



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

May 19, 2015  
Adrian Griego  
Microbial Energy  
PO Box 1346  
Aztec, NM 87410  
TEL: (505) 419-0541  
FAX

**RECEIVED**

*By OCD District 1 at 8:18 am, May 28, 2015*

RE: NM BG

OrderNo.: 1505481

Dear Adrian Griego:

Hall Environmental Analysis Laboratory received 6 sample(s) on 5/12/2015 for the analyses presented in the following report.

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

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

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

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written in a cursive style.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1505481

Date Reported: 5/19/2015

**CLIENT:** Microbial Energy

**Client Sample ID:** 2

**Project:** NM BG

**Collection Date:** 5/8/2015 4:00:00 PM

**Lab ID:** 1505481-001

**Matrix:** SOIL

**Received Date:** 5/12/2015 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 418.1: TPH</b>							Analyst: <b>JME</b>
Petroleum Hydrocarbons, TR	10000	1900		mg/Kg	100	5/14/2015 12:00:00 PM	19186
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	1500	75		mg/Kg	50	5/19/2015 5:15:17 AM	19250

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	Page 1 of 8
	O	RSD is greater than RSDlimit	P	Sample pH Not In Range	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1505481

Date Reported: 5/19/2015

CLIENT: Microbial Energy

Client Sample ID: 4

Project: NM BG

Collection Date: 5/8/2015 4:05:00 PM

Lab ID: 1505481-002

Matrix: SOIL

Received Date: 5/12/2015 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 418.1: TPH</b>							Analyst: <b>JME</b>
Petroleum Hydrocarbons, TR	9900	2000		mg/Kg	100	5/14/2015 12:00:00 PM	19186
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	230	7.5		mg/Kg	5	5/15/2015 12:51:02 PM	19250

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	O	RSD is greater than RSDlimit	P	Sample pH Not In Range	Page 2 of 8
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1505481

Date Reported: 5/19/2015

**CLIENT:** Microbial Energy

**Client Sample ID:** 1

**Project:** NM BG

**Collection Date:** 5/8/2015 4:10:00 PM

**Lab ID:** 1505481-003

**Matrix:** SOIL

**Received Date:** 5/12/2015 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 418.1: TPH</b>							Analyst: <b>JME</b>
Petroleum Hydrocarbons, TR	4500	2000		mg/Kg	100	5/14/2015 12:00:00 PM	19186
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	1500	75		mg/Kg	50	5/19/2015 5:27:42 AM	19250

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	O	RSD is greater than RSDlimit	P	Sample pH Not In Range	Page 3 of 8
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1505481

Date Reported: 5/19/2015

**CLIENT:** Microbial Energy

**Client Sample ID:** 3

**Project:** NM BG

**Collection Date:** 5/8/2015 4:15:00 PM

**Lab ID:** 1505481-004

**Matrix:** SOIL

**Received Date:** 5/12/2015 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 418.1: TPH</b>							Analyst: <b>JME</b>
Petroleum Hydrocarbons, TR	16000	2000		mg/Kg	100	5/14/2015 12:00:00 PM	19186
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	740	30		mg/Kg	20	5/15/2015 2:17:55 PM	19250

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank	
	E Value above quantitation range	H Holding times for preparation or analysis exceeded	
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	Page 4 of 8
	O RSD is greater than RSDlimit	P Sample pH Not In Range	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1505481

Date Reported: 5/19/2015

**CLIENT:** Microbial Energy

**Client Sample ID:** 5

**Project:** NM BG

**Collection Date:** 5/8/2015 4:20:00 PM

**Lab ID:** 1505481-005

**Matrix:** SOIL

**Received Date:** 5/12/2015 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 418.1: TPH</b>							Analyst: <b>JME</b>
Petroleum Hydrocarbons, TR	1100	200		mg/Kg	10	5/14/2015 12:00:00 PM	19186
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	500	30		mg/Kg	20	5/15/2015 2:42:44 PM	19250

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	O	RSD is greater than RSDlimit	P	Sample pH Not In Range	Page 5 of 8
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1505481

Date Reported: 5/19/2015

**CLIENT:** Microbial Energy

**Client Sample ID:** 6

**Project:** NM BG

**Collection Date:** 5/8/2015 4:25:00 PM

**Lab ID:** 1505481-006

**Matrix:** SOIL

**Received Date:** 5/12/2015 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 418.1: TPH</b>							Analyst: <b>JME</b>
Petroleum Hydrocarbons, TR	5400	2000		mg/Kg	100	5/14/2015 12:00:00 PM	19186
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	520	30		mg/Kg	20	5/15/2015 3:07:32 PM	19250

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank	
	E Value above quantitation range	H Holding times for preparation or analysis exceeded	
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	Page 6 of 8
	O RSD is greater than RSDlimit	P Sample pH Not In Range	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1505481

19-May-15

**Client:** Microbial Energy

**Project:** NM BG

Sample ID	<b>MB-19250</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 300.0: Anions</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>19250</b>	RunNo:	<b>26253</b>					
Prep Date:	<b>5/15/2015</b>	Analysis Date:	<b>5/15/2015</b>	SeqNo:	<b>779535</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	<b>LCS-19250</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 300.0: Anions</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>19250</b>	RunNo:	<b>26253</b>					
Prep Date:	<b>5/15/2015</b>	Analysis Date:	<b>5/15/2015</b>	SeqNo:	<b>779536</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.2	90	110			

**Qualifiers:**

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1505481

19-May-15

**Client:** Microbial Energy

**Project:** NM BG

Sample ID	<b>MB-19186</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 418.1: TPH</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>19186</b>	RunNo:	<b>26196</b>					
Prep Date:	<b>5/12/2015</b>	Analysis Date:	<b>5/14/2015</b>	SeqNo:	<b>777300</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	ND	20								

Sample ID	<b>LCS-19186</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 418.1: TPH</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>19186</b>	RunNo:	<b>26196</b>					
Prep Date:	<b>5/12/2015</b>	Analysis Date:	<b>5/14/2015</b>	SeqNo:	<b>777301</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	96	20	100.0	0	95.6	86.7	126			

Sample ID	<b>LCSD-19186</b>	SampType:	<b>LCSD</b>	TestCode:	<b>EPA Method 418.1: TPH</b>					
Client ID:	<b>LCSS02</b>	Batch ID:	<b>19186</b>	RunNo:	<b>26196</b>					
Prep Date:	<b>5/12/2015</b>	Analysis Date:	<b>5/14/2015</b>	SeqNo:	<b>777302</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	94	20	100.0	0	94.1	86.7	126	1.49	20	

**Qualifiers:**

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

Client Name: **MICROBIAL ENERGY**

Work Order Number: **1505481**

RcptNo: 1

Received by/date:

*[Signature]* 05/12/15

Logged By: **Lindsay Mangin**

5/12/2015 7:00:00 AM

*[Signature]*

Completed By: **Lindsay Mangin**

5/12/2015 9:12:00 AM

*[Signature]*

Reviewed By:

*[Signature]* 05/12/15

**Chain of Custody**

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

**Log In**

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

# of preserved bottles checked for pH: \_\_\_\_\_  
 (<2 or >12 unless noted)  
 Adjusted? \_\_\_\_\_  
 Checked by: \_\_\_\_\_

**Special Handling (if applicable)**

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

Person Notified:	_____	Date:	_____
By Whom:	_____	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	_____		
Client Instructions:	_____		

17. Additional remarks:

**18. Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.8	Good	Yes			

# Chain-of-Custody Record

Client: MICROBIAL ENERGY  
 Mailing Address: ADRIAN @ MICROBIAL ENERGY INC. CAN  
 Phone #: 505-419-0541

email or Fax#: \_\_\_\_\_  
 QAVQC Package:  Level 4 (Full Validation)  
 Accreditation:  Standard  Other  NELAP  EDD (Type) \_\_\_\_\_

Date	Time	Matrix	Sample Request ID
5/8/15	1600	soil	2
5/14/15	1605	soil	4
5/14/15	1616	soil	1
5/14/15	1615	soil	3
5/14/15	1620	soil	5
5/14/15	1625	soil	6

Turn-Around Time:  Standard  Rush  
 Project Name: NM BGA  
 Project #: \_\_\_\_\_  
 Project Manager: ADRIAN  
 Sampler: A6  
 On Ice:  Yes  No  
 Sample Temperature: 2.8  
 Container Type and #  
 Preservative Type  
 HEAL No  
1505481

Received by: Christina Wanta Date: 5/11/15 Time: 1703  
 Received by: [Signature] Date: 05/12/15 Time: 0700



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

## Analysis Request

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

Remarks: \_\_\_\_\_

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.