 7:12:08 PM
EPA METHOD 300.0: ANIONS						Analyst: SRM
Fluoride	3.1	0.30		mg/Kg	1	9/21/2011 6:08:30 PM
Chloride	ND	1.5		mg/Kg	1	9/21/2011 6:08:30 PM
Nitrogen, Nitrite (As N)	ND	0.30		mg/Kg	1	9/21/2011 6:08:30 PM
Bromide	ND	1.5		mg/Kg	1	9/21/2011 6:08:30 PM
Nitrogen, Nitrate (As N)	0.39	0.30		mg/Kg	1	9/21/2011 6:08:30 PM
Phosphorus, Orthophosphate (As P)	ND	1.5		mg/Kg	1	9/21/2011 6:08:30 PM
Sulfate	2400	30		mg/Kg	20	9/21/2011 6:25:55 PM
EPA METHOD 7471: MERCURY						Analyst: BRM
Mercury	ND	0.033		mg/Kg	1	9/22/2011 4:50:16 PM
EPA METHOD 6010B: SOIL METALS						Analyst: RAGS
Arsenic	ND	2.5		mg/Kg	1	9/23/2011 11:18:53 AM
Barium	28	0.10		mg/Kg	1	9/23/2011 11:18:53 AM
Cadmium	ND	0.10		mg/Kg	1	9/23/2011 11:18:53 AM
Calcium	7700	130		mg/Kg	5	9/23/2011 11:20:53 AM
Chromium	4.1	0.30		mg/Kg	1	9/23/2011 11:18:53 AM
Lead	1.8	0.25		mg/Kg	1	9/23/2011 11:18:53 AM
Magnesium	3000	130		mg/Kg	5	9/23/2011 11:20:53 AM
Potassium	900	250		mg/Kg	5	9/23/2011 11:20:53 AM
Selenium	ND	2.5		mg/Kg	1	9/23/2011 11:18:53 AM
Silver	ND	0.25		mg/Kg	1	9/23/2011 11:18:53 AM
Sodium	ND	130		mg/Kg	5	9/23/2011 11:20:53 AM

Qualifiers:

* Value exceeds Maximum Contaminant Level
E Estimated value
J Analyte detected below quantitation limits
NC Non-Chlorinated
PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
MCL Maximum Contaminant Level
ND Not Detected at the Reporting Limit
S Spike recovery outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: Crouch Mesa

Work Order: 1109721

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 300.0: Anions											
Sample ID: 1109721-01BMSD		MSD				Batch ID: 28522	Analysis Date: 9/21/2011 5:33:41 PM				
Fluoride	2.647	mg/Kg	0.30	1.5	1.898	50.0	19.9	129	2.21	20	
Nitrogen, Nitrite (As N)	2.551	mg/Kg	0.30	3	0	85.0	73.3	122	0.245	20	
Bromide	8.163	mg/Kg	1.5	7.5	1.084	94.4	77.1	112	0.369	20	
Nitrogen, Nitrate (As N)	9.524	mg/Kg	0.30	7.5	2.109	98.9	76.2	124	0.376	20	
Phosphorus, Orthophosphate (As P)	2.851	mg/Kg	1.5	15	0	19.0	20.5	118	3.87	20	S
Sample ID: MB-28522		MBLK				Batch ID: 28522	Analysis Date: 9/21/2011 1:29:57 PM				
Fluoride	ND	mg/Kg	0.30								
Chloride	ND	mg/Kg	1.5								
Nitrogen, Nitrite (As N)	ND	mg/Kg	0.30								
Bromide	ND	mg/Kg	1.5								
Nitrogen, Nitrate (As N)	ND	mg/Kg	0.30								
Phosphorus, Orthophosphate (As P)	ND	mg/Kg	1.5								
Sulfate	ND	mg/Kg	1.5								
Sample ID: LCS-28522		LCS				Batch ID: 28522	Analysis Date: 9/21/2011 1:47:22 PM				
Fluoride	1.457	mg/Kg	0.30	1.5	0	97.1	90	110			
Chloride	14.04	mg/Kg	1.5	15	0	93.6	90	110			
Nitrogen, Nitrite (As N)	2.813	mg/Kg	0.30	3	0	93.8	90	110			
Bromide	7.101	mg/Kg	1.5	7.5	0	94.7	90	110			
Nitrogen, Nitrate (As N)	7.161	mg/Kg	0.30	7.5	0	95.5	90	110			
Phosphorus, Orthophosphate (As P)	14.14	mg/Kg	1.5	15	0	94.3	90	110			
Sulfate	28.24	mg/Kg	1.5	30	0.5963	92.1	90	110			
Sample ID: 1109721-01BMS		MS				Batch ID: 28522	Analysis Date: 9/21/2011 5:16:17 PM				
Fluoride	2.707	mg/Kg	0.30	1.5	1.898	53.9	19.9	129			
Nitrogen, Nitrite (As N)	2.545	mg/Kg	0.30	3	0	84.8	73.3	122			
Bromide	8.133	mg/Kg	1.5	7.5	1.084	94.0	77.1	112			
Nitrogen, Nitrate (As N)	9.488	mg/Kg	0.30	7.5	2.109	98.4	76.2	124			
Phosphorus, Orthophosphate (As P)	2.743	mg/Kg	1.5	15	0	18.3	20.5	118			S
Method: EPA Method 8015B: Diesel Range Organics											
Sample ID: 1109721-01AMSD		MSD				Batch ID: 28539	Analysis Date: 9/23/2011 3:05:04 PM				
Diesel Range Organics (DRO)	65.96	mg/Kg	10	50.97	14.94	100	61.9	125	20.5	22.3	
Sample ID: MB-28539		MBLK				Batch ID: 28539	Analysis Date: 9/23/2011 7:39:44 AM				
Diesel Range Organics (DRO)	ND	mg/Kg	10								
Sample ID: LCS-28539		LCS				Batch ID: 28539	Analysis Date: 9/23/2011 8:13:57 AM				
Diesel Range Organics (DRO)	54.40	mg/Kg	10	50	3.573	102	66.7	119			
Sample ID: 1109721-01AMS		MS				Batch ID: 28539	Analysis Date: 9/23/2011 2:30:25 PM				
Diesel Range Organics (DRO)	81.04	mg/Kg	10	49.9	14.94	132	61.9	125			S
Method: EPA Method 8015B: Gasoline Range											
Sample ID: MB-28524		MBLK				Batch ID: 28524	Analysis Date: 9/23/2011 11:31:50 PM				
Gasoline Range Organics (GRO)	ND	mg/Kg	5.0								
Sample ID: LCS-28524		LCS				Batch ID: 28524	Analysis Date: 9/23/2011 9:07:39 PM				
Gasoline Range Organics (GRO)	26.36	mg/Kg	5.0	25	0	105	86.4	132			

Qualifiers:

E Estimated value
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
NC Non-Chlorinated
R RPD outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: Crouch Mesa

Work Order: 1109721

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8021B: Volatiles											
Sample ID: 1109721-01AMSD		MSD				Batch ID: 28524	Analysis Date: 9/25/2011 2:09:45 AM				
Benzene	0.9267	mg/Kg	0.049	0.979	0	94.7	67.2	113	12.9	14.3	
Toluene	0.9200	mg/Kg	0.049	0.979	0.0089	93.1	62.1	116	9.41	15.9	
Ethylbenzene	1.055	mg/Kg	0.049	0.979	0	108	67.9	127	10.4	14.4	
Xylenes, Total	3.205	mg/Kg	0.098	2.935	0	109	60.6	134	8.21	12.6	
Sample ID: MB-28524		MBLK				Batch ID: 28524	Analysis Date: 9/23/2011 11:31:50 PM				
Benzene	ND	mg/Kg	0.050								
Toluene	ND	mg/Kg	0.050								
Ethylbenzene	ND	mg/Kg	0.050								
Xylenes, Total	ND	mg/Kg	0.10								
Sample ID: LCS-28524		LCS				Batch ID: 28524	Analysis Date: 9/23/2011 8:38:43 PM				
Benzene	0.8478	mg/Kg	0.050	1	0	84.8	83.3	107			
Toluene	0.9330	mg/Kg	0.050	1	0.0089	92.4	74.3	115			
Ethylbenzene	0.9751	mg/Kg	0.050	1	0.0112	96.4	80.9	122			
Xylenes, Total	2.917	mg/Kg	0.10	3	0.0335	96.1	85.2	123			
Sample ID: 1109721-01AMS		MS				Batch ID: 28524	Analysis Date: 9/25/2011 1:39:48 AM				
Benzene	0.8146	mg/Kg	0.048	0.953	0	85.5	67.2	113			
Toluene	0.8373	mg/Kg	0.048	0.953	0.0089	86.9	62.1	116			
Ethylbenzene	0.9507	mg/Kg	0.048	0.953	0	99.7	67.9	127			
Xylenes, Total	2.952	mg/Kg	0.095	2.86	0	103	60.6	134			

Method: EPA Method 7471: Mercury

Sample ID: 1109721-02BMSD		MSD				Batch ID: 28553	Analysis Date: 9/22/2011 4:48:30 PM				
Mercury	0.2027	mg/Kg	0.033	0.167	0.0264	106	75	125	0.201	20	
Sample ID: MB-28553		MBLK				Batch ID: 28553	Analysis Date: 9/22/2011 4:39:41 PM				
Mercury	ND	mg/Kg	0.033								
Sample ID: LCS-28553		LCS				Batch ID: 28553	Analysis Date: 9/22/2011 4:41:26 PM				
Mercury	0.1794	mg/Kg	0.033	0.167	0	108	80	120			
Sample ID: 1109721-02BMS		MS				Batch ID: 28553	Analysis Date: 9/22/2011 4:46:43 PM				
Mercury	0.2023	mg/Kg	0.033	0.166	0.0264	106	75	125			

Qualifiers:

E Estimated value
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
H Holding times for preparation or analysis exceeded
NC Non-Chlorinated
R RPD outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: Crouch Mesa

Work Order: 1109721

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
---------	--------	-------	-----	--------	---------	------	----------	-----------	------	----------	------

Method: EPA Method 6010B: Soil Metals

Sample ID: MB-28557

MBLK

Batch ID: 28557 Analysis Date: 9/23/2011 11:02:21 AM

Arsenic	ND	mg/Kg	2.5
Barium	ND	mg/Kg	0.10
Cadmium	ND	mg/Kg	0.10
Calcium	ND	mg/Kg	25
Chromium	ND	mg/Kg	0.30
Lead	ND	mg/Kg	0.25
Magnesium	ND	mg/Kg	25
Potassium	ND	mg/Kg	50
Selenium	ND	mg/Kg	2.5
Silver	ND	mg/Kg	0.25
Sodium	ND	mg/Kg	25

Sample ID: LCS-28557

LCS

Batch ID: 28557 Analysis Date: 9/23/2011 11:04:30 AM

Arsenic	25.57	mg/Kg	2.5	25	0	102	80	120
Barium	23.92	mg/Kg	0.10	25	0	95.7	80	120
Cadmium	25.05	mg/Kg	0.10	25	0	100	80	120
Calcium	2622	mg/Kg	25	2500	0	105	80	120
Chromium	24.05	mg/Kg	0.30	25	0	96.2	80	120
Lead	23.66	mg/Kg	0.25	25	0	94.6	80	120
Magnesium	2667	mg/Kg	25	2500	0	107	80	120
Potassium	2530	mg/Kg	50	2500	13.84	101	80	120
Selenium	25.21	mg/Kg	2.5	25	0	101	80	120
Silver	5.043	mg/Kg	0.25	5	0	101	80	120
Sodium	2591	mg/Kg	25	2500	0	104	80	120

Qualifiers:

E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	NC	Non-Chlorinated
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name: BLAGG

Date Received: 9/20/2011

Work Order Number: 1109721

Received by: LNM

Checklist completed by: [Signature]

Signature

Date

Sample ID labels checked by: [Signature]

Initials

Matrix:

Carrier name: Courier

Shipping container/cooler in good condition?

Yes ☒

No ☐

Not Present ☐

Custody seals intact on shipping container/cooler?

Yes ☒

No ☐

Not Present ☐

Not Shipped ☐

Custody seals intact on sample bottles?

Yes ☐

No ☐

N/A ☒

Chain of custody present?

Yes ☒

No ☐

Chain of custody signed when relinquished and received?

Yes ☒

No ☐

Chain of custody agrees with sample labels?

Yes ☒

No ☐

Samples in proper container/bottle?

Yes ☒

No ☐

Sample containers intact?

Yes ☒

No ☐

Sufficient sample volume for indicated test?

Yes ☒

No ☐

All samples received within holding time?

Yes ☒

No ☐

Water - VOA vials have zero headspace?

No VOA vials submitted ☒

Yes ☐

No ☐

Water - Preservation labels on bottle and cap match?

Yes ☐

No ☐

N/A ☒

Water - pH acceptable upon receipt?

Yes ☐

No ☐

N/A ☒

Container/Temp Blank temperature?

3.4°

<6° C Acceptable

If given sufficient time to cool.

Number of preserved bottles checked for pH: _____

<2 >12 unless noted below.

COMMENTS:

Client contacted _____

Date contacted: _____

Person contacted _____

Contacted by: _____

Regarding: _____

Comments: _____

Corrective Action _____

COVER LETTER

Friday, November 11, 2011

Nelson Velez
Blagg Engineering
P. O. Box 87
Bloomfield, NM 87413

TEL: (505) 632-1199

FAX (505) 632-3903

RE: Crouch Mesa LF

Order No.: 1111256

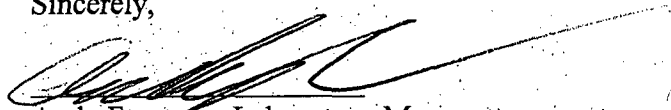
Dear Nelson Velez:

Hall Environmental Analysis Laboratory, Inc. received 3 sample(s) on 11/3/2011 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. Below is a list of our accreditations. 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 do not hesitate to contact HEAL for any additional information or clarifications.

Sincerely,



Andy Freeman, Laboratory Manager

NM Lab # NM9425 NM0901

AZ license # AZ0682

Hall Environmental Analysis Laboratory, Inc.

Date: 11-Nov-11

Analytical Report

CLIENT: Blagg Engineering
Lab Order: 1111256
Project: Crouch Mesa LF
Lab ID: 1111256-01

Client Sample ID: Cell 1
Collection Date: 11/1/2011 10:20:00 AM
Date Received: 11/3/2011
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: SCC
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	11/5/2011 9:07:03 AM
Surr: DNOP	104	73.4-123		%REC	1	11/5/2011 9:07:03 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: RAA
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	11/7/2011 2:54:46 PM
Surr: BFB	91.2	75.2-136		%REC	1	11/7/2011 2:54:46 PM
EPA METHOD 8021B: VOLATILES						Analyst: RAA
Benzene	ND	0.050		mg/Kg	1	11/7/2011 2:54:46 PM
Toluene	ND	0.050		mg/Kg	1	11/7/2011 2:54:46 PM
Ethylbenzene	ND	0.050		mg/Kg	1	11/7/2011 2:54:46 PM
Xylenes, Total	ND	0.099		mg/Kg	1	11/7/2011 2:54:46 PM
Surr: 4-Bromofluorobenzene	90.7	80-120		%REC	1	11/7/2011 2:54:46 PM
EPA METHOD 300.0: ANIONS						Analyst: BRM
Chloride	18	1.5		mg/Kg	1	11/9/2011 4:18:15 PM

Qualifiers:

* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
E Estimated value	H Holding times for preparation or analysis exceeded
J Analyte detected below quantitation limits	MCL Maximum Contaminant Level
NC Non-Chlorinated	ND Not Detected at the Reporting Limit
PQL Practical Quantitation Limit	S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: 11-Nov-11

Analytical Report

CLIENT: Blagg Engineering
Lab Order: 1111256
Project: Crouch Mesa LF
Lab ID: 1111256-02

Client Sample ID: Cell 2
Collection Date: 11/1/2011 10:47:00 AM
Date Received: 11/3/2011
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: SCC
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	11/5/2011 9:41:43 AM
Surr: DNOP	91.7	73.4-123		%REC	1	11/5/2011 9:41:43 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: RAA
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	11/7/2011 3:24:45 PM
Surr: BFB	97.6	75.2-136		%REC	1	11/7/2011 3:24:45 PM
EPA METHOD 8021B: VOLATILES						Analyst: RAA
Benzene	ND	0.050		mg/Kg	1	11/7/2011 3:24:45 PM
Toluene	ND	0.050		mg/Kg	1	11/7/2011 3:24:45 PM
Ethylbenzene	ND	0.050		mg/Kg	1	11/7/2011 3:24:45 PM
Xylenes, Total	ND	0.099		mg/Kg	1	11/7/2011 3:24:45 PM
Surr: 4-Bromofluorobenzene	94.7	80-120		%REC	1	11/7/2011 3:24:45 PM
EPA METHOD 300.0: ANIONS						Analyst: BRM
Chloride	140	30		mg/Kg	20	11/9/2011 5:10:29 PM

Qualifiers:

* Value exceeds Maximum Contaminant Level
E Estimated value
J Analyte detected below quantitation limits
NC Non-Chlorinated
PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
MCL Maximum Contaminant Level
ND Not Detected at the Reporting Limit
S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: 11-Nov-11

Analytical Report

CLIENT: Blagg Engineering
Lab Order: 1111256
Project: Crouch Mesa LF
Lab ID: 1111256-03

Client Sample ID: Cell 5
Collection Date: 11/1/2011 9:50:00 AM
Date Received: 11/3/2011
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: SCC
Diesel Range Organics (DRO)	16	10		mg/Kg	1	11/6/2011 1:51:21 PM
Surr: DNOP	104	73.4-123		%REC	1	11/6/2011 1:51:21 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/7/2011 3:54:42 PM
Surr: BFB	81.5	75.2-136		%REC	1	11/7/2011 3:54:42 PM
EPA METHOD 8021B: VOLATILES						Analyst: RAA
Benzene	ND	0.048		mg/Kg	1	11/7/2011 3:54:42 PM
Toluene	ND	0.048		mg/Kg	1	11/7/2011 3:54:42 PM
Ethylbenzene	ND	0.048		mg/Kg	1	11/7/2011 3:54:42 PM
Xylenes, Total	ND	0.097		mg/Kg	1	11/7/2011 3:54:42 PM
Surr: 4-Bromofluorobenzene	81.4	80-120		%REC	1	11/7/2011 3:54:42 PM
EPA METHOD 300.0: ANIONS						Analyst: BRM
Chloride	ND	1.5		mg/Kg	1	11/9/2011 5:27:55 PM

Qualifiers:

* Value exceeds Maximum Contaminant Level
E Estimated value
J Analyte detected below quantitation limits
NC Non-Chlorinated
PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
MCL Maximum Contaminant Level
ND Not Detected at the Reporting Limit
S Spike recovery outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: Crouch Mesa LF

Work Order: 1111256

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8015B: Diesel Range Organics											
Sample ID: MB-29219		MBLK									
Batch ID: 29219											
Analysis Date: 11/5/2011 2:46:52 AM											
Diesel Range Organics (DRO)	ND	mg/Kg	10								
Sample ID: LCS-29219		LCS									
Batch ID: 29219											
Analysis Date: 11/5/2011 3:21:17 AM											
Diesel Range Organics (DRO)	48.17	mg/Kg	10	50	0	96.3	66.7	119			
Method: EPA Method 8015B: Gasoline Range											
Sample ID: 1111256-01AMSD		MSD									
Batch ID: 29220											
Analysis Date: 11/7/2011 8:54:20 PM											
Gasoline Range Organics (GRO)	32.65	mg/Kg	5.0	24.8	2.187	123	72.4	149	8.52	19.2	
Sample ID: MB-29220		MBLK									
Batch ID: 29220											
Analysis Date: 11/7/2011 2:24:44 PM											
Gasoline Range Organics (GRO)	ND	mg/Kg	5.0								
Sample ID: LCS-29220		LCS									
Batch ID: 29220											
Analysis Date: 11/7/2011 12:54:52 PM											
Gasoline Range Organics (GRO)	29.54	mg/Kg	5.0	25	0	118	86.4	132			
Sample ID: 1111256-01AMS		MS									
Batch ID: 29220											
Analysis Date: 11/7/2011 8:24:14 PM											
Gasoline Range Organics (GRO)	29.98	mg/Kg	5.0	24.98	2.187	111	72.4	149			
Method: EPA Method 8021B: Volatiles											
Sample ID: 1111256-02AMSD		MSD									
Batch ID: 29220											
Analysis Date: 11/7/2011 9:54:18 PM											
Benzene	0.9630	mg/Kg	0.049	0.975	0.0115	97.6	67.2	113	2.41	14.3	
Toluene	0.9306	mg/Kg	0.049	0.975	0	95.5	62.1	116	4.73	15.9	
Ethylbenzene	1.060	mg/Kg	0.049	0.975	0	109	67.9	127	4.68	14.4	
Xylenes, Total	3.238	mg/Kg	0.097	2.924	0	111	60.6	134	5.00	12.6	
Sample ID: MB-29220		MBLK									
Batch ID: 29220											
Analysis Date: 11/7/2011 2:24:44 PM											
Benzene	ND	mg/Kg	0.050								
Toluene	ND	mg/Kg	0.050								
Ethylbenzene	ND	mg/Kg	0.050								
Xylenes, Total	ND	mg/Kg	0.10								
Sample ID: LCS-29220		LCS									
Batch ID: 29220											
Analysis Date: 11/7/2011 1:24:56 PM											
Benzene	1.018	mg/Kg	0.050	1	0.0224	99.6	83.3	107			
Toluene	0.9662	mg/Kg	0.050	1	0	96.6	74.3	115			
Ethylbenzene	1.084	mg/Kg	0.050	1	0.0045	108	80.9	122			
Xylenes, Total	3.326	mg/Kg	0.10	3	0	111	85.2	123			
Sample ID: 1111256-02AMS		MS									
Batch ID: 29220											
Analysis Date: 11/7/2011 9:24:16 PM											
Benzene	0.9401	mg/Kg	0.049	0.984	0.0115	94.3	67.2	113			
Toluene	0.9757	mg/Kg	0.049	0.984	0	99.1	62.1	116			
Ethylbenzene	1.110	mg/Kg	0.049	0.984	0	113	67.9	127			
Xylenes, Total	3.404	mg/Kg	0.098	2.953	0	115	60.6	134			

Qualifiers:

E Estimated value
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded
NC Non-Chlorinated
R RPD outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name: **BLAGG**

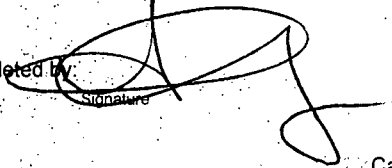
Date Received:

11/3/2011

Work Order Number: **1111256**

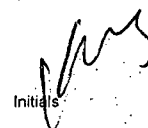
Received by: **LNH**

Checklist completed by:



11/3/11
Date

Sample ID labels checked by:

Initials


Matrix:

Carrier name: **FedEx**

Shipping container/cooler in good condition?

Yes ☒

No

Not Present

Custody seals intact on shipping container/cooler?

Yes ☒

No

Not Present

Not Shipped

Custody seals intact on sample bottles?

Yes ☐

No

N/A

☒

Chain of custody present?

Yes ☒

No

Chain of custody signed when relinquished and received?

Yes ☒

No

Chain of custody agrees with sample labels?

Yes ☒

No

Samples in proper container/bottle?

Yes ☒

No

Sample containers intact?

Yes ☒

No

Sufficient sample volume for indicated test?

Yes ☒

No

All samples received within holding time?

Yes ☒

No

Water - VOA vials have zero headspace?

No VOA vials submitted ☒

Yes

No

Water - Preservation labels on bottle and cap match?

Yes ☐

No

N/A ☒

Water - pH acceptable upon receipt?

Yes ☐

No

N/A ☒

Number of preserved
bottles checked for
pH:

<2 >12 unless noted
below.

Container/Temp Blank temperature?

3.4°

<6° C Acceptable

If given sufficient time to cool.

COMMENTS:

Client contacted

Date contacted:

Person contacted

Contacted by:

Regarding:

Comments:

Corrective Action

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

☒ **Standard** ☐ **Rush** *ask for details* *ask for details*

CROUCH MESA L.F.

Project Manager:

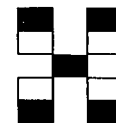
Sampler: J Blagg

On Ice ☒ Yes ☐ No

Sample Temperature 3.4

[illegible]

Date: 3/20/11	Time: 1300	Relinquished by: Jeff Blagg	Received by: Christopher Hooper	Date: 3/20/11	Time: 1300	Remarks: GRO + DRO ON 8015 WORKORDER: N1273322 PARKER: ZPEACJDBNV CONTACT: JEFF PEACE
Date: 11/2/11	Time: 1602	Relinquished by: Cholita	Received by: [Signature]	Date: 11/3/11	Time: 0940	



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

	X	X	X	BTEX + MIBK + TMB s (8021)
				BTEX + MTBE + TPH (Gas only)
	X	X	X	TPH Method 8015B (Gas/Diesel)
				TPH (Method 418.1)
				EDB (Method 504.1)
				8310 (PNA or PAH)
				RCRA 8 Metals
				Anions (F, Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄)
				8081 Pesticides / 8082 PCB's
				8260B (VOA)
				8270 (Semi-VOA)
	X	X	X	CHLORIDE
				Air Bubbles (Y or N)

Remarks: GRO + BRO ON 8015
WORKORDER: N127332Z
PARKER: ZPEACJDEUV
CONTACT: JEFF PEACE

BLAGG ENGINEERING, INC.

P.O. Box 87, Bloomfield, New Mexico 87413

Phone: (505)632-1199 Fax: (505)632-3903

SENT VIA CERTIFIED MAIL
7007 0220 0004 3556 7714

RECEIVED OCD

2010 NOV -9 P 1:13

November 5, 2010

Mr. Brad Jones
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: BP America Production Company
Crouch Mesa Waste Management Facility, Permit NM-02-003
Annual Report on Treatment Zone Monitoring

Dear Mr. Jones:

On behalf of BP America Production Company, Blagg Engineering, Inc. (BEI) is submitting 2010 annual treatment zone monitoring test results for the Crouch Mesa Waste Management Facility pursuant to Permit NM-02-003, dated November 25, 1998. This report is for the December 1, 2009 through November 30, 2010 reporting period. Analytical test results (attached) indicate the facility met standards with each sample event.

Sampling protocol specifies collection of subsurface samples in each cell from the native ground surface below the treatment zone 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 October 5, 2010 sample event.

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

Questions or comments concerning this transmittal may be directed to myself at (505)632-1199 or Jeff Peace with BP at (505)326-9200.

Respectfully submitted:
Blagg Engineering, Inc.

Jeffrey C. Blagg

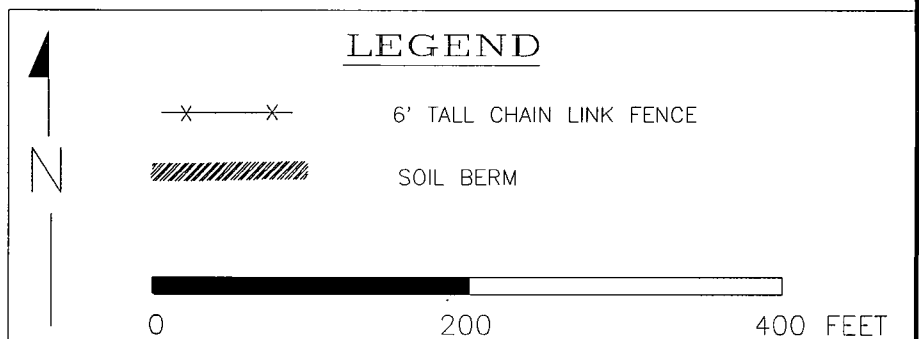
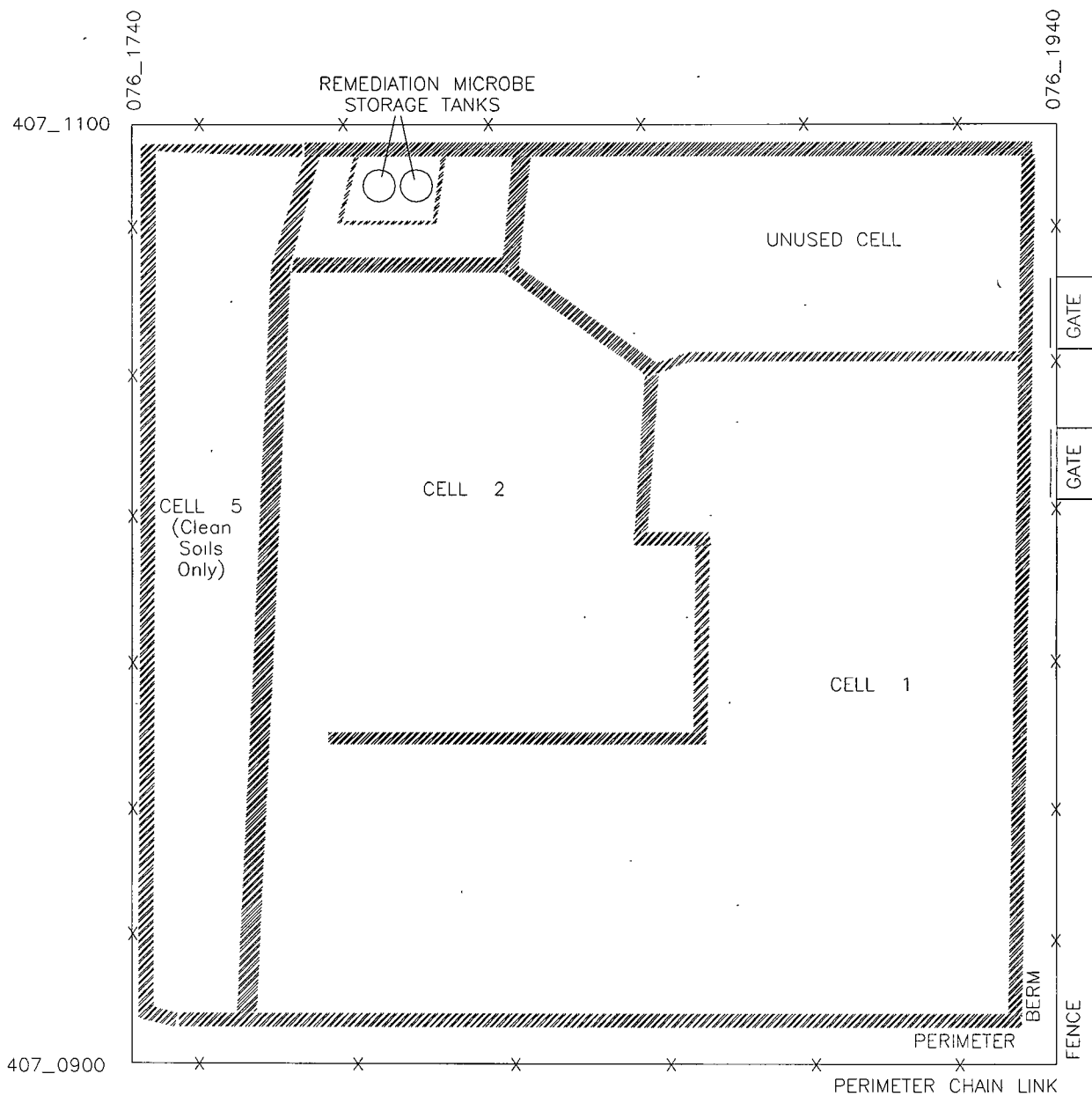
Jeffrey C. Blagg, P.E.
President

Attachments: Site Diagram
Soil Treatment Zone Monitoring Reports

cc: Brandon Powell, NMOCD Aztec District Office
Jeff Peace, BP San Juan Operations Center

Blagg Engineering, Inc.
Consulting Engineers

BP America Production Company
Crouch Mesa Waste Management Facility



BP AMERICA PRODUCTION CO
 CROUCH MESA WASTE MGMT FAC
 SW/4 SE/4 SEC 2 T29N R12W
 SAN JUAN CO., NEW MEXICO

NOVEMBER 2010

BLAGG ENGINEERING, INC.
 CONSULTING ENGINEERING SERVICES

P.O. BOX 87
 BLOOMFIELD, NEW MEXICO 87413

PHONE (505) 632-1199

SITE
 SCHEMATIC

FIGURE 1

DRWN BY
 JCB

CRMESA4

PROJ MGR
 JCB

CHAIN OF CUSTODY RECORD

8912

Client: BLAGG / BP			Project Name / Location: CROUCH MESA L.F.			ANALYSIS / PARAMETERS																																													
Client Address:			Sampler Name: J. BLAGG			<table border="1"> <tr> <th>TPH (Method 8015)</th> <th>BTEX (Method 8021)</th> <th>VOC (Method 8260)</th> <th>RCRA 8 Metals</th> <th>Cation / Anion</th> <th>RCI</th> <th>TCLP with H/P</th> <th>PAH</th> <th>TPH (418.1)</th> <th>CHLORIDE</th> <th></th> <th></th> <th></th> <th></th> <th>Sample Cool</th> <th>Sample Intact</th> </tr> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>														TPH (Method 8015)	BTEX (Method 8021)	VOC (Method 8260)	RCRA 8 Metals	Cation / Anion	RCI	TCLP with H/P	PAH	TPH (418.1)	CHLORIDE					Sample Cool	Sample Intact																
TPH (Method 8015)	BTEX (Method 8021)	VOC (Method 8260)	RCRA 8 Metals	Cation / Anion	RCI															TCLP with H/P	PAH	TPH (418.1)	CHLORIDE					Sample Cool	Sample Intact																						
Client Phone No.:			Client No.: 94034-0010																																																
Sample No./ Identification	Sample Date	Sample Time	Lab No.	Sample Matrix	No./Volume of Containers	Preservative HgCl ₂ HCl			TPH (Method 8015)	BTEX (Method 8021)	VOC (Method 8260)	RCRA 8 Metals	Cation / Anion	RCI	TCLP with H/P	PAH	TPH (418.1)	CHLORIDE					Sample Cool	Sample Intact																											
CELL 1	3/22/10	1405	53451	Soil Solid	Sludge Aqueous	1-4oz				X	X								X					y	y																										
CELL 2	"	1420	53452	Soil Solid	Sludge Aqueous	"				X	X								X					L	L																										
CELL 5	"	1330	53453	Soil Solid	Sludge Aqueous	"				X	X								X					L	L																										
				Soil Solid	Sludge Aqueous																																														
				Soil Solid	Sludge Aqueous																																														
				Soil Solid	Sludge Aqueous																																														
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				Soil Solid	Sludge Aqueous																																														
				Soil Solid	Sludge Aqueous																																														
				Soil Solid	Sludge Aqueous																																														
Relinquished by: (Signature) <i>J. Blagg</i>						Date 3/23/10	Time 0838		Received by: (Signature) <i>Brandy J. J...</i>						Date 3/23/10		Time 0838																																		
Relinquished by: (Signature)									Received by: (Signature)																																										
Relinquished by: (Signature)									Received by: (Signature)																																										



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**EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons**

Client:	Blagg/BP	Project #:	94034-0010
Sample ID:	Cell 1	Date Reported:	03-25-10
Laboratory Number:	53451	Date Sampled:	03-22-10
Chain of Custody No:	8912	Date Received:	03-23-10
Sample Matrix:	Soil	Date Extracted:	03-24-10
Preservative:	Cool	Date Analyzed:	03-25-10
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: **Crouch Mesa L.F.**

Analyst

Review



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**EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons**

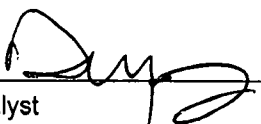
Client:	Blagg/BP	Project #:	94034-0010
Sample ID:	Cell 2	Date Reported:	03-25-10
Laboratory Number:	53452	Date Sampled:	03-22-10
Chain of Custody No:	8912	Date Received:	03-23-10
Sample Matrix:	Soil	Date Extracted:	03-24-10
Preservative:	Cool	Date Analyzed:	03-25-10
Condition:	Intact	Analysis Requested:	8015 TPH

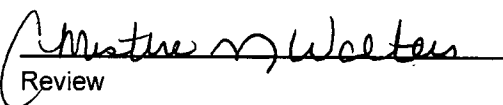
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: **Crouch Mesa L.F.**


Analyst


Review



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**EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons**

Client:	Blagg/BP	Project #:	94034-0010
Sample ID:	Cell 5	Date Reported:	03-25-10
Laboratory Number:	53453	Date Sampled:	03-22-10
Chain of Custody No:	8912	Date Received:	03-23-10
Sample Matrix:	Soil	Date Extracted:	03-24-10
Preservative:	Cool	Date Analyzed:	03-25-10
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: **Crouch Mesa L.F.**

Analyst

Review



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EPA Method 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	03-25-10 QA/QC	Date Reported:	03-25-10
Laboratory Number:	53451	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	03-25-10
Condition:	N/A	Analysis Requested:	TPH

	Cal Date	L Cal RF	C Cal RF	% Difference	Accept Range
Gasoline Range C5 - C10	05-07-07	9.1112E+002	9.1149E+002	0.04%	0 - 15%
Diesel Range C10 - C28	05-07-07	8.9826E+002	8.9862E+002	0.04%	0 - 15%

Blank Conc. (mg/L - mg/Kg)	Concentration	Detection Limit
Gasoline Range C5 - C10	ND	0.2
Diesel Range C10 - C28	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept Range
Gasoline Range C5 - C10	ND	ND	0.0%	0 - 30%
Diesel Range C10 - C28	ND	ND	0.0%	0 - 30%

Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept Range
Gasoline Range C5 - C10	ND	250	252	101%	75 - 125%
Diesel Range C10 - C28	ND	250	297	119%	75 - 125%

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: QA/QC for Samples 53451 - 53453, 53458 - 53460, and 53462 - 53463

Analyst

Review

Client:	Blagg/BP	Project #:	94034-0010
Sample ID:	Cell 1	Date Reported:	03-25-10
Laboratory Number:	53451	Date Sampled:	03-22-10
Chain of Custody:	8912	Date Received:	03-23-10
Sample Matrix:	Soil	Date Analyzed:	03-25-10
Preservative:	Cool	Date Extracted:	03-24-10
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	0.9
Toluene	ND	1.0
Ethylbenzene	ND	1.0
p,m-Xylene	ND	1.2
o-Xylene	ND	0.9
Total BTEX	ND	

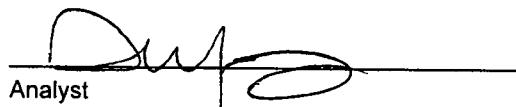
ND - Parameter not detected at the stated detection limit.

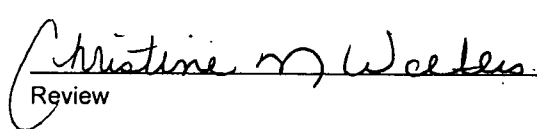
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	91.0 %
	1,4-difluorobenzene	99.0 %
	Bromochlorobenzene	94.0 %

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Method 8021B, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: **Crouch Mesa L.F.**


Analyst


Review



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EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Blagg/BP	Project #:	94034-0010
Sample ID:	Cell 2	Date Reported:	03-25-10
Laboratory Number:	53452	Date Sampled:	03-22-10
Chain of Custody:	8912	Date Received:	03-23-10
Sample Matrix:	Soil	Date Analyzed:	03-25-10
Preservative:	Cool	Date Extracted:	03-24-10
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	0.9
Toluene	ND	1.0
Ethylbenzene	ND	1.0
p,m-Xylene	ND	1.2
o-Xylene	ND	0.9
Total BTEX	ND	

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	91.0 %
	1,4-difluorobenzene	99.0 %
	Bromochlorobenzene	94.0 %

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Method 8021B, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: Crouch Mesa L.F.

Analyst

Review

Client:	Blagg/BP	Project #:	94034-0010
Sample ID:	Cell 5	Date Reported:	03-25-10
Laboratory Number:	53453	Date Sampled:	03-22-10
Chain of Custody:	8912	Date Received:	03-23-10
Sample Matrix:	Soil	Date Analyzed:	03-25-10
Preservative:	Cool	Date Extracted:	03-24-10
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	0.9
Toluene	ND	1.0
Ethylbenzene	ND	1.0
p,m-Xylene	ND	1.2
o-Xylene	ND	0.9
Total BTEX	ND	

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	94.0 %
	1,4-difluorobenzene	99.8 %
	Bromochlorobenzene	98.5 %

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Method 8021B, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: **Crouch Mesa L.F.**

Analyst

Review



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EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	N/A	Project #:	N/A
Sample ID:	03-25-BT QA/QC	Date Reported:	03-25-10
Laboratory Number:	53451	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	03-25-10
Condition:	N/A	Analysis:	BTEX

Calibration and Detection Limits (ug/L)	I-Cal RF	C-Cal RF	%Diff	Blank Conc	Defect Limit
		Accept Range	0 - 15%		
Benzene	1.2880E+006	1.2906E+006	0.2%	ND	0.1
Toluene	1.1888E+006	1.1912E+006	0.2%	ND	0.1
Ethylbenzene	1.0830E+006	1.0852E+006	0.2%	ND	0.1
p,m-Xylene	2.6931E+006	2.6985E+006	0.2%	ND	0.1
o-Xylene	1.0140E+006	1.0160E+006	0.2%	ND	0.1

Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff	Accept Range	Defect Limit
Benzene	ND	ND	0.0%	0 - 30%	0.9
Toluene	ND	ND	0.0%	0 - 30%	1.0
Ethylbenzene	ND	ND	0.0%	0 - 30%	1.0
p,m-Xylene	ND	ND	0.0%	0 - 30%	1.2
o-Xylene	ND	ND	0.0%	0 - 30%	0.9

Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	ND	50.0	45.8	91.6%	39 - 150
Toluene	ND	50.0	48.6	97.2%	46 - 148
Ethylbenzene	ND	50.0	48.9	97.8%	32 - 160
p,m-Xylene	ND	100	93.8	93.8%	46 - 148
o-Xylene	ND	50.0	48.8	97.6%	46 - 148

ND - Parameter not detected at the stated detection limit.

References:

Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996
Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996

Comments: QA/QC for Samples 53451 - 53453, 53458 - 53460, and 53462 - 53465

Analyst

Review



Client:	Blagg/BP	Project #:	94034-0010
Sample ID:	Cell 1	Date Reported:	03-25-10
Lab ID#:	53451	Date Sampled:	03-22-10
Sample Matrix:	Soil	Date Received:	03-23-10
Preservative:	Cool	Date Analyzed:	03-24-10
Condition:	Intact	Chain of Custody:	8912

Parameter

Concentration (mg/Kg)

Total Chloride

10

Reference: U.S.E.P.A., 4500B, "Methods for Chemical Analysis of Water and Wastes", 1983.
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: **Crouch Mesa L.F.**

Analyst

Review



Client:	Blagg/BP	Project #:	94034-0010
Sample ID:	Cell 2	Date Reported:	03-25-10
Lab ID#:	53452	Date Sampled:	03-22-10
Sample Matrix:	Soil	Date Received:	03-23-10
Preservative:	Cool	Date Analyzed:	03-24-10
Condition:	Intact	Chain of Custody:	8912

Parameter

Concentration (mg/Kg)

Total Chloride

10

Reference: U.S.E.P.A., 4500B, "Methods for Chemical Analysis of Water and Wastes", 1983.
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: **Crouch Mesa L.F.**

Analyst

Review



Client:	Blagg/BP	Project #:	94034-0010
Sample ID:	Cell 5	Date Reported:	03-25-10
Lab ID#:	53453	Date Sampled:	03-22-10
Sample Matrix:	Soil	Date Received:	03-23-10
Preservative:	Cool	Date Analyzed:	03-24-10
Condition:	Intact	Chain of Custody:	8912

Parameter

Concentration (mg/Kg)

Total Chloride

20

Reference: U.S.E.P.A., 4500B, "Methods for Chemical Analysis of Water and Wastes", 1983.
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: **Crouch Mesa L.F.**

Analyst

Review

CHAIN OF CUSTODY RECORD

09476

Client: BLAGE/SP			Project Name / Location: CROUCH MESA LANDFILL				ANALYSIS / PARAMETERS														
Client Address:			Sampler Name: J. BLAGE				TPH (Method 8015)	BTEX (Method 8021)	VOC (Method 8260)	RCRA 8 Metals	Cation / Anion	RCI	TCLP with H/P	PAH	TPH (418.1)	CHLORIDE			Sample Cool	Sample Intact	
Client Phone No.:			Client No.: 94034-0011																		
Sample No./ Identification	Sample Date	Sample Time	Lab No.	Sample Matrix	No./Volume of Containers	Preservative HgCl ₂ HCl															
CELL #1	5/25/10	1500	54426	Soil Solid	Sludge Aqueous	1-402				X	X							X		✓	✓
CELL #2	"	1520	54427	Soil Solid	Sludge Aqueous	"				X	X							X		✓	✓
CELL #5	"	1540	54428	Soil Solid	Sludge Aqueous	"				X	X							X		✓	✓
				Soil Solid	Sludge Aqueous																
				Soil Solid	Sludge Aqueous																
				Soil Solid	Sludge Aqueous																
				Soil Solid	Sludge Aqueous																
				Soil Solid	Sludge Aqueous																
				Soil Solid	Sludge Aqueous																
				Soil Solid	Sludge Aqueous																
				Soil Solid	Sludge Aqueous																
Relinquished by: (Signature) <i>J. Blage</i>						Date 5/26/10	Time 0720	Received by: (Signature) <i>[Signature]</i>						Date 5/26/10	Time 720						
Relinquished by: (Signature)								Received by: (Signature)													
Relinquished by: (Signature)								Received by: (Signature)													



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**EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons**

Client:	Blagg/BP	Project #:	94034-0011
Sample ID:	Cell #1	Date Reported:	06-01-10
Laboratory Number:	54426	Date Sampled:	05-25-10
Chain of Custody No:	9476	Date Received:	05-26-10
Sample Matrix:	Soil	Date Extracted:	05-27-10
Preservative:	Cool	Date Analyzed:	05-28-10
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	0.2	0.2
Diesel Range (C10 - C28)	0.5	0.1
Total Petroleum Hydrocarbons	0.7	0.2

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: **Crouch Mesa Landfarm**



Analyst

Review



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**EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons**

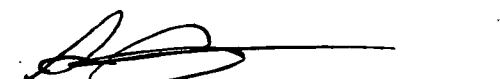
Client:	Blagg/BP	Project #:	94034-0011
Sample ID:	Cell #2	Date Reported:	06-01-10
Laboratory Number:	54427	Date Sampled:	05-25-10
Chain of Custody No:	9476	Date Received:	05-26-10
Sample Matrix:	Soil	Date Extracted:	05-27-10
Preservative:	Cool	Date Analyzed:	05-28-10
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	0.4	0.1
Total Petroleum Hydrocarbons	0.4	0.2

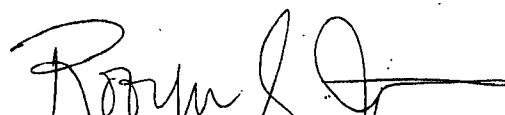
ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: **Crouch Mesa Landfarm**



Analyst



Review



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**EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons**

Client:	Blagg/BP	Project #:	94034-0011
Sample ID:	Cell #5	Date Reported:	06-01-10
Laboratory Number:	54428	Date Sampled:	05-25-10
Chain of Custody No:	9476	Date Received:	05-26-10
Sample Matrix:	Soil	Date Extracted:	05-27-10
Preservative:	Cool	Date Analyzed:	05-28-10
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: **Crouch Mesa Landfarm**

Analyst

Review

**EPA Method 8015 Modified
 Nonhalogenated Volatile Organics
 Total Petroleum Hydrocarbons**

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	05-28-10 QA/QC	Date Reported:	06-01-10
Laboratory Number:	54426	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	05-28-10
Condition:	N/A	Analysis Requested:	TPH

Sample Name	Sample Date	Lab. Result	Cal. Result	% Difference	Accept. Range
Gasoline Range C5 - C10	05-07-07	1.0118E+003	1.0122E+003	0.04%	0 - 15%
Diesel Range C10 - C28	05-07-07	1.0437E+003	1.0441E+003	0.04%	0 - 15%

Sample Conc. (mg/L - mg/Kg)	Concentration	Detection Limit
Gasoline Range C5 - C10	ND	0.2
Diesel Range C10 - C28	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

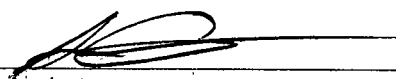
Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept. Range
Gasoline Range C5 - C10	0.2	0.2	0.0%	0 - 30%
Diesel Range C10 - C28	0.5	0.5	0.0%	0 - 30%

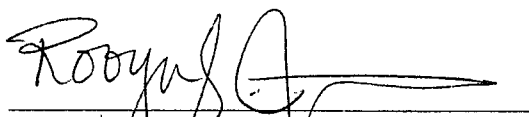
Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	0.2	250	256	102%	75 - 125%
Diesel Range C10 - C28	0.5	250	251	100%	75 - 125%

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: QA/QC for Samples 54426-54429, 54482-54485 and 54460.


 Analyst


 Review

**EPA METHOD 8021
 AROMATIC VOLATILE ORGANICS**

Client:	Blagg/BP	Project #:	94034-0011
Sample ID:	Cell #1	Date Reported:	06-01-10
Laboratory Number:	54426	Date Sampled:	05-25-10
Chain of Custody:	9476	Date Received:	05-26-10
Sample Matrix:	Soil	Date Analyzed:	05-28-10
Preservative:	Cool	Date Extracted:	05-26-10
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	0.9
Toluene	8.4	1.0
Ethylbenzene	ND	1.0
p,m-Xylene	ND	1.2
o-Xylene	ND	0.9
Total BTEX	8.4	

ND - Parameter not detected at the stated detection limit.

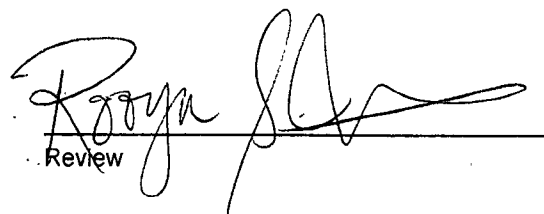
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	116 %
	1,4-difluorobenzene	111 %
	Bromochlorobenzene	105 %

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Method 8021B, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: **Crouch Mesa Landfarm**


 Analyst


 Review



Client:	Blagg/BP	Project #:	94034-0011
Sample ID:	Cell #2	Date Reported:	06-01-10
Laboratory Number:	54427	Date Sampled:	05-25-10
Chain of Custody:	9476	Date Received:	05-26-10
Sample Matrix:	Soil	Date Analyzed:	05-28-10
Preservative:	Cool	Date Extracted:	05-26-10
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	0.9
Toluene	20.5	1.0
Ethylbenzene	ND	1.0
p,m-Xylene	28.4	1.2
o-Xylene	20.7	0.9
Total BTEX	69.6	

ND - Parameter not detected at the stated detection limit.

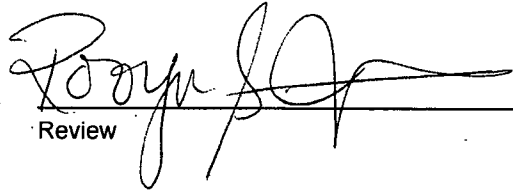
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	117 %
	1,4-difluorobenzene	113 %
	Bromochlorobenzene	115 %

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Method 8021B, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: Crouch Mesa Landfarm


Analyst


Review



envirotech

Analytical Laboratory

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Blagg/BP	Project #:	94034-0011
Sample ID:	Cell #5	Date Reported:	06-01-10
Laboratory Number:	54428	Date Sampled:	05-25-10
Chain-of Custody:	9476	Date Received:	05-26-10
Sample Matrix:	Soil	Date Analyzed:	05-28-10
Preservative:	Cool	Date Extracted:	05-26-10
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	0.9
Toluene	15.8	1.0
Ethylbenzene	1.5	1.0
p,m-Xylene	35.4	1.2
o-Xylene	18.7	0.9
Total BTEX	71.4	

ND - Parameter not detected at the stated detection limit.

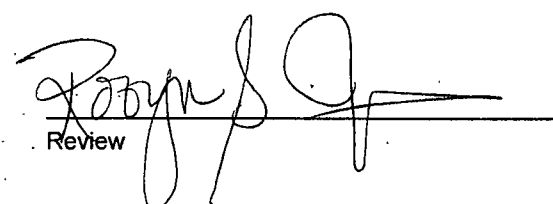
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	109 %
	1,4-difluorobenzene	102 %
	Bromochlorobenzene	111 %

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Method 8021B, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: Crouch Mesa Landfarm


Analyst


Review



envirotech

Analytical Laboratory

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	N/A	Project #:	N/A
Sample ID:	0528BBLK QA/QC	Date Reported:	06-01-10
Laboratory Number:	54482	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	05-28-10
Condition:	N/A	Analysis:	BTEX

Calibration and Detection Limits (ug/L)	Sample	Amount Spiked	% Diff	Blank Conc.	Detect Limit
		Accept Range 0 - 15%			
Benzene	3.7047E+006	3.7121E+006	0.2%	ND	0.1
Toluene	3.0403E+006	3.0464E+006	0.2%	ND	0.1
Ethylbenzene	2.5183E+006	2.5233E+006	0.2%	ND	0.1
p,m-Xylene	6.2850E+006	6.2976E+006	0.2%	ND	0.1
o-Xylene	2.4593E+006	2.4642E+006	0.2%	ND	0.1

Duplicate Conc. (ug/Kg)	Sample	Duplicate	% Diff	Accept Range	Detect Limit
Benzene	ND	ND	0.0%	0 - 30%	0.9
Toluene	ND	ND	0.0%	0 - 30%	1.0
Ethylbenzene	ND	ND	0.0%	0 - 30%	1.0
p,m-Xylene	ND	ND	0.0%	0 - 30%	1.2
o-Xylene	ND	ND	0.0%	0 - 30%	0.9

Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	ND	50.0	53.4	107%	39 - 150
Toluene	ND	50.0	54.4	109%	46 - 148
Ethylbenzene	ND	50.0	58.1	116%	32 - 160
p,m-Xylene	ND	100	115	115%	46 - 148
o-Xylene	ND	50.0	50.2	100%	46 - 148

ND - Parameter not detected at the stated detection limit.

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.
Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996

Comments: QA/QC for Samples 54420, 54425-54429, 54460, 54482, 54384.



Analyst



Review



envirotech

Analytical Laboratory

Chloride

Client:	Blagg/BP	Project #:	94034-0011
Sample ID:	Cell #1	Date Reported:	06-01-10
Lab ID#:	54426	Date Sampled:	05-25-10
Sample Matrix:	Soil	Date Received:	05-26-10
Preservative:	Cool	Date Analyzed:	05-28-10
Condition:	Intact	Chain of Custody:	9476

Parameter

Concentration (mg/Kg)

Total Chloride

20

Reference: U.S.E.P.A., 4500B, "Methods for Chemical Analysis of Water and Wastes", 1983.
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: Crouch Mesa Landfarm

Analyst

Review



Client:	Blagg/BP	Project #:	94034-0011
Sample ID:	Cell #2	Date Reported:	06-01-10
Lab ID#:	54427	Date Sampled:	05-25-10
Sample Matrix:	Soil	Date Received:	05-26-10
Preservative:	Cool	Date Analyzed:	05-28-10
Condition:	Intact	Chain of Custody:	9476

Parameter

Concentration (mg/Kg)

Total Chloride

15

Reference: U.S.E.P.A., 4500B, "Methods for Chemical Analysis of Water and Wastes", 1983.
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: **Crouch Mesa Landfarm**

Analyst

Review



Client:	Blagg/BP	Project #:	94034-0011
Sample ID:	Cell #5	Date Reported:	06-01-10
Lab ID#:	54428	Date Sampled:	05-25-10
Sample Matrix:	Soil	Date Received:	05-26-10
Preservative:	Cool	Date Analyzed:	05-28-10
Condition:	Intact	Chain of Custody:	9476

Parameter

Concentration (mg/Kg)

Total Chloride

10

Reference: U.S.E.P.A., 4500B, "Methods for Chemical Analysis of Water and Wastes", 1983.
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: **Crouch Mesa Landfarm**

Analyst

Review



COVER LETTER

Friday, August 27, 2010

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

TEL: (505) 632-1199
FAX (505) 632-3903

RE: Crouch Mesa Landfarm

Order No.: 1008748

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory, Inc. received 3 sample(s) on 8/19/2010 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. Below is a list of our accreditations. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites.

Reporting limits are determined by EPA methodology.

Please do not hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman".

Andy Freeman, Laboratory Manager

NM Lab # NM9425 NM0901
AZ license # AZ0682
ORELAP Lab # NM100001
Texas Lab# T104704424-08-TX



Hall Environmental Analysis Laboratory, Inc.

Date: 27-Aug-10

CLIENT: Blagg Engineering
Lab Order: 1008748
Project: Crouch Mesa Landfarm
Lab ID: 1008748-01

Client Sample ID: CELL #1
Collection Date: 8/16/2010 11:45:00 AM
Date Received: 8/19/2010
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JB
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/21/2010 6:59:51 AM
Surr: DNOP	94.8	61.7-135		%REC	1	8/21/2010 6:59:51 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/20/2010 5:06:43 PM
Surr: BFB	118	60.2-161		%REC	1	8/20/2010 5:06:43 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.050		mg/Kg	1	8/20/2010 5:06:43 PM
Toluene	ND	0.050		mg/Kg	1	8/20/2010 5:06:43 PM
Ethylbenzene	ND	0.050		mg/Kg	1	8/20/2010 5:06:43 PM
Xylenes, Total	ND	0.10		mg/Kg	1	8/20/2010 5:06:43 PM
Surr: 4-Bromofluorobenzene	110	88.9-151		%REC	1	8/20/2010 5:06:43 PM
EPA METHOD 300.0: ANIONS						Analyst: SRM
Chloride	32	1.5		mg/Kg	1	8/24/2010 11:41:51 AM

Qualifiers:

* Value exceeds Maximum Contaminant Level
E Estimated value
J Analyte detected below quantitation limits
NC Non-Chlorinated
PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
MCL Maximum Contaminant Level
ND Not Detected at the Reporting Limit
S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: 27-Aug-10

CLIENT: Blagg Engineering
Lab Order: 1008748
Project: Crouch Mesa Landfarm
Lab ID: 1008748-02

Client Sample ID: CELL #2
Collection Date: 8/16/2010 12:15:00 PM
Date Received: 8/19/2010
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JB
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/21/2010 7:34:07 AM
Surr: DNOP	88.6	61.7-135		%REC	1	8/21/2010 7:34:07 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/20/2010 5:37:10 PM
Surr: BFB	125	60.2-161		%REC	1	8/20/2010 5:37:10 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.050		mg/Kg	1	8/20/2010 5:37:10 PM
Toluene	ND	0.050		mg/Kg	1	8/20/2010 5:37:10 PM
Ethylbenzene	ND	0.050		mg/Kg	1	8/20/2010 5:37:10 PM
Xylenes, Total	ND	0.10		mg/Kg	1	8/20/2010 5:37:10 PM
Surr: 4-Bromofluorobenzene	116	88.9-151		%REC	1	8/20/2010 5:37:10 PM
EPA METHOD 300.0: ANIONS						Analyst: SRM
Chloride	ND	1.5		mg/Kg	1	8/24/2010 11:59:16 AM

Qualifiers:

* Value exceeds Maximum Contaminant Level
E Estimated value
J Analyte detected below quantitation limits
NC Non-Chlorinated
PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
MCL Maximum Contaminant Level
ND Not Detected at the Reporting Limit
S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: 27-Aug-10

CLIENT: Blagg Engineering
Lab Order: 1008748
Project: Crouch Mesa Landfarm
Lab ID: 1008748-03

Client Sample ID: CELL# 5
Collection Date: 8/16/2010 12:30:00 PM
Date Received: 8/19/2010
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JB
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/21/2010 8:08:14 AM
Surr: DNOP	88.5	61.7-135		%REC	1	8/21/2010 8:08:14 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	8/20/2010 11:40:22 PM
Surr: BFB	134	60.2-161		%REC	1	8/20/2010 11:40:22 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.050		mg/Kg	1	8/20/2010 11:40:22 PM
Toluene	ND	0.050		mg/Kg	1	8/20/2010 11:40:22 PM
Ethylbenzene	ND	0.050		mg/Kg	1	8/20/2010 11:40:22 PM
Xylenes, Total	ND	0.10		mg/Kg	1	8/20/2010 11:40:22 PM
Surr: 4-Bromofluorobenzene	124	88.9-151		%REC	1	8/20/2010 11:40:22 PM
EPA METHOD 300.0: ANIONS						Analyst: SRM
Chloride	13	1.5		mg/Kg	1	8/24/2010 12:16:41 PM

Qualifiers:

* Value exceeds Maximum Contaminant Level
E Estimated value
J Analyte detected below quantitation limits
NC Non-Chlorinated
PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
MCL Maximum Contaminant Level
ND Not Detected at the Reporting Limit
S Spike recovery outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: Crouch Mesa Landfarm

Work Order: 1008748

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Method: EPA Method 300.0: Anions

Sample ID: MB-23505		MBLK				Batch ID: 23505	Analysis Date: 8/24/2010 10:14:49 AM
Chloride	ND	mg/Kg	1.5				
Sample ID: LCS-23505		LCS				Batch ID: 23505	Analysis Date: 8/24/2010 10:32:13 AM
Chloride	14.42	mg/Kg	1.5	15	0.606	92.1	90 110

Method: EPA Method 8015B: Diesel Range Organics

Sample ID: MB-23464		MBLK				Batch ID: 23464	Analysis Date: 8/21/2010 3:00:58 AM
Diesel Range Organics (DRO)	ND	mg/Kg	10				
Sample ID: LCS-23464		LCS				Batch ID: 23464	Analysis Date: 8/21/2010 3:35:05 AM
Diesel Range Organics (DRO)	56.07	mg/Kg	10	50	0	112	64.6 116
Sample ID: LCSD-23464		LCSD				Batch ID: 23464	Analysis Date: 8/21/2010 4:09:07 AM
Diesel Range Organics (DRO)	57.34	mg/Kg	10	50	0	115	64.6 116 2.23 17.4

Method: EPA Method 8015B: Gasoline Range

Sample ID: 1008748-01A MSD		MSD				Batch ID: 23450	Analysis Date: 8/20/2010 6:37:59 PM
Gasoline Range Organics (GRO)	33.48	mg/Kg	5.0	25	1.5	128	69.2 147 10.8 25.9
Sample ID: MB-23450		MBLK				Batch ID: 23450	Analysis Date: 8/20/2010 9:09:14 PM
Gasoline Range Organics (GRO)	ND	mg/Kg	5.0				
Sample ID: LCS-23450		LCS				Batch ID: 23450	Analysis Date: 8/20/2010 7:08:06 PM
Gasoline Range Organics (GRO)	27.92	mg/Kg	5.0	25	0	112	74.2 136
Sample ID: 1008748-01A MS		MS				Batch ID: 23450	Analysis Date: 8/20/2010 6:07:36 PM
Gasoline Range Organics (GRO)	30.04	mg/Kg	5.0	25	1.5	114	69.2 147

Method: EPA Method 8021B: Volatiles

Sample ID: 1008748-01A MSD		MSD				Batch ID: 23450	Analysis Date: 8/20/2010 8:08:40 PM
Benzene	1.034	mg/Kg	0.050	1	0.0116	102	67.2 113 1.53 14.3
Toluene	1.027	mg/Kg	0.050	1	0	103	62.1 116 1.85 15.9
Ethylbenzene	1.131	mg/Kg	0.050	1	0	113	67.9 127 3.26 14.4
Xylenes, Total	3.384	mg/Kg	0.10	3	0	113	60.6 134 1.82 12.6
Sample ID: MB-23450		MBLK				Batch ID: 23450	Analysis Date: 8/20/2010 9:09:14 PM
Benzene	ND	mg/Kg	0.050				
Toluene	ND	mg/Kg	0.050				
Ethylbenzene	ND	mg/Kg	0.050				
Xylenes, Total	ND	mg/Kg	0.10				
Sample ID: LCS-23450		LCS				Batch ID: 23450	Analysis Date: 8/20/2010 8:38:55 PM
Benzene	1.049	mg/Kg	0.050	1	0.0175	103	83.3 107
Toluene	1.095	mg/Kg	0.050	1	0	109	74.3 115
Ethylbenzene	1.220	mg/Kg	0.050	1	0.0126	121	80.9 122
Xylenes, Total	3.606	mg/Kg	0.10	3	0	120	85.2 123
Sample ID: 1008748-01A MS		MS				Batch ID: 23450	Analysis Date: 8/20/2010 7:38:30 PM
Benzene	1.050	mg/Kg	0.050	1	0.0116	104	67.2 113
Toluene	1.008	mg/Kg	0.050	1	0	101	62.1 116
Ethylbenzene	1.095	mg/Kg	0.050	1	0	110	67.9 127
Xylenes, Total	3.323	mg/Kg	0.10	3	0	111	60.6 134

Qualifiers:

E Estimated value
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded
NC Non-Chlorinated
R RPD outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name: **BLAGG**

Date Received:

8/19/2010

Work Order Number: **1008748**

Received by: **AMG**

Checklist completed by:

Ashley M Gallegos **8/19/10**
Signature Date

Sample ID labels checked by:

Initials **CB**

Matrix:

Carrier name: Greyhound

Shipping container/cooler in good condition?

Yes ☒

No ☐

Not Present ☐

Custody seals intact on shipping container/cooler?

Yes ☒

No ☐

Not Present ☐

Not Shipped ☐

Custody seals intact on sample bottles?

Yes ☐

No ☐

N/A ☒

Chain of custody present?

Yes ☒

No ☐

Chain of custody signed when relinquished and received?

Yes ☒

No ☐

Chain of custody agrees with sample labels?

Yes ☒

No ☐

Samples in proper container/bottle?

Yes ☒

No ☐

Sample containers intact?

Yes ☒

No ☐

Sufficient sample volume for indicated test?

Yes ☒

No ☐

All samples received within holding time?

Yes ☒

No ☐

Water - VOA vials have zero headspace?

No VOA vials submitted ☒

Yes ☐

No ☐

Water - Preservation labels on bottle and cap match?

Yes ☐

No ☐

N/A ☒

Water - pH acceptable upon receipt?

Yes ☐

No ☐

N/A ☒

Container/Temp Blank temperature?

2.5°

<6° C Acceptable.

If given sufficient time to cool.

Number of preserved
bottles checked for
pH:

**<2 >12 unless noted
below.**

COMMENTS:

Client contacted

Date contacted:

Person contacted

Contacted by:

Regarding:

Comments:

Corrective Action

Client: <u>BLAG ENGINEERING INC.</u>	☒ Standard ☐ Rush
Mailing Address: <u>P.O. Box 87</u> <u>BLOOMFIELD NM 87413</u>	Project Name: <u>CROUCH MESA LANDFARM</u>
Phone #: <u>505-632-1199</u>	Project #: _____
Email or Fax#: _____	Project Manager: <u>JEFF BLAG</u>
QA/QC Package: ☒ Standard ☐ Level 4 (Full Validation)	Sampler: <u>JH Bly</u>
Accreditation ☐ NELAP ☐ Other _____	On Ice: ☒ Yes ☐ No
☐ EDD (Type) _____	Sample Temperature: <u>25</u>

☒ **Standard** ☐ **Rush**

Project Name: _____

CROUCH MESA LANDFARM

Project #:

Project Manager:

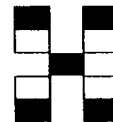
Sampler: 2H 354

On Ice ☒ Yes ☐ No

Sample Temperature: 25

[illegible]

Date:	Time:	Relinquished by:	Received by:	Date	Time
7/10	1600	JH Begg	Ashley M Gallagos	8/19	8:11
Date:	Time:	Relinquished by:	Received by:	Date	Time



www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

	X	X	X	BTEX MTBE + TPB's (8021)
				BTEX + MTBE + TPH (Gas only)
	X	X	X	TPH Method 8015B (Gas/Diesel)
				TPH (Method 418.1)
				EDB (Method 504.1)
				8310 (PNA or PAH)
				RCRA 8 Metals
				Anions (F, Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄)
				8081 Pesticides / 8082 PCB's
				8260B (VOA)
				8270 (Semi-VOA)
	X	X	X	CHLORIDE
				Air Bubbles (Y or N)

Remarks: GRO + DRO ON 8015 B



COVER LETTER

Monday, October 25, 2010

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

TEL: (505) 632-1199
FAX (505) 632-3903

RE: Crouch Mesa

Order No.: 1010243

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory, Inc. received 3 sample(s) on 10/6/2010 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. Below is a list of our accreditations. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites.

Reporting limits are determined by EPA methodology.

Please do not hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

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

Andy Freeman, Laboratory Manager

NM Lab # NM9425 NM0901
AZ license # AZ0682
ORELAP Lab # NM100001
Texas Lab# T104704424-08-TX



Hall Environmental Analysis Laboratory, Inc.

Date: 25-Oct-10

CLIENT: Blagg Engineering
Lab Order: 1010243
Project: Crouch Mesa
Lab ID: 1010243-01

Client Sample ID: Cell #1
Collection Date: 10/5/2010 9:01:00 AM
Date Received: 10/6/2010
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JB
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/9/2010 3:56:44 AM
Surr: DNOP	106	61.7-135		%REC	1	10/9/2010 3:56:44 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/10/2010 6:21:08 PM
Surr: BFB	102	60.2-161		%REC	1	10/10/2010 6:21:08 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.050		mg/Kg	1	10/10/2010 6:21:08 PM
Toluene	ND	0.050		mg/Kg	1	10/10/2010 6:21:08 PM
Ethylbenzene	ND	0.050		mg/Kg	1	10/10/2010 6:21:08 PM
Xylenes, Total	ND	0.10		mg/Kg	1	10/10/2010 6:21:08 PM
Surr: 4-Bromofluorobenzene	120	88.9-151		%REC	1	10/10/2010 6:21:08 PM
EPA METHOD 300.0: ANIONS						Analyst: SRM
Fluoride	2.1	0.30		mg/Kg	1	10/14/2010 12:00:05 PM
Chloride	ND	1.5		mg/Kg	1	10/14/2010 12:00:05 PM
Nitrogen, Nitrite (As N)	ND	0.30		mg/Kg	1	10/14/2010 12:00:05 PM
Bromide	ND	1.5		mg/Kg	1	10/14/2010 12:00:05 PM
Nitrogen, Nitrate (As N)	0.35	0.30		mg/Kg	1	10/14/2010 12:00:05 PM
Phosphorus, Orthophosphate (As P)	ND	1.5		mg/Kg	1	10/14/2010 12:00:05 PM
Sulfate	260	30		mg/Kg	20	10/14/2010 12:17:30 PM
EPA METHOD 7471: MERCURY						Analyst: ELS
Mercury	ND	0.033		mg/Kg	1	10/18/2010 1:11:03 PM
EPA METHOD 6010B: SOIL METALS						Analyst: RAGS
Arsenic	ND	2.5		mg/Kg	1	10/18/2010 6:15:35 PM
Barium	18	0.10		mg/Kg	1	10/18/2010 6:15:35 PM
Cadmium	ND	0.10		mg/Kg	1	10/18/2010 6:15:35 PM
Calcium	1800	25		mg/Kg	1	10/18/2010 6:15:35 PM
Chromium	1.2	0.30		mg/Kg	1	10/18/2010 6:15:35 PM
Lead	2.1	0.25		mg/Kg	1	10/19/2010 12:15:56 PM
Magnesium	800	25		mg/Kg	1	10/18/2010 6:15:35 PM
Potassium	260	50		mg/Kg	1	10/19/2010 12:15:56 PM
Selenium	ND	2.5		mg/Kg	1	10/18/2010 6:15:35 PM
Silver	ND	0.25		mg/Kg	1	10/18/2010 6:15:35 PM
Sodium	34	25		mg/Kg	1	10/18/2010 6:15:35 PM

Qualifiers:

* Value exceeds Maximum Contaminant Level
E Estimated value
J Analyte detected below quantitation limits
NC Non-Chlorinated
PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
MCL Maximum Contaminant Level
ND Not Detected at the Reporting Limit
S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: 25-Oct-10

CLIENT: Blagg Engineering
Lab Order: 1010243
Project: Crouch Mesa
Lab ID: 1010243-02

Client Sample ID: Cell #5
Collection Date: 10/5/2010 9:15:00 AM
Date Received: 10/6/2010
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JB
Diesel Range Organics (DRO)	17	10		mg/Kg	1	10/9/2010 4:30:20 AM
Surr: DNOP	118	61.7-135		%REC	1	10/9/2010 4:30:20 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/10/2010 6:51:42 PM
Surr: BFB	99.3	60.2-161		%REC	1	10/10/2010 6:51:42 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.050		mg/Kg	1	10/10/2010 6:51:42 PM
Toluene	ND	0.050		mg/Kg	1	10/10/2010 6:51:42 PM
Ethylbenzene	ND	0.050		mg/Kg	1	10/10/2010 6:51:42 PM
Xylenes, Total	ND	0.10		mg/Kg	1	10/10/2010 6:51:42 PM
Surr: 4-Bromofluorobenzene	116	88.9-151		%REC	1	10/10/2010 6:51:42 PM
EPA METHOD 300.0: ANIONS						Analyst: SRM
Fluoride	0.90	0.30		mg/Kg	1	10/14/2010 12:34:55 PM
Chloride	2.3	1.5		mg/Kg	1	10/14/2010 12:34:55 PM
Nitrogen, Nitrite (As N)	ND	0.30		mg/Kg	1	10/14/2010 12:34:55 PM
Bromide	ND	1.5		mg/Kg	1	10/14/2010 12:34:55 PM
Nitrogen, Nitrate (As N)	0.36	0.30		mg/Kg	1	10/14/2010 12:34:55 PM
Phosphorus, Orthophosphate (As P)	ND	1.5		mg/Kg	1	10/14/2010 12:34:55 PM
Sulfate	940	30		mg/Kg	20	10/14/2010 12:52:19 PM
EPA METHOD 7471: MERCURY						Analyst: ELS
Mercury	ND	0.033		mg/Kg	1	10/18/2010 1:12:54 PM
EPA METHOD 6010B: SOIL METALS						Analyst: RAGS
Arsenic	ND	2.5		mg/Kg	1	10/18/2010 6:41:04 PM
Barium	7.4	0.10		mg/Kg	1	10/18/2010 6:41:04 PM
Cadmium	ND	0.10		mg/Kg	1	10/18/2010 6:41:04 PM
Calcium	3100	25		mg/Kg	1	10/18/2010 6:41:04 PM
Chromium	2.0	0.30		mg/Kg	1	10/18/2010 6:41:04 PM
Lead	1.9	0.25		mg/Kg	1	10/19/2010 12:26:50 PM
Magnesium	710	25		mg/Kg	1	10/18/2010 6:41:04 PM
Potassium	290	50		mg/Kg	1	10/19/2010 12:26:50 PM
Selenium	ND	2.5		mg/Kg	1	10/18/2010 6:41:04 PM
Silver	ND	0.25		mg/Kg	1	10/18/2010 6:41:04 PM
Sodium	84	25		mg/Kg	1	10/18/2010 6:41:04 PM

Qualifiers:

* Value exceeds Maximum Contaminant Level
E Estimated value
J Analyte detected below quantitation limits
NC Non-Chlorinated
PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
MCL Maximum Contaminant Level
ND Not Detected at the Reporting Limit
S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: 25-Oct-10

CLIENT: Blagg Engineering
Lab Order: 1010243
Project: Crouch Mesa
Lab ID: 1010243-03

Client Sample ID: Cell #2
Collection Date: 10/5/2010 9:29:00 AM
Date Received: 10/6/2010
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: JB
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/9/2010 5:03:55 AM
Surr: DNOP	114	61.7-135		%REC	1	10/9/2010 5:03:55 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/10/2010 7:22:12 PM
Surr: BFB	104	60.2-161		%REC	1	10/10/2010 7:22:12 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.050		mg/Kg	1	10/10/2010 7:22:12 PM
Toluene	ND	0.050		mg/Kg	1	10/10/2010 7:22:12 PM
Ethylbenzene	ND	0.050		mg/Kg	1	10/10/2010 7:22:12 PM
Xylenes, Total	ND	0.10		mg/Kg	1	10/10/2010 7:22:12 PM
Surr: 4-Bromofluorobenzene	123	88.9-151		%REC	1	10/10/2010 7:22:12 PM
EPA METHOD 300.0: ANIONS						Analyst: SRM
Fluoride	3.6	3.0		mg/Kg	10	10/14/2010 1:09:44 PM
Chloride	27	15		mg/Kg	10	10/14/2010 1:09:44 PM
Nitrogen, Nitrite (As N)	ND	3.0		mg/Kg	10	10/14/2010 1:09:44 PM
Bromide	ND	15		mg/Kg	10	10/14/2010 1:09:44 PM
Nitrogen, Nitrate (As N)	4.2	3.0		mg/Kg	10	10/14/2010 1:09:44 PM
Phosphorus, Orthophosphate (As P)	ND	15		mg/Kg	10	10/14/2010 1:09:44 PM
Sulfate	52	15		mg/Kg	10	10/14/2010 1:09:44 PM
EPA METHOD 7471: MERCURY						Analyst: ELS
Mercury	ND	0.033		mg/Kg	1	10/18/2010 1:14:45 PM
EPA METHOD 6010B: SOIL METALS						Analyst: RAGS
Arsenic	ND	2.5		mg/Kg	1	10/18/2010 6:47:54 PM
Barium	16	0.099		mg/Kg	1	10/18/2010 6:47:54 PM
Cadmium	ND	0.099		mg/Kg	1	10/18/2010 6:47:54 PM
Calcium	2400	25		mg/Kg	1	10/18/2010 6:47:54 PM
Chromium	2.6	0.30		mg/Kg	1	10/18/2010 6:47:54 PM
Lead	2.9	0.25		mg/Kg	1	10/19/2010 12:38:03 PM
Magnesium	1300	25		mg/Kg	1	10/18/2010 6:47:54 PM
Potassium	420	50		mg/Kg	1	10/19/2010 12:38:03 PM
Selenium	ND	2.5		mg/Kg	1	10/18/2010 6:47:54 PM
Silver	ND	0.25		mg/Kg	1	10/18/2010 6:47:54 PM
Sodium	310	25		mg/Kg	1	10/18/2010 6:47:54 PM

Qualifiers:

* Value exceeds Maximum Contaminant Level
E Estimated value
J Analyte detected below quantitation limits
NC Non-Chlorinated
PQL Practical Quantitation Limit

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
MCL Maximum Contaminant Level
ND Not Detected at the Reporting Limit
S Spike recovery outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Blagg Engineering

Project: Crouch Mesa

Work Order: 1010243

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 300.0: Anions											
Sample ID: MB-24087		MBLK									
				Batch ID:	24087	Analysis Date:	10/13/2010 7:48:52 AM				
Fluoride	ND	mg/Kg	0.30								
Chloride	ND	mg/Kg	1.5								
Nitrogen, Nitrite (As N)	ND	mg/Kg	0.30								
Bromide	ND	mg/Kg	1.5								
Nitrogen, Nitrate (As N)	ND	mg/Kg	0.30								
Phosphorus, Orthophosphate (As P)	ND	mg/Kg	1.5								
Sulfate	ND	mg/Kg	1.5								
Sample ID: LCS-24087		LCS									
				Batch ID:	24087	Analysis Date:	10/13/2010 8:06:16 AM				
Fluoride	1.512	mg/Kg	0.30	1.5	0	101	90	110			
Chloride	15.04	mg/Kg	1.5	15	0	100	90	110			
Nitrogen, Nitrite (As N)	2.973	mg/Kg	0.30	3	0	99.1	90	110			
Bromide	7.275	mg/Kg	1.5	7.5	0	97.0	90	110			
Nitrogen, Nitrate (As N)	7.489	mg/Kg	0.30	7.5	0	99.9	90	110			
Phosphorus, Orthophosphate (As P)	15.03	mg/Kg	1.5	15	0	100	90	110			
Sulfate	29.43	mg/Kg	1.5	30	0.4494	96.6	90	110			
Method: EPA Method 8015B: Diesel Range Organics											
Sample ID: MB-24034		MBLK									
				Batch ID:	24034	Analysis Date:	10/9/2010 12:01:30 AM				
Diesel Range Organics (DRO)	ND	mg/Kg	10								
Sample ID: LCS-24034		LCS									
				Batch ID:	24034	Analysis Date:	10/9/2010 12:35:07 AM				
Diesel Range Organics (DRO)	45.08	mg/Kg	10	50	0	90.2	64.6	116			
Sample ID: LCSD-24034		LCSD									
				Batch ID:	24034	Analysis Date:	10/9/2010 1:08:42 AM				
Diesel Range Organics (DRO)	45.29	mg/Kg	10	50	0	90.6	64.6	116	0.449	17.4	
Method: EPA Method 8015B: Gasoline Range											
Sample ID: MB-24024		MBLK									
				Batch ID:	24024	Analysis Date:	10/10/2010 11:57:03 PM				
Gasoline Range Organics (GRO)	ND	mg/Kg	5.0								
Sample ID: LCS-24024		LCS									
				Batch ID:	24024	Analysis Date:	10/10/2010 9:54:40 PM				
Gasoline Range Organics (GRO)	23.69	mg/Kg	5.0	25	1.4	89.2	74.2	136			
Method: EPA Method 8021B: Volatiles											
Sample ID: MB-24024		MBLK									
				Batch ID:	24024	Analysis Date:	10/10/2010 11:57:03 PM				
Benzene	ND	mg/Kg	0.050								
Toluene	ND	mg/Kg	0.050								
Ethylbenzene	ND	mg/Kg	0.050								
Xylenes, Total	ND	mg/Kg	0.10								
Sample ID: LCS-24024		LCS									
				Batch ID:	24024	Analysis Date:	10/10/2010 11:26:31 PM				
Benzene	0.9835	mg/Kg	0.050	1	0.0146	96.9	83.3	107			
Toluene	0.9569	mg/Kg	0.050	1	0.0109	94.6	74.3	115			
Ethylbenzene	1.093	mg/Kg	0.050	1	0.0192	107	80.9	122			
Xylenes, Total	3.367	mg/Kg	0.10	3	0	112	85.2	123			

Qualifiers:

E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	NC	Non-Chlorinated
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: Crouch Mesa

Work Order: 1010243

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Method: EPA Method 7471: Mercury

Sample ID: MB-24142

MBLK

Batch ID: 24142 Analysis Date: 10/18/2010 12:44:07 PM

Mercury

ND

mg/Kg

0.033

Sample ID: LCS-24142

LCS

Batch ID: 24142 Analysis Date: 10/18/2010 12:45:52 PM

Mercury

0.1597

mg/Kg

0.033

0.167

0

95.8

80

120

Qualifiers:

E Estimated value

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded

NC Non-Chlorinated

R RPD outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Blagg Engineering

Project: Crouch Mesa

Work Order: 1010243

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Method: EPA Method 6010B: Soil Metals

Sample ID: 1010243-01AMSD

MSD

Batch ID: 24139

Analysis Date: 10/18/2010 6:30:30 PM

Arsenic	22.56	mg/Kg	2.5	24.93	0.9337	86.7	75	125	5.77	20
Barium	40.26	mg/Kg	0.10	24.93	18.03	89.2	75	125	3.47	20
Cadmium	20.87	mg/Kg	0.10	24.93	0	83.7	75	125	2.36	20
Calcium	3994	mg/Kg	25	2493	1836	86.6	75	125	1.17	20
Chromium	21.96	mg/Kg	0.30	24.93	1.171	83.4	75	125	1.23	20
Magnesium	2904	mg/Kg	25	2493	801.7	84.3	75	125	1.16	20
Selenium	20.27	mg/Kg	2.5	24.93	0	81.3	75	125	4.81	20
Silver	20.95	mg/Kg	0.25	24.93	0	84.0	75	125	1.28	20
Sodium	2113	mg/Kg	25	2493	34.11	83.4	75	125	4.25	20

Sample ID: 1010243-01AMSD

MSD

Batch ID: 24139

Analysis Date: 10/19/2010 12:24:02 PM

Lead	22.58	mg/Kg	0.25	24.93	2.097	82.1	75	125	0.343	20
Potassium	2542	mg/Kg	50	2493	256.7	91.7	75	125	0.557	20

Sample ID: MB-24139

MBLK

Batch ID: 24139

Analysis Date: 10/18/2010 4:39:24 PM

Arsenic	ND	mg/Kg	2.5							
Barium	ND	mg/Kg	0.10							
Cadmium	ND	mg/Kg	0.10							
Calcium	ND	mg/Kg	25							
Chromium	ND	mg/Kg	0.30							
Magnesium	ND	mg/Kg	25							
Selenium	ND	mg/Kg	2.5							
Silver	ND	mg/Kg	0.25							
Sodium	ND	mg/Kg	25							

Sample ID: MB-24139

MBLK

Batch ID: 24139

Analysis Date: 10/19/2010 11:17:15 AM

Lead	ND	mg/Kg	0.25							
Potassium	ND	mg/Kg	50							

Sample ID: LCS-24139

LCS

Batch ID: 24139

Analysis Date: 10/18/2010 4:42:13 PM

Arsenic	23.67	mg/Kg	2.5	25	0	94.7	80	120		
Barium	24.20	mg/Kg	0.10	25	0	96.8	80	120		
Cadmium	24.33	mg/Kg	0.10	25	0.0305	97.2	80	120		
Calcium	2358	mg/Kg	25	2500	0	94.3	80	120		
Chromium	24.26	mg/Kg	0.30	25	0	97.0	80	120		
Magnesium	2438	mg/Kg	25	2500	0	97.5	80	120		
Selenium	23.54	mg/Kg	2.5	25	0.9535	90.3	80	120		
Silver	24.93	mg/Kg	0.25	25	0	99.7	80	120		
Sodium	2614	mg/Kg	25	2500	0	105	80	120		

Sample ID: LCS-24139

LCS

Batch ID: 24139

Analysis Date: 10/19/2010 11:20:03 AM

Potassium	2761	mg/Kg	50	2500	24.45	109	80	120		
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Sample ID: 1010243-01AMS

MS

Batch ID: 24139

Analysis Date: 10/18/2010 6:18:09 PM

Arsenic	21.30	mg/Kg	2.5	24.83	0.9337	82.0	75	125		
Barium	38.89	mg/Kg	0.10	24.83	18.03	84.0	75	125		
Cadmium	20.39	mg/Kg	0.10	24.83	0	82.1	75	125		
Calcium	4041	mg/Kg	25	2483	1836	88.8	75	125		
Chromium	21.69	mg/Kg	0.30	24.83	1.171	82.6	75	125		

Qualifiers:

E Estimated value

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded

NC Non-Chlorinated

R RPD outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Blagg Engineering

Project: Crouch Mesa

Work Order: 1010243

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Method: EPA Method 6010B: Soil Metals

Sample ID: 1010243-01AMS

MS

Batch ID: 24139

Analysis Date: 10/18/2010 6:18:09 PM

Magnesium 2937 mg/Kg 25 2483 801.7 86.0 75 125

Selenium 19.32 mg/Kg 2.5 24.83 0 77.8 75 125

Silver 20.68 mg/Kg 0.25 24.83 0 83.3 75 125

Sodium 2204 mg/Kg 25 2483 34.11 87.4 75 125

Sample ID: 1010243-01AMS

MS

Batch ID: 24139

Analysis Date: 10/19/2010 12:18:36 PM

Lead 22.50 mg/Kg 0.25 24.83 2.097 82.2 75 125

Potassium 2528 mg/Kg 50 2483 256.7 91.5 75 125

Qualifiers:

E Estimated value

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded

NC Non-Chlorinated

R RPD outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name: **BLAGG**

Date Received:

10/6/2010

Work Order Number: **1010243**

Received by: **DAM**

Checklist completed by:

Signature

Sample ID labels checked by:

Initials

Date

Matrix:

Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes ☒	No	Not Present	
Custody seals intact on shipping container/cooler?	Yes ☒	No	Not Present	Not Shipped
Custody seals intact on sample bottles?	Yes ☒	No	N/A	☒
Chain of custody present?	Yes ☒	No		
Chain of custody signed when relinquished and received?	Yes ☒	No		
Chain of custody agrees with sample labels?	Yes ☒	No		
Samples in proper container/bottle?	Yes ☒	No		
Sample containers intact?	Yes ☒	No		
Sufficient sample volume for indicated test?	Yes ☒	No		
All samples received within holding time?	Yes ☒	No		
Water - VOA vials have zero headspace?	No VOA vials submitted ☒	Yes	No	
Water - Preservation labels on bottle and cap match?	Yes ☒	No	N/A	☒
Water - pH acceptable upon receipt?	Yes ☒	No	N/A	☒
Container/Temp Blank temperature?	2.0°	<6° C Acceptable		

Number of preserved bottles checked for pH:

<2 >12 unless noted below.

If given sufficient time to cool.

COMMENTS:

Client contacted

Date contacted:

Person contacted

Contacted by:

Regarding:

Comments:

Corrective Action

Turn-Around Time: _____		
☒ Standard ☐ Rush _____		
Project Name: CROUCH MESA		
Project #: _____		
Project Manager: JEFF BLAGG		
Sampler: JEFF BLAGG		
On Ice: ☒ Yes ☐ No		
Sample Temperature: 2.0		
Container Type and #	Preservative Type	HEAL No.
1 x 402	COOL	1010 243-1
"	"	-2
"	"	-3
Received by: Xald	Date: 10/5/10	Time: 10:00
Received by: _____	Date: _____	Time: _____

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4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

[illegible]

Date 5/10	Time 1340	Relinquished by: J-M Blogg	Received by: Xald	Date 10/5/10	Time 10:00
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:
GRO & DAO ON 8015B

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name **BLAGG**

Date Received:

10/6/2010

Work Order Number **1010243**

Received by: **DAM**

Checklist completed by:

Signature

Sample ID labels checked by:

Initials

Date

Matrix:

Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present	
Custody seals intact on shipping container/cooler?	Yes ☒	No ☐	Not Present	Not Shipped
Custody seals intact on sample bottles?	Yes ☐	No ☐	N/A	☒
Chain of custody present?	Yes ☒	No ☐		
Chain of custody signed when relinquished and received?	Yes ☒	No ☐		
Chain of custody agrees with sample labels?	Yes ☒	No ☐		
Samples in proper container/bottle?	Yes ☒	No ☐		
Sample containers intact?	Yes ☒	No ☐		
Sufficient sample volume for indicated test?	Yes ☒	No ☐		
All samples received within holding time?	Yes ☒	No ☐		Number of preserved bottles checked for pH:
Water - VOA vials have zero headspace?	No VOA vials submitted ☒	Yes ☐	No ☐	
Water - Preservation labels on bottle and cap match?	Yes ☐	No ☐	N/A ☒	
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☒	<2 >12 unless noted below.
Container/Temp Blank temperature?	2.0°	<6° C Acceptable		
		If given sufficient time to cool.		

COMMENTS:

Client contacted

Date contacted:

Person contacted

Contacted by:

Regarding:

Comments:

Corrective Action

Client: <u>BLAG ENGINEERING INC.</u>	☒ Standard ☐ Rush _____
Mailing Address: <u>P.O. Box 87</u> <u>BLOOMFIELD, NM 87413</u>	Project Name: <u>CROUCH MESA</u>
Phone #: <u>505-632-1199</u>	Project #: _____
email or Fax#: _____	Project Manager: <u>JEFF BLAGG</u>
QA/QC Package: ☒ Standard ☐ Level 4 (Full Validation)	
Accreditation ☐ NELAP ☐ Other _____	Sampler: <u>JEFF BLAGG</u>
☐ EDD (Type) _____	On/Off: ☒ Yes ☐ No
	Sample Temperature: <u>70°</u>

☒ Standard ☐ Rush

Project Name: CROUCH MESA

Project #:

Project Manager:
JEFF BLAGG

Sampler: Jeff Ball

On Ice: ☒ Yes ☐ No

Sample Temperature: 17.0

Date 8/10	Time 1340	Relinquished by: Jill Blaggy	Received by: Xald	Date 10/5/10	Time 10:00
Date.	Time.	Relinquished by:	Received by:	Date	Time



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4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

	X	X	X	BTEX + MTBE IMBs 's (8021)
				BTEX + MTBE + TPH (Gas only)
	X	X	X	TPH Method 8015B (Gas/Diesel)
				TPH (Method 418.1)
				EDB (Method 504.1)
				8310 (PNA or PAH)
	X	X	X	RCRA 8 Metals
				Anions (F, Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄)
				8081 Pesticides / 8082 PCB's
				8260B (VOA)
				8270 (Semi-VOA)
	X	X	X	CATIONS / Anions
				Air Bubbles (Y or N)

Remarks:
GRO & DAO ON 8015B

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name **BLAGG**

Date Received:

10/6/2010

Work Order Number **1010243**

Received by: **DAM**

Checklist completed by:

Signature

Sample ID labels checked by:

Initials

Date

Matrix:

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☒	No	Not Present	
Custody seals intact on shipping container/cooler?	Yes ☒	No	Not Present	Not Shipped
Custody seals intact on sample bottles?	Yes	No	N/A	☒
Chain of custody present?	Yes ☒	No		
Chain of custody signed when relinquished and received?	Yes ☒	No		
Chain of custody agrees with sample labels?	Yes ☒	No		
Samples in proper container/bottle?	Yes ☒	No		
Sample containers intact?	Yes ☒	No		
Sufficient sample volume for indicated test?	Yes ☒	No		
All samples received within holding time?	Yes ☒	No		
Water - VOA vials have zero headspace?	No VOA vials submitted ☒	Yes	No	Number of preserved bottles checked for pH.
Water - Preservation labels on bottle and cap match?	Yes	No	N/A ☒	
Water - pH acceptable upon receipt?	Yes	No	N/A ☒	<2 >12 unless noted below.
Container/Temp Blank temperature?	2.0°	<6° C Acceptable		
		If given sufficient time to cool.		

COMMENTS:

Client contacted

Date contacted:

Person contacted:

Contacted by:

Regarding:

Comments:

Corrective Action

Chain-of-Custody Record		Turn-Around Time:
Client: <u>BLAKE ENGINEERING INC.</u>	☒ Standard ☐ Rush _____	
Mailing Address: <u>P.O. Box 87</u> <u>BLOOMFIELD, NM 87413</u>	Project Name: <u>CROUCH MESA</u>	
Phone #: <u>505-632-1199</u>	Project #:	
email or Fax#:	Project Manager: <u>JEFF BLAKE</u>	
QA/QC Package: ☒ Standard ☐ Level 4 (Full Validation)		
Accreditation ☐ NELAP ☐ Other _____	Sampler: <u>JEFF BLAKE</u>	
☐ EDD (Type) _____	On Ice: ☒ Yes ☐ No	
	Sample Temperature: <u>20</u>	

☒ Standard ☐ Rush _____

Project Name:

CROUCH MESA

Project #:

Project Manager:

Sampler: Jeff Ball

On Ice: ☒ Yes ☐ No

Sample Temperature: 7.0

Container Type and #	Preservative Type	HEAL No.
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1 x 402	COOL	1010 243-1
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4	4	-2
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16	11	2
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[illegible]

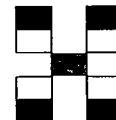
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[illegible]

Received by:  Date:  Time: 

10/5/10	10.00
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Received by _____ Date _____ Time _____



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

[illegible]

Remarks:

GRO & DRO ON 8015B

0120 1000

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

BLAGG ENGINEERING, INC.

P.O. Box 87, Bloomfield, New Mexico 87413

Phone: (505)632-1199 Fax: (505)632-3903

SENT VIA CERTIFIED MAIL
7007 0220 0004 3556 7622

November 20, 2009

Mr. Brad Jones
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: BP America Production Company
Crouch Mesa Waste Management Facility, Permit NM-02-003
Annual Report on Treatment Zone Monitoring

Dear Mr. Jones:

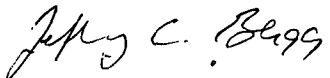
On behalf of BP America Production Company, Blagg Engineering, Inc. (BEI) is submitting 2009 annual treatment zone monitoring test results for the Crouch Mesa Waste Management Facility pursuant to Permit NM-02-003, dated November 25, 1998. This report is for the December 1, 2008 through November 30, 2009 reporting period. Analytical test results (attached) indicate the facility met standards with each sample event.

Sampling protocol specifies collection of subsurface samples in each cell from the native ground surface below the treatment zone 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 August 26, 2009 sample event.

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

Questions or comments concerning this transmittal may be directed to myself at (505)632-1199 or Buddy Shaw with BP at (505)326-9200.

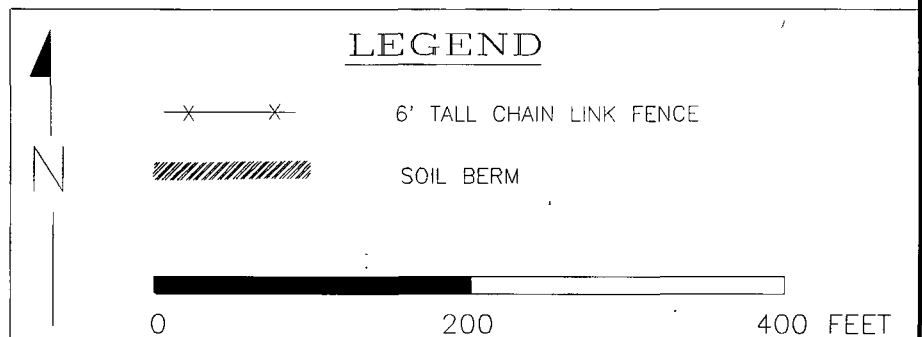
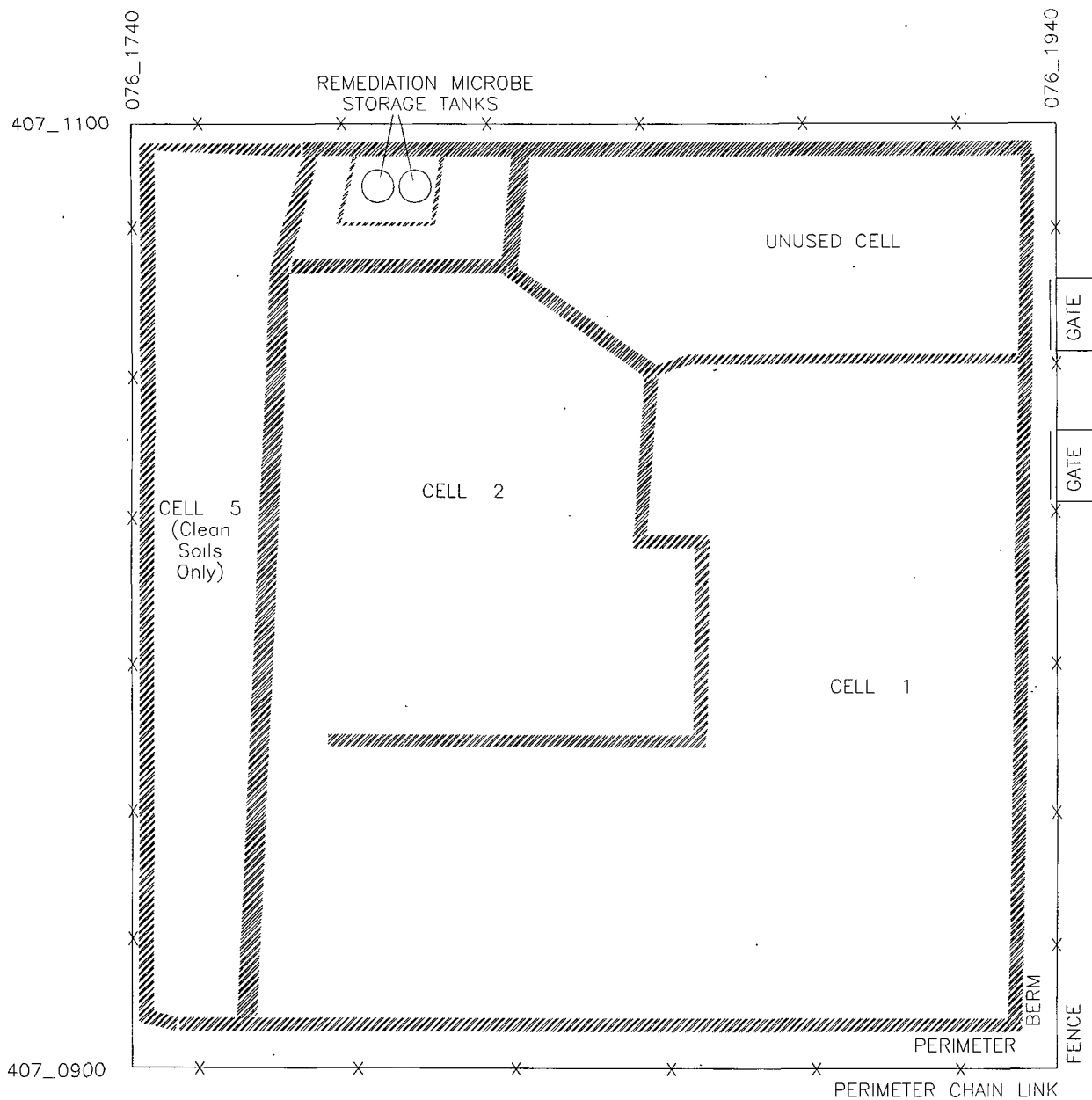
Respectfully submitted:
Blagg Engineering, Inc.



Jeffrey C. Blagg, P.E.
President

Attachments: Site Diagram
Soil Treatment Zone Monitoring Reports

cc: Brandon Powell, NMOCD Aztec District Office
Buddy Shaw, BP San Juan Operations Center



BP AMERICA PRODUCTION CO.
CROUCH MESA WASTE MGMT FAC
SW/4 SE/4 SEC 2 T29N R12W
SAN JUAN CO., NEW MEXICO

NOVEMBER 2009

BLAGG ENGINEERING, INC.
CONSULTING ENGINEERING SERVICES

P.O. BOX 87
BLOOMFIELD, NEW MEXICO 87413

PHONE: (505) 632-1199

**SITE
SCHEMATIC**

FIGURE 1

DRWN BY
JCB

CRMESA4

PROJ MGR
JCB

CHAIN OF CUSTODY RECORD

5972

Client: BLAGG /BP			Project Name / Location: CROUCH MESA L.F.			ANALYSIS / PARAMETERS															
Client Address:			Sampler Name: JEFF BLAGG																		
Client Phone No.:			Client No.: 94034-010																		
Sample No./ Identification	Sample Date	Sample Time	Lab No.	Sample Matrix	No./Volume of Containers	Preservative		TPH (Method 8015)	BTEX (Method 8021)	VOC (Method 8260)	RCRA 8 Metals	Cation / Anion	RCI	TCLP with H/P	PAH	TPH (418.1)	CHLORIDE			Sample Cool	Sample Intact
CELL 1	3/30/09	0825	49526	(Soil) Solid	1 - 4 oz			X	X								X			✓	✓
CELL 2	"	0835	49527	(Soil) Solid	"			X	X								X			✓	✓
CELL 5	"	0845	49528	(Soil) Solid	"			X	X								X			✓	✓
				Soil Solid	Sludge Aqueous																
				Soil Solid	Sludge Aqueous																
				Soil Solid	Sludge Aqueous																
				Soil Solid	Sludge Aqueous																
				Soil Solid	Sludge Aqueous																
				Soil Solid	Sludge Aqueous																
				Soil Solid	Sludge Aqueous																
				Soil Solid	Sludge Aqueous																
				Soil Solid	Sludge Aqueous																
Relinquished by: (Signature) <i>Jeff Blagg</i>					Date 3/31/09	Time 1100	Received by: (Signature) <i>Kendall Agushi</i>					Date 3/31/09	Time 1100								
Relinquished by: (Signature)							Received by: (Signature)														
Relinquished by: (Signature)							Received by: (Signature)														

ENVIROTECH INC.

5796 U.S. Highway 64 • Farmington, NM 87401 • Tel 505-632-0615

**EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons**

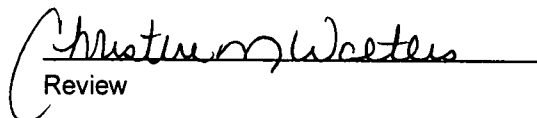
Client:	Blagg/BP	Project #:	94034-0010
Sample ID:	Cell 1	Date Reported:	04-07-09
Laboratory Number:	49526	Date Sampled:	03-30-09
Chain of Custody No:	5972	Date Received:	03-31-09
Sample Matrix:	Soil	Date Extracted:	04-03-09
Preservative:	Cool	Date Analyzed:	04-05-09
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	1.8	0.2
Diesel Range (C10 - C28)	5.5	0.1
Total Petroleum Hydrocarbons	7.3	0.2

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: **Crouch Mesa L.F.**


Analyst
Review

**EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons**

Client:	Blagg/BP	Project #:	94034-0010
Sample ID:	Cell 2	Date Reported:	04-07-09
Laboratory Number:	49527	Date Sampled:	03-30-09
Chain of Custody No:	5972	Date Received:	03-31-09
Sample Matrix:	Soil	Date Extracted:	04-03-09
Preservative:	Cool	Date Analyzed:	04-05-09
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: **Crouch Mesa L.F.**

Analyst

Review

**envirotech**

Analytical Laboratory

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Client:	Blagg/BP	Project #:	94034-0010
Sample ID:	Cell 5	Date Reported:	04-07-09
Laboratory Number:	49528	Date Sampled:	03-30-09
Chain of Custody No:	5972	Date Received:	03-31-09
Sample Matrix:	Soil	Date Extracted:	04-03-09
Preservative:	Cool	Date Analyzed:	04-05-09
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	1.0	0.2
Diesel Range (C10 - C28)	2.4	0.1
Total Petroleum Hydrocarbons	3.4	0.2

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: **Crouch Mesa L.F.**

Analyst

Review

**EPA Method 8015 Modified
 Nonhalogenated Volatile Organics
 Total Petroleum Hydrocarbons**

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	04-05-09 QA/QC	Date Reported:	04-07-09
Laboratory Number:	49490	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	04-05-09
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RF	C-Cal RF	% Difference	Accept Range
Gasoline Range C5 - C10	05-07-07	9.9960E+002	1.0000E+003	0.04%	0 - 15%
Diesel Range C10 - C28	05-07-07	9.9960E+002	1.0000E+003	0.04%	0 - 15%

Blank Conc. (mg/L - mg/Kg)	Concentration	Detection Limit
Gasoline Range C5 - C10	ND	0.2
Diesel Range C10 - C28	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

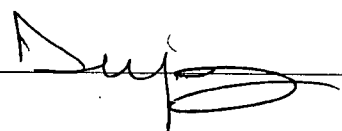
Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept Range
Gasoline Range C5 - C10	1.4	1.3	7.1%	0 - 30%
Diesel Range C10 - C28	30.9	29.6	4.2%	0 - 30%

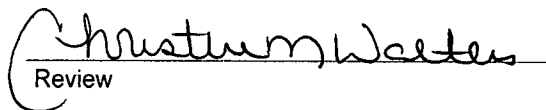
Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept Range
Gasoline Range C5 - C10	1.4	250	249	99.2%	75 - 125%
Diesel Range C10 - C28	30.9	250	275	97.9%	75 - 125%

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: QA/QC for Samples 49490 - 49494, 49510, 49516, and 49526 - 49528.

Analyst 

Review 



envirotech
Analytical Laboratory

**EPA METHOD 8021
AROMATIC VOLATILE ORGANICS**

Client:	Blagg/BP	Project #:	94034-0010
Sample ID:	Cell 1	Date Reported:	04-07-09
Laboratory Number:	49526	Date Sampled:	03-30-09
Chain of Custody:	5972	Date Received:	03-31-09
Sample Matrix:	Soil	Date Analyzed:	04-05-09
Preservative:	Cool	Date Extracted:	04-03-09
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	7.7	0.9
Toluene	5.7	1.0
Ethylbenzene	23.6	1.0
p,m-Xylene	43.2	1.2
o-Xylene	23.2	0.9
Total BTEX	103	

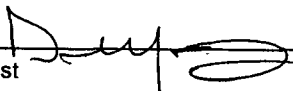
ND - Parameter not detected at the stated detection limit.

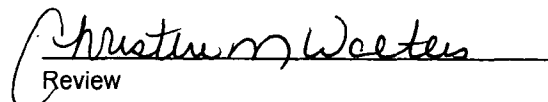
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	99.0 %
	1,4-difluorobenzene	99.0 %
	Bromochlorobenzene	99.0 %

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Method 8021B, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: Crouch Mesa L. F.

Analyst 

Review 

Client:	Blagg/BP	Project #:	94034-0010
Sample ID:	Cell 2	Date Reported:	04-07-09
Laboratory Number:	49527	Date Sampled:	03-30-09
Chain of Custody:	5972	Date Received:	03-31-09
Sample Matrix:	Soil	Date Analyzed:	04-05-09
Preservative:	Cool	Date Extracted:	04-03-09
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	0.9
Toluene	5.8	1.0
Ethylbenzene	9.7	1.0
p,m-Xylene	9.7	1.2
o-Xylene	13.4	0.9
Total BTEX	38.6	

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	99.0 %
	1,4-difluorobenzene	99.0 %
	Bromochlorobenzene	99.0 %

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Method 8021B, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: Crouch Mesa L. F.

Analyst

Review

Client:	Blagg/BP	Project #:	94034-0010
Sample ID:	Cell 5	Date Reported:	04-07-09
Laboratory Number:	49528	Date Sampled:	03-30-09
Chain of Custody:	5972	Date Received:	03-31-09
Sample Matrix:	Soil	Date Analyzed:	04-05-09
Preservative:	Cool	Date Extracted:	04-03-09
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	0.9
Toluene	2.1	1.0
Ethylbenzene	7.5	1.0
p,m-Xylene	25.9	1.2
o-Xylene	10.8	0.9
Total BTEX	46.3	
ND - Parameter not detected at the stated detection limit.		

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	97.0 %
	1,4-difluorobenzene	97.0 %
	Bromochlorobenzene	97.0 %

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Method 8021B, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: Crouch Mesa L. F.

Analyst

Review

Client:	N/A	Project #:	N/A
Sample ID:	04-05-BT QA/QC	Date Reported:	04-07-09
Laboratory Number:	49491	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	04-05-09
Condition:	N/A	Analysis:	BTEX

Calibration and Detection Limits (ug/L)	I-Cal RF	C-Cal RF	%Diff	Blank Conc	Detect Limit
		Accept Range 0 - 15%			
Benzene	7.2698E+006	7.2844E+006	0.2%	ND	0.1
Toluene	6.6597E+006	6.6730E+006	0.2%	ND	0.1
Ethylbenzene	5.7486E+006	5.7601E+006	0.2%	ND	0.1
p,m-Xylene	1.4586E+007	1.4616E+007	0.2%	ND	0.1
o-Xylene	5.4860E+006	5.4970E+006	0.2%	ND	0.1

Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff	Accept Range	Detect Limit
Benzene	15.2	14.8	2.6%	0 - 30%	0.9
Toluene	413	408	1.2%	0 - 30%	1.0
Ethylbenzene	231	222	4.2%	0 - 30%	1.0
p,m-Xylene	1,950	1,930	1.0%	0 - 30%	1.2
o-Xylene	854	852	0.2%	0 - 30%	0.9

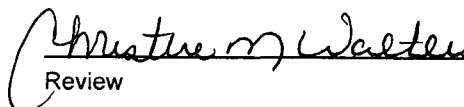
Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	15.2	50.0	62.7	96.2%	39 - 150
Toluene	413	50.0	460	99.4%	46 - 148
Ethylbenzene	231	50.0	279	99.1%	32 - 160
p,m-Xylene	1,950	100	2,030	99.0%	46 - 148
o-Xylene	854	50.0	898	99.4%	46 - 148

ND - Parameter not detected at the stated detection limit.

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.
 Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996.

Comments: QA/QC for Samples 49491, 49494, 49505, 49510, 49516, and 49526 - 49528.

Analyst 

Review 



Client:	Blagg/BP	Project #:	94034-0010
Sample ID:	Cell 1	Date Reported:	04-06-09
Lab ID#:	49526	Date Sampled:	03-30-09
Sample Matrix:	Soil	Date Received:	03-31-09
Preservative:	Cool	Date Analyzed:	04-03-09
Condition:	Intact	Chain of Custody:	5972

Parameter

Concentration (mg/Kg)

Total Chloride

25

Reference: U.S.E.P.A., 4500B, "Methods for Chemical Analysis of Water and Wastes", 1983.
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: **Crouch Mesa L.F.**

Analyst

Review



Client:	Blagg/BP	Project #:	94034-0010
Sample ID:	Cell 2	Date Reported:	04-06-09
Lab ID#:	49527	Date Sampled:	03-30-09
Sample Matrix:	Soil	Date Received:	03-31-09
Preservative:	Cool	Date Analyzed:	04-03-09
Condition:	Intact	Chain of Custody:	5972

Parameter

Concentration (mg/Kg)

Total Chloride

55

Reference: U.S.E.P.A., 4500B, "Methods for Chemical Analysis of Water and Wastes", 1983.
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: **Crouch Mesa L.F.**

Analyst

Review



Client:	Blagg/BP	Project #:	94034-0010
Sample ID:	Cell 5	Date Reported:	04-06-09
Lab ID#:	49528	Date Sampled:	03-30-09
Sample Matrix:	Soil	Date Received:	03-31-09
Preservative:	Cool	Date Analyzed:	04-03-09
Condition:	Intact	Chain of Custody:	5972

Parameter

Concentration (mg/Kg)

Total Chloride

235

Reference: U.S.E.P.A., 4500B, "Methods for Chemical Analysis of Water and Wastes", 1983.
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: **Crouch Mesa L.F.**

Analyst

Review

CHAIN OF CUSTODY RECORD

7386

Client: BLAGG/BF			Project Name / Location: CROUCH MESA L.F.				ANALYSIS / PARAMETERS																																													
Client Address:			Sampler Name: Jeff Blagg				<table border="1"> <tr> <th>TPH (Method 8015)</th> <th>BTEX (Method 8021)</th> <th>VOC (Method 8260)</th> <th>RCRA 8 Metals</th> <th>Cation / Anion</th> <th>RCI</th> <th>TCLP with H/P</th> <th>PAH</th> <th>TPH (418.1)</th> <th>CHLORIDE</th> <th></th> <th></th> <th></th> <th></th> <th>Sample Cool</th> <th>Sample Intact</th> </tr> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>														TPH (Method 8015)	BTEX (Method 8021)	VOC (Method 8260)	RCRA 8 Metals	Cation / Anion	RCI	TCLP with H/P	PAH	TPH (418.1)	CHLORIDE					Sample Cool	Sample Intact																
TPH (Method 8015)	BTEX (Method 8021)	VOC (Method 8260)	RCRA 8 Metals	Cation / Anion	RCI	TCLP with H/P															PAH	TPH (418.1)	CHLORIDE					Sample Cool	Sample Intact																							
Client Phone No.:			Client No.: 94034-0010																																																	
Sample No./ Identification	Sample Date	Sample Time	Lab No.	Sample Matrix	No./Volume of Containers	Preservative																																														
						HgCl ₂	HCl																																													
CELL 1 2'-3'	6/30/09	1505	50756	Soil Solid	Sludge Aqueous	1-402				X	X								X				✓	✓																												
CELL 2 2'-3'	11	1535	50757	Soil Solid	Sludge Aqueous	"				X	X								X				✓	✓																												
CELL 5 2'	11	1558	50758	Soil Solid	Sludge Aqueous	"				X	X								X				✓	✓																												
				Soil Solid	Sludge Aqueous																																															
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Relinquished by: (Signature) Jeff Blagg				Date	Time	Received by: (Signature) Kendall Augustin				Date	Time																																									
Relinquished by: (Signature)				7/1/09	1334	Received by: (Signature)				7/1/09	1334																																									
Relinquished by: (Signature)						Received by: (Signature)																																														



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**EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons**

Client:	Blagg/BP	Project #:	94034-0010
Sample ID:	Cell 1 2'-3'	Date Reported:	07-06-09
Laboratory Number:	50756	Date Sampled:	06-30-09
Chain of Custody No:	7386	Date Received:	07-01-09
Sample Matrix:	Soil	Date Extracted:	07-01-09
Preservative:	Cool	Date Analyzed:	07-02-09
Condition:	Intact	Analysis Requested:	8015 TPH

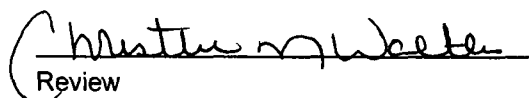
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: **Crouch Mesa L.F.**


Analyst


Review

**EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons**

Client:	Blagg/BP	Project #:	94034-0010
Sample ID:	Cell 2 2'-3'	Date Reported:	07-06-09
Laboratory Number:	50757	Date Sampled:	06-30-09
Chain of Custody No:	7386	Date Received:	07-01-09
Sample Matrix:	Soil	Date Extracted:	07-01-09
Preservative:	Cool	Date Analyzed:	07-02-09
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: **Crouch Mesa L.F.**

Analyst

Review

**EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons**

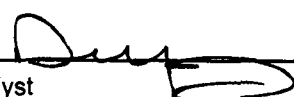
Client:	Blagg/BP	Project #:	94034-0010
Sample ID:	Cell 5 2'	Date Reported:	07-06-09
Laboratory Number:	50758	Date Sampled:	06-30-09
Chain of Custody No:	7386	Date Received:	07-01-09
Sample Matrix:	Soil	Date Extracted:	07-01-09
Preservative:	Cool	Date Analyzed:	07-02-09
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: **Crouch Mesa L.F.**


Analyst


Review

EPA Method 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	07-02-09 QA/QC	Date Reported:	07-06-09
Laboratory Number:	50747	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	07-02-09
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RF	C-Cal RF	% Difference	Accept Range
Gasoline Range C5 - C10	05-07-07	1.0631E+003	1.0635E+003	0.04%	0 - 15%
Diesel Range C10 - C28	05-07-07	1.0908E+003	1.0912E+003	0.04%	0 - 15%

Blank Conc. (mg/L, mg/Kg)	Concentration	Detection Limit
Gasoline Range C5 - C10	ND	0.2
Diesel Range C10 - C28	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept Range
Gasoline Range C5 - C10	4.1	4.1	0.0%	0 - 30%
Diesel Range C10 - C28	7.5	7.5	0.0%	0 - 30%

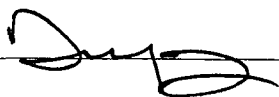
Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept Range
Gasoline Range C5 - C10	4.1	250	257	101%	75 - 125%
Diesel Range C10 - C28	7.5	250	252	97.7%	75 - 125%

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: QA/QC for Samples 50744, 50747, and 50751 - 50758.

Analyst



Review



Client:	Blagg/BP	Project #:	94034-0010
Sample ID:	Cell 1 2'-3'	Date Reported:	07-06-09
Laboratory Number:	50756	Date Sampled:	06-30-09
Chain of Custody:	7386	Date Received:	07-01-09
Sample Matrix:	Soil	Date Analyzed:	07-02-09
Preservative:	Cool	Date Extracted:	07-01-09
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	0.9
Toluene	3.1	1.0
Ethylbenzene	1.1	1.0
p,m-Xylene	4.6	1.2
o-Xylene	2.2	0.9
Total BTEX	11.0	

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	97.0 %
	1,4-difluorobenzene	97.0 %
	Bromochlorobenzene	97.0 %

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Method 8021B, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: Crouch Mesa L.F.

Analyst

Review

Client:	Blagg/BP	Project #:	94034-0010
Sample ID:	Cell 2 2'-3'	Date Reported:	07-06-09
Laboratory Number:	50757	Date Sampled:	06-30-09
Chain of Custody:	7386	Date Received:	07-01-09
Sample Matrix:	Soil	Date Analyzed:	07-02-09
Preservative:	Cool	Date Extracted:	07-01-09
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	0.9
Toluene	9.2	1.0
Ethylbenzene	3.6	1.0
p,m-Xylene	33.8	1.2
o-Xylene	9.6	0.9
Total BTEX	56.2	

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	99.0 %
	1,4-difluorobenzene	99.0 %
	Bromochlorobenzene	99.0 %

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Method 8021B, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: Crouch Mesa L.F.

Analyst

Review

Client:	Blagg/BP	Project #:	94034-0010
Sample ID:	Cell 5 2'	Date Reported:	07-06-09
Laboratory Number:	50758	Date Sampled:	06-30-09
Chain of Custody:	7386	Date Received:	07-01-09
Sample Matrix:	Soil	Date Analyzed:	07-02-09
Preservative:	Cool	Date Extracted:	07-01-09
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	0.9
Toluene	ND	1.0
Ethylbenzene	ND	1.0
p,m-Xylene	ND	1.2
o-Xylene	ND	0.9
Total BTEX	ND	

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	96.0 %
	1,4-difluorobenzene	96.0 %
	Bromochlorobenzene	96.0 %

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Method 8021B, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: **Crouch Mesa L.F.**

Analyst

Review

Client:	N/A	Project #:	N/A
Sample ID:	07-02-BT QA/QC	Date Reported:	07-06-09
Laboratory Number:	50747	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	07-02-09
Condition:	N/A	Analysis:	BTEX

Calibration and Detection Limits (ug/L)	I-Cal RF	C-Cal RF	%Diff	Blank Conc	Detect Limit
		Accept Range 0 - 15%			
Benzene	3.4318E+006	3.4386E+006	0.2%	ND	0.1
Toluene	3.1622E+006	3.1686E+006	0.2%	ND	0.1
Ethylbenzene	2.7968E+006	2.8024E+006	0.2%	ND	0.1
p,m-Xylene	7.1592E+006	7.1736E+006	0.2%	ND	0.1
o-Xylene	2.6656E+006	2.6709E+006	0.2%	ND	0.1

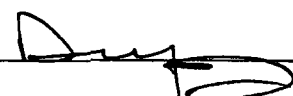
Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff	Accept Range	Detect Limit
Benzene	6.8	6.7	1.5%	0 - 30%	0.9
Toluene	12.3	12.1	1.6%	0 - 30%	1.0
Ethylbenzene	11.0	10.2	7.3%	0 - 30%	1.0
p,m-Xylene	22.8	22.3	2.2%	0 - 30%	1.2
o-Xylene	12.2	11.9	2.5%	0 - 30%	0.9

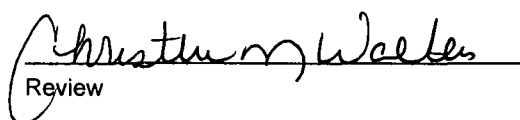
Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	6.8	50.0	56.3	99.1%	39 - 150
Toluene	12.3	50.0	59.3	95.2%	46 - 148
Ethylbenzene	11.0	50.0	59.0	96.7%	32 - 160
p,m-Xylene	22.8	100	122	99.0%	46 - 148
o-Xylene	12.2	50.0	59.5	95.7%	46 - 148

ND - Parameter not detected at the stated detection limit.

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.
 Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996

Comments: QA/QC for Samples 50744, 50747, and 50751 - 50758.

Analyst 

Review 

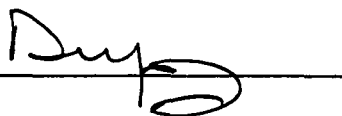
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Sample ID:	Cell 1 2'-3'	Date Reported:	07-06-09
Lab ID#:	50756	Date Sampled:	06-30-09
Sample Matrix:	Soil	Date Received:	07-01-09
Preservative:	Cool	Date Analyzed:	07-02-09
Condition:	Intact	Chain of Custody:	7386

Parameter**Concentration (mg/Kg)****Total Chloride****45**

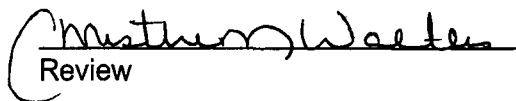
Reference: U.S.E.P.A., 4500B, "Methods for Chemical Analysis of Water and Wastes", 1983.
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: **Crouch Mesa L.F.**

Analyst



Review



Client:	Blagg / BP	Project #:	94034-0010
Sample ID:	Cell 2 2'-3'	Date Reported:	07-06-09
Lab ID#:	50757	Date Sampled:	06-30-09
Sample Matrix:	Soil	Date Received:	07-01-09
Preservative:	Cool	Date Analyzed:	07-02-09
Condition:	Intact	Chain of Custody:	7386

Parameter**Concentration (mg/Kg)****Total Chloride****290**

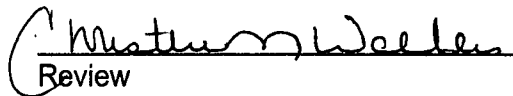
Reference: U.S.E.P.A., 4500B, "Methods for Chemical Analysis of Water and Wastes", 1983.
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: **Crouch Mesa L.F.**

Analyst



Review





Client:	Blagg / BP	Project #:	94034-0010
Sample ID:	Cell 5 2'	Date Reported:	07-06-09
Lab ID#:	50758	Date Sampled:	06-30-09
Sample Matrix:	Soil	Date Received:	07-01-09
Preservative:	Cool	Date Analyzed:	07-02-09
Condition:	Intact	Chain of Custody:	7386

Parameter

Concentration (mg/Kg)

Total Chloride

30

Reference: U.S.E.P.A., 4500B, "Methods for Chemical Analysis of Water and Wastes", 1983.
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: **Crouch Mesa L.F.**

Analyst

Review

7932



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EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

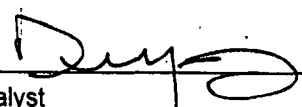
Client:	Blagg/BP	Project #:	94034-0010
Sample ID:	Cell #1	Date Reported:	09-02-09
Laboratory Number:	51427	Date Sampled:	08-26-09
Chain of Custody No:	7832	Date Received:	08-27-09
Sample Matrix:	Soil	Date Extracted:	08-31-09
Preservative:	Cool	Date Analyzed:	09-01-09
Condition:	Intact	Analysis Requested:	8015 TPH

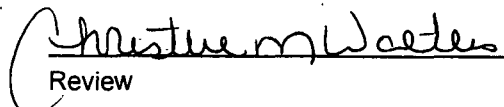
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: **Crouch Mesa LF - Annual.**


Analyst


Review



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**EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons**

Client:	Blagg/BP	Project #:	94034-0010
Sample ID:	Cell #2	Date Reported:	09-02-09
Laboratory Number:	51428	Date Sampled:	08-26-09
Chain of Custody No:	7832	Date Received:	08-27-09
Sample Matrix:	Soil	Date Extracted:	08-31-09
Preservative:	Cool	Date Analyzed:	09-01-09
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: **Crouch Mesa LF - Annual.**

Analyst

Review

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Analytical Laboratory

**EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons**

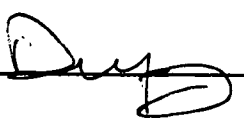
Client:	Blagg/BP	Project #:	94034-0010
Sample ID:	Cell #5	Date Reported:	09-02-09
Laboratory Number:	51429	Date Sampled:	08-26-09
Chain of Custody No:	7832	Date Received:	08-27-09
Sample Matrix:	Soil	Date Extracted:	08-31-09
Preservative:	Cool	Date Analyzed:	09-01-09
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: **Crouch Mesa LF - Annual.**


Analyst
Review



envirotech

Analytical Laboratory

EPA Method 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	09-01-09 QA/QC	Date Reported:	09-02-09
Laboratory Number:	51427	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	09-01-09
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RF	C-Cal RF	% Difference	Accept Range
Gasoline Range C5 - C10	05-07-07	1.0036E+003	1.0040E+003	0.04%	0 - 15%
Diesel Range C10 - C28	05-07-07	9.8512E+002	9.8551E+002	0.04%	0 - 15%

Blank Conc. (mg/L - mg/Kg)	Concentration	Detection Limit
Gasoline Range C5 - C10	ND	0.2
Diesel Range C10 - C28	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept Range
Gasoline Range C5 - C10	ND	ND	0.0%	0 - 30%
Diesel Range C10 - C28	ND	ND	0.0%	0 - 30%

Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept Range
Gasoline Range C5 - C10	ND	250	254	102%	75 - 125%
Diesel Range C10 - C28	ND	250	257	103%	75 - 125%

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: QA/QC for Samples 51423, 51427 - 51429, 51433 - 51435, 51451, and 51468 - 51469.

Analyst

Review

Client:	Blagg/BP	Project #:	94034-0010
Sample ID:	Cell #1	Date Reported:	09-02-09
Laboratory Number:	51427	Date Sampled:	08-26-09
Chain of Custody:	7832	Date Received:	08-27-09
Sample Matrix:	Soil	Date Analyzed:	09-01-09
Preservative:	Cool	Date Extracted:	08-31-09
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	0.9
Toluene	ND	1.0
Ethylbenzene	ND	1.0
p,m-Xylene	ND	1.2
o-Xylene	ND	0.9
Total BTEX	ND	

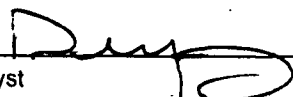
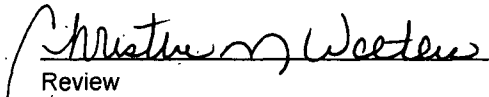
ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	98.0 %
	1,4-difluorobenzene	98.0 %
	Bromochlorobenzene	98.0 %

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Method 8021B, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: Crouch Mesa LF - Annual


Analyst
Review

Client:	Blagg/BP	Project #:	94034-0010
Sample ID:	Cell #2	Date Reported:	09-02-09
Laboratory Number:	51428	Date Sampled:	08-26-09
Chain of Custody:	7832	Date Received:	08-27-09
Sample Matrix:	Soil	Date Analyzed:	09-01-09
Preservative:	Cool	Date Extracted:	08-31-09
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	1.2	0.9
Toluene	5.3	1.0
Ethylbenzene	2.9	1.0
p,m-Xylene	3.4	1.2
o-Xylene	4.5	0.9
Total BTEX	17.3	

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	99.0 %
	1,4-difluorobenzene	99.0 %
	Bromochlorobenzene	99.0 %

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Method 8021B, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: Crouch Mesa LF - Annual

Analyst

Review

Client:	Blagg/BP	Project #:	94034-0010
Sample ID:	Cell #5	Date Reported:	09-02-09
Laboratory Number:	51429	Date Sampled:	08-26-09
Chain of Custody:	7832	Date Received:	08-27-09
Sample Matrix:	Soil	Date Analyzed:	09-01-09
Preservative:	Cool	Date Extracted:	08-31-09
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	0.9
Toluene	ND	1.0
Ethylbenzene	ND	1.0
p,m-Xylene	ND	1.2
o-Xylene	ND	0.9
Total BTEX	ND	

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	97.0 %
	1,4-difluorobenzene	97.0 %
	Bromochlorobenzene	97.0 %

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Method 8021B, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: **Crouch Mesa LF - Annual**

Analyst

Review

Client:	N/A	Project #:	N/A
Sample ID:	09-01-BT QA/QC	Date Reported:	09-02-09
Laboratory Number:	51427	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	09-01-09
Condition:	N/A	Analysis:	BTEX

Calibration and Detection Limits (ug/L)	I-Cal RF	C-Cal RF	%Diff	Blank Conc	Detect Limit
			Accept Range 0 - 15%		
Benzene	3.0966E+006	3.1028E+006	0.2%	ND	0.1
Toluene	2.9047E+006	2.9105E+006	0.2%	ND	0.1
Ethylbenzene	2.6097E+006	2.6150E+006	0.2%	ND	0.1
p,m-Xylene	6.7995E+006	6.8132E+006	0.2%	ND	0.1
o-Xylene	2.5188E+006	2.5238E+006	0.2%	ND	0.1

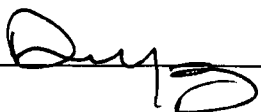
Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff	Accept Range	Detect Limit
Benzene	ND	ND	0.0%	0 - 30%	0.9
Toluene	ND	ND	0.0%	0 - 30%	1.0
Ethylbenzene	ND	ND	0.0%	0 - 30%	1.0
p,m-Xylene	ND	ND	0.0%	0 - 30%	1.2
o-Xylene	ND	ND	0.0%	0 - 30%	0.9

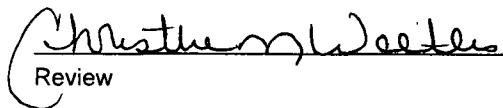
Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	ND	50.0	49.5	99.0%	39 - 150
Toluene	ND	50.0	45.0	90.0%	46 - 148
Ethylbenzene	ND	50.0	48.0	96.0%	32 - 160
p,m-Xylene	ND	100	98.0	98.0%	46 - 148
o-Xylene	ND	50.0	43.0	86.0%	46 - 148

ND - Parameter not detected at the stated detection limit.

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.
 Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996.

Comments: QA/QC for Samples 51423, 51427 - 51429, 51433 - 51435, 51451, and 51468 - 51469

Analyst 

Review 

Client:	Blagg/BP	Project #:	94034-0010
Sample ID:	Cell #1	Date Reported:	09-01-09
Laboratory Number:	51427	Date Sampled:	08-26-09
Chain of Custody:	7832	Date Received:	08-27-09
Sample Matrix:	Soil	Date Analyzed:	08-31-09
Preservative:	Cool	Date Digested:	08-28-09
Condition:	Intact	Analysis Needed:	Total Metals

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Arsenic	0.085	0.001
Barium	5.08	0.001
Cadmium	0.001	0.001
Chromium	0.266	0.001
Lead	0.532	0.001
Mercury	0.003	0.001
Selenium	0.022	0.001
Silver	ND	0.001

ND - Parameter not detected at the stated detection limit.

References: Method 3050B, Acid Digestion of Sediments, Sludges and Soils.
SW-846, USEPA, December 1996.

Method 6010B, Analysis of Metals by Inductively Coupled Plasma Atomic Emission Spectroscopy, SW-846, USEPA, December 1996.

Note: Regulatory Limits based on 40 CFR part 261 subpart C
section 261.24, August 24, 1998.

Comments: **Crouch Mesa LF - Annual.**

Analyst

Review



Client:	Blagg/BP	Project #:	94034-0010
Sample ID:	Cell #2	Date Reported:	09-01-09
Laboratory Number:	51428	Date Sampled:	08-26-09
Chain of Custody:	7832	Date Received:	08-27-09
Sample Matrix:	Soil	Date Analyzed:	08-31-09
Preservative:	Cool	Date Digested:	08-28-09
Condition:	Intact	Analysis Needed:	Total Metals

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Arsenic	0.096	0.001
Barium	7.27	0.001
Cadmium	0.004	0.001
Chromium	0.327	0.001
Lead	0.724	0.001
Mercury	0.005	0.001
Selenium	0.009	0.001
Silver	ND	0.001

ND - Parameter not detected at the stated detection limit.

References: Method 3050B, Acid Digestion of Sediments, Sludges and Soils.
SW-846, USEPA, December 1996.

Method 6010B, Analysis of Metals by Inductively Coupled Plasma Atomic Emission Spectroscopy, SW-846, USEPA, December 1996.

Note: Regulatory Limits based on 40 CFR part 261 subpart C
section 261.24, August 24, 1998.

Comments: **Crouch Mesa LF - Annual.**

Analyst

Review



Client:	Blagg/BP	Project #:	94034-0010
Sample ID:	Cell #5	Date Reported:	09-01-09
Laboratory Number:	51429	Date Sampled:	08-26-09
Chain of Custody:	7832	Date Received:	08-27-09
Sample Matrix:	Soil	Date Analyzed:	08-31-09
Preservative:	Cool	Date Digested:	08-28-09
Condition:	Intact	Analysis Needed:	Total Metals

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Arsenic	0.102	0.001
Barium	1.28	0.001
Cadmium	ND	0.001
Chromium	0.299	0.001
Lead	0.614	0.001
Mercury	0.005	0.001
Selenium	0.016	0.001
Silver	ND	0.001

ND - Parameter not detected at the stated detection limit.

References: Method 3050B, Acid Digestion of Sediments, Sludges and Soils.
SW-846, USEPA, December 1996.

Method 6010B, Analysis of Metals by Inductively Coupled Plasma Atomic Emission Spectroscopy, SW-846, USEPA, December 1996.

Note: Regulatory Limits based on 40 CFR part 261 subpart C
section 261.24, August 24, 1998.

Comments: **Crouch Mesa LF - Annual.**

Analyst

Review

Client:	QA/QC	Project #:	QA/QC
Sample ID:	08-31 TM QA/AC	Date Reported:	09-01-09
Laboratory Number:	51421	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Analysis Requested:	Total RCRA Metals	Date Analyzed:	08-31-09
Condition:	N/A	Date Digested:	08-28-09

Blank & Duplicate Conc. (mg/Kg)	Instrument Blank (mg/Kg)	Method Blank	Detection Limit	Sample	Duplicate	% Diff	Acceptance Range
Arsenic	ND	ND	0.001	0.010	0.010	0.0%	0% - 30%
Barium	ND	ND	0.001	8.17	8.19	0.3%	0% - 30%
Cadmium	ND	ND	0.001	0.002	0.002	0.0%	0% - 30%
Chromium	ND	ND	0.001	0.265	0.306	15.5%	0% - 30%
Lead	ND	ND	0.001	0.964	1.11	15.2%	0% - 30%
Mercury	ND	ND	0.001	0.001	0.001	0.0%	0% - 30%
Selenium	ND	ND	0.001	0.011	0.011	0.0%	0% - 30%
Silver	ND	ND	0.001	ND	ND	0.0%	0% - 30%

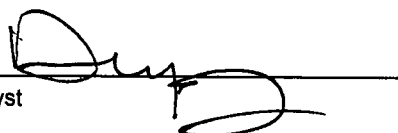
Spike Conc. (mg/Kg)	Spike Added	Sample	Spiked Sample	Percent Recovery	Acceptance Range
Arsenic	0.250	0.010	0.248	95.7%	80% - 120%
Barium	0.500	8.17	8.66	99.9%	80% - 120%
Cadmium	0.250	0.002	0.208	82.6%	80% - 120%
Chromium	0.500	0.265	0.669	87.6%	80% - 120%
Lead	0.500	0.964	1.50	103%	80% - 120%
Mercury	0.100	0.001	0.087	85.9%	80% - 120%
Selenium	0.100	0.011	0.092	83.1%	80% - 120%
Silver	0.100	ND	0.089	88.9%	80% - 120%

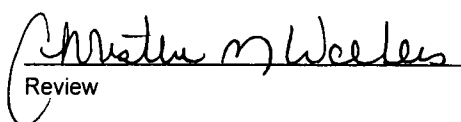
ND - Parameter not detected at the stated detection limit.

References: Method 3050B, Acid Digestion of Sediments, Sludges and Soils.
 SW-846, USEPA, December 1996.

Method 6010B, Analysis of Metals by Inductively Coupled Plasma Atomic Emission Spectroscopy, SW-846, USEPA, December 1996.

Comments: QA/QC for Samples 51421, 51427 - 51432, 51437, 51449, and 51452.


 Analyst


 Review



Client: Blagg/BP
Sample ID: Cell #1
Laboratory Number: 51427
Chain of Custody: 7832
Sample Matrix: Soil Extract
Preservative: Cool
Condition: Intact

Project #: 94034-0010
Date Reported: 09-02-09
Date Sampled: 08-26-09
Date Received: 08-27-09
Date Extracted: 08-27-09
Date Analyzed: 08-28-09

Parameter	Analytical Result	Units		
pH	7.24	s.u.		
Conductivity @ 25° C	2,030	umhos/cm		
Total Dissolved Solids @ 180C	1,200	mg/L		
Total Dissolved Solids (Calc)	1,167	mg/L		
SAR	0.4	ratio		
Total Alkalinity as CaCO3	66.0	mg/L		
Total Hardness as CaCO3	790	mg/L		
Bicarbonate as HCO3	66.0	mg/L	1.08	meq/L
Carbonate as CO3	<0.1	mg/L	0.00	meq/L
Hydroxide as OH	<0.1	mg/L	0.00	meq/L
Nitrate Nitrogen	2.00	mg/L	0.03	meq/L
Nitrite Nitrogen	0.073	mg/L	0.00	meq/L
Chloride	20.0	mg/L	0.56	meq/L
Fluoride	0.740	mg/L	0.04	meq/L
Phosphate	5.00	mg/L	0.16	meq/L
Sulfate	747	mg/L	15.55	meq/L
Iron	0.002	mg/L	0.00	meq/L
Calcium	292	mg/L	14.57	meq/L
Magnesium	14.7	mg/L	1.21	meq/L
Potassium	17.6	mg/L	0.45	meq/L
Sodium	27.6	mg/L	1.20	meq/L
Cations			17.43	meq/L
Anions			17.43	meq/L
Cation/Anion Difference			0.01%	

Reference: U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: **Crouch Mesa LF - Annual.**

Analyst

Review

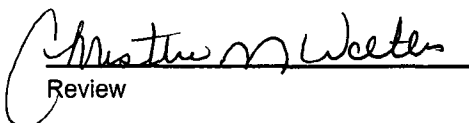
Client:	Blagg/BP	Project #:	94034-0010
Sample ID:	Cell #2	Date Reported:	09-02-09
Laboratory Number:	51428	Date Sampled:	08-26-09
Chain of Custody:	7832	Date Received:	08-27-09
Sample Matrix:	Soil Extract	Date Extracted:	08-27-09
Preservative:	Cool	Date Analyzed:	08-28-09
Condition:	Intact		

Parameter	Analytical Result	Units		
pH	7.76	S.U.		
Conductivity @ 25° C	107	umhos/cm		
Total Dissolved Solids @ 180C	60.0	mg/L		
Total Dissolved Solids (Calc)	68.5	mg/L		
SAR	1.0	ratio		
Total Alkalinity as CaCO3	44.0	mg/L		
Total Hardness as CaCO3	30.5	mg/L		
Bicarbonate as HCO3	44.0	mg/L	0.72	meq/L
Carbonate as CO3	<0.1	mg/L	0.00	meq/L
Hydroxide as OH	<0.1	mg/L	0.00	meq/L
Nitrate Nitrogen	4.0	mg/L	0.06	meq/L
Nitrite Nitrogen	0.014	mg/L	0.00	meq/L
Chloride	10.0	mg/L	0.28	meq/L
Fluoride	0.060	mg/L	0.00	meq/L
Phosphate	2.70	mg/L	0.09	meq/L
Sulfate	<0.1	mg/L	0.00	meq/L
Iron	0.023	mg/L	0.00	meq/L
Calcium	12.2	mg/L	0.61	meq/L
Magnesium	<0.1	mg/L	0.00	meq/L
Potassium	0.640	mg/L	0.02	meq/L
Sodium	12.2	mg/L	0.53	meq/L
Cations			1.16	meq/L
Anions			1.16	meq/L
Cation/Anion Difference			0.01%	

Reference: U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
 Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: **Crouch Mesa LF - Annual.**

Analyst 


 Review



Client:	Blagg/BP	Project #:	94034-0010
Sample ID:	Cell #5	Date Reported:	09-02-09
Laboratory Number:	51429	Date Sampled:	08-26-09
Chain of Custody:	7832	Date Received:	08-27-09
Sample Matrix:	Soil Extract	Date Extracted:	08-27-09
Preservative:	Cool	Date Analyzed:	08-28-09
Condition:	Intact		

Parameter	Analytical Result	Units		
pH	6.74	s.u.		
Conductivity @ 25° C	2,920	umhos/cm		
Total Dissolved Solids @ 180C	1,670	mg/L		
Total Dissolved Solids (Calc)	1,681	mg/L		
SAR	0.5	ratio		
Total Alkalinity as CaCO3	64.0	mg/L		
Total Hardness as CaCO3	1,160	mg/L		
Bicarbonate as HCO3	64.0	mg/L	1.05	meq/L
Carbonate as CO3	<0.1	mg/L	0.00	meq/L
Hydroxide as OH	<0.1	mg/L	0.00	meq/L
Nitrate Nitrogen	0.50	mg/L	0.01	meq/L
Nitrite Nitrogen	0.001	mg/L	0.00	meq/L
Chloride	20.0	mg/L	0.56	meq/L
Fluoride	1.13	mg/L	0.06	meq/L
Phosphate	2.00	mg/L	0.06	meq/L
Sulfate	1,120	mg/L	23.32	meq/L
Iron	0.002	mg/L	0.00	meq/L
Calcium	436	mg/L	21.76	meq/L
Magnesium	17.1	mg/L	1.41	meq/L
Potassium	3.43	mg/L	0.09	meq/L
Sodium	41.6	mg/L	1.81	meq/L
Cations			25.06	meq/L
Anions			25.06	meq/L
Cation/Anion Difference			0.01%	

Reference: U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: **Crouch Mesa LF - Annual.**

Analyst

Review

CHAIN OF CUSTODY RECORD

8106

Client: <i>BLAGG/BP</i>			Project Name / Location: <i>CROUCH MESA L.F.</i>				ANALYSIS / PARAMETERS															
Client Address:			Sampler Name: <i>J. Blagg</i>				TPH (Method 8015)	BTEX (Method 8021)	VOC (Method 8260)	RCRA 8 Metals	Cation / Anion	RCI	TCLP with H/P	PAH	TPH (418.1)	CHLORIDE					Sample Cool	Sample Intact
Client Phone No.:			Client No.: <i>94034-0010</i>																			
Sample No./ Identification	Sample Date	Sample Time	Lab No.	Sample Matrix	No./Volume of Containers	Preservative HgCl ₂ HCl																
<i>CELL #1</i>	<i>10/1/09</i>	<i>1130</i>	<i>51924</i>	<i>Soil</i> Solid	<i>Sludge</i> Aqueous	<i>1-402</i>																
<i>CELL #2</i>	<i>"</i>	<i>1150</i>	<i>51925</i>	<i>Soil</i> Solid	<i>Sludge</i> Aqueous	<i>"</i>																
<i>CELL #5</i>	<i>"</i>	<i>1230</i>	<i>51926</i>	<i>Soil</i> Solid	<i>Sludge</i> Aqueous	<i>"</i>																
				Soil Solid	Sludge Aqueous																	
				Soil Solid	Sludge Aqueous																	
				Soil Solid	Sludge Aqueous																	
				Soil Solid	Sludge Aqueous																	
				Soil Solid	Sludge Aqueous																	
				Soil Solid	Sludge Aqueous																	
				Soil Solid	Sludge Aqueous																	
				Soil Solid	Sludge Aqueous																	
Relinquished by: (Signature) <i>[Signature]</i>				Date <i>10/1/09</i>	Time <i>1358</i>	Received by: (Signature) <i>[Signature]</i>				Date <i>10-1-09</i>	Time <i>1358</i>											
Relinquished by: (Signature)						Received by: (Signature)																
Relinquished by: (Signature)						Received by: (Signature)																



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**EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons**

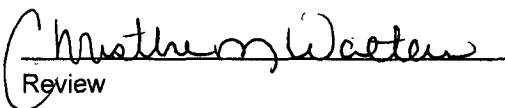
Client:	Blagg/BP	Project #:	94034-0010
Sample ID:	Cell #1	Date Reported:	10-06-09
Laboratory Number:	51924	Date Sampled:	10-01-09
Chain of Custody No:	8106	Date Received:	10-01-09
Sample Matrix:	Soil	Date Extracted:	10-02-09
Preservative:	Cool	Date Analyzed:	10-05-09
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: **Crouch Mesa LF**


Analyst
Review

**EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons**

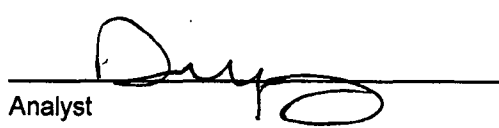
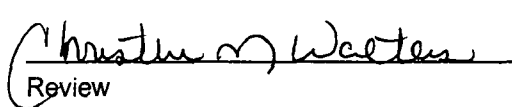
Client:	Blagg/BP	Project #:	94034-0010
Sample ID:	Cell #2	Date Reported:	10-06-09
Laboratory Number:	51925	Date Sampled:	10-01-09
Chain of Custody No:	8106	Date Received:	10-01-09
Sample Matrix:	Soil	Date Extracted:	10-02-09
Preservative:	Cool	Date Analyzed:	10-05-09
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: **Crouch Mesa LF**


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**EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons**

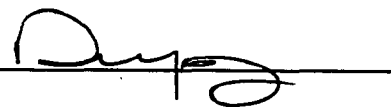
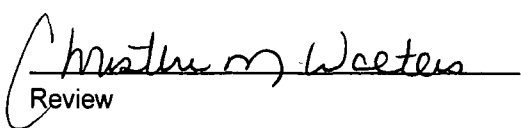
Client:	Blagg/BP	Project #:	94034-0010
Sample ID:	Cell #5	Date Reported:	10-06-09
Laboratory Number:	51926	Date Sampled:	10-01-09
Chain of Custody No:	8106	Date Received:	10-01-09
Sample Matrix:	Soil	Date Extracted:	10-02-09
Preservative:	Cool	Date Analyzed:	10-05-09
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste;
SW-846, USEPA, December 1996.

Comments: **Crouch Mesa LF**


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EPA Method 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	10-05-09 QA/QC	Date Reported:	10-06-09
Laboratory Number:	51919	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	10-05-09
Condition:	N/A	Analysis Requested:	TPH

Sample	Cal Date	Cal RF	C-Cal RF	% Difference	Accept. Range
Gasoline Range C5 - C10	05-07-07	1.0093E+003	1.0097E+003	0.04%	0 - 15%
Diesel Range C10 - C28	05-07-07	9.6329E+002	9.6367E+002	0.04%	0 - 15%

Blank Conc (mg/kg)	Concentration	Detection Limit
Gasoline Range C5 - C10	ND	0.2
Diesel Range C10 - C28	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

Original Result (mg/kg)	Duplicate	% Difference	Accept. Range	
Gasoline Range C5 - C10	12.2	12.1	0.8%	0 - 30%
Diesel Range C10 - C28	480	477	0.6%	0 - 30%

Spike Conc (mg/kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	12.2	250	256	97.7%	75 - 125%
Diesel Range C10 - C28	480	250	725	99.3%	75 - 125%

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: QA/QC for Samples 51919, 51921 - 51926, and 51937.

Analyst

Review

Client:	Blagg/BP	Project #:	94034-0010
Sample ID:	Cell #1	Date Reported:	10-06-09
Laboratory Number:	51924	Date Sampled:	10-01-09
Chain of Custody:	8106	Date Received:	10-01-09
Sample Matrix:	Soil	Date Analyzed:	10-05-09
Preservative:	Cool	Date Extracted:	10-02-09
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	0.9
Toluene	ND	1.0
Ethylbenzene	ND	1.0
p,m-Xylene	ND	1.2
o-Xylene	ND	0.9
Total BTEX	ND	

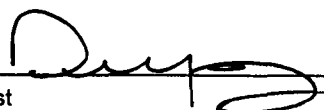
ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	96.0 %
	1,4-difluorobenzene	96.0 %
	Bromochlorobenzene	96.0 %

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Method 8021B, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: Crouch Mesa LF


 Analyst


 Review

Client:	Blagg/BP	Project #:	94034-0010
Sample ID:	Cell #2	Date Reported:	10-06-09
Laboratory Number:	51925	Date Sampled:	10-01-09
Chain of Custody:	8106	Date Received:	10-01-09
Sample Matrix:	Soil	Date Analyzed:	10-05-09
Preservative:	Cool	Date Extracted:	10-02-09
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	0.9
Toluene	ND	1.0
Ethylbenzene	ND	1.0
p,m-Xylene	ND	1.2
o-Xylene	ND	0.9
Total BTEX	ND	

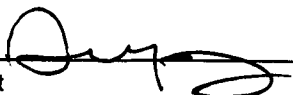
ND - Parameter not detected at the stated detection limit.

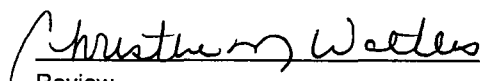
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	98.0 %
	1,4-difluorobenzene	98.0 %
	Bromochlorobenzene	98.0 %

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Method 8021B, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: Crouch Mesa LF


 Analyst


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EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Blagg/BP	Project #:	94034-0010
Sample ID:	Cell #5	Date Reported:	10-06-09
Laboratory Number:	51926	Date Sampled:	10-01-09
Chain of Custody:	8106	Date Received:	10-01-09
Sample Matrix:	Soil	Date Analyzed:	10-05-09
Preservative:	Cool	Date Extracted:	10-02-09
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	0.9
Toluene	ND	1.0
Ethylbenzene	ND	1.0
p,m-Xylene	ND	1.2
o-Xylene	ND	0.9
Total BTEX	ND	

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	96.0 %
	1,4-difluorobenzene	96.0 %
	Bromochlorobenzene	96.0 %

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Method 8021B, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: Crouch Mesa LF

Analyst

Review



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EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	N/A	Project #:	N/A
Sample ID:	10-05-BT QA/QC	Date Reported:	10-06-09
Laboratory Number:	51915	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	10-05-09
Condition:	N/A	Analysis:	BTEX

Calibration and Detection Limits (ug/L)	LCal R ²	CCal R ²	% Diff	Blank Conc	Detect Limit
			Accept Range 0 - 15%		
Benzene	9.9244E+005	9.9443E+005	0.2%	ND	0.1
Toluene	9.1152E+005	9.1335E+005	0.2%	ND	0.1
Ethylbenzene	8.1641E+005	8.1805E+005	0.2%	ND	0.1
p,m-Xylene	2.0292E+006	2.0332E+006	0.2%	ND	0.1
o-Xylene	7.7188E+005	7.7342E+005	0.2%	ND	0.1

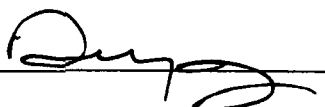
Duplicate Conc (ug/L)	Sample	Duplicate	% Diff	Accept Range	Detect Limit
Benzene	ND	ND	0.0%	0 - 30%	0.9
Toluene	ND	ND	0.0%	0 - 30%	1.0
Ethylbenzene	ND	ND	0.0%	0 - 30%	1.0
p,m-Xylene	ND	ND	0.0%	0 - 30%	1.2
o-Xylene	ND	ND	0.0%	0 - 30%	0.9

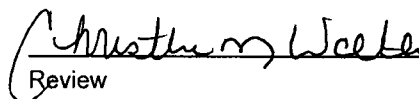
Spiked Conc (ug/L)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	ND	50.0	49.6	99.2%	39 - 150
Toluene	ND	50.0	49.7	99.4%	46 - 148
Ethylbenzene	ND	50.0	46.6	93.2%	32 - 160
p,m-Xylene	ND	100	97.3	97.3%	46 - 148
o-Xylene	ND	50.0	48.0	96.0%	46 - 148

ND - Parameter not detected at the stated detection limit.

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996
Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996

Comments: QA/QC for Samples 51915, 51916, 51919, 51921 - 51926, and 51937.

Analyst 

Review 



Client:	Blagg / BP	Project #:	94034-0010
Sample ID:	Cell #1	Date Reported:	10-07-09
Lab ID#:	51924	Date Sampled:	10-01-09
Sample Matrix:	Soil	Date Received:	10-01-09
Preservative:	Cool	Date Analyzed:	10-02-09
Condition:	Intact	Chain of Custody:	8106

Parameter	Concentration (mg/Kg)
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Total Chloride

10

Reference: U.S.E.P.A., 4500B, "Methods for Chemical Analysis of Water and Wastes", 1983.
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: **Crouch Mesa L.F.**

Analyst

Review



Client:	Blagg / BP	Project #:	94034-0010
Sample ID:	Cell #2	Date Reported:	10-07-09
Lab ID#:	51925	Date Sampled:	10-01-09
Sample Matrix:	Soil	Date Received:	10-01-09
Preservative:	Cool	Date Analyzed:	10-02-09
Condition:	Intact	Chain of Custody:	8106

Parameter

Concentration (mg/Kg)

Total Chloride

25

Reference: U.S.E.P.A., 4500B, "Methods for Chemical Analysis of Water and Wastes", 1983.
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: **Crouch Mesa L.F.**

Analyst

Review



Client:	Blagg / BP	Project #:	94034-0010
Sample ID:	Cell #5	Date Reported:	10-07-09
Lab ID#:	51926	Date Sampled:	10-01-09
Sample Matrix:	Soil	Date Received:	10-01-09
Preservative:	Cool	Date Analyzed:	10-02-09
Condition:	Intact	Chain of Custody:	8106

Parameter

Concentration (mg/Kg)

Total Chloride

35

Reference: U.S.E.P.A., 4500B, "Methods for Chemical Analysis of Water and Wastes", 1983.
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: **Crouch Mesa L.F.**

Analyst

Review