



**MICROBIAL
ENERGY INC.**

PO Box 1346

Aztec, NM 87410

505.334.5710

www.microbialenergyinc.com

Mr. Jaime Keyes
New Mexico Energy, Minerals and Natural Resources Department
District 1
1625 N. French Drive
Hobbs, New Mexico 88240

Ms. Amber Groves
Hobbs District Resource Specialist
Field Operations Division
2827 N. Dal Paso Suite 117
Hobbs, NM 88240

July 6, 2016

Subject: Work Plan/Soil Analysis Update
Crownquest Operating, LLC. Midland Texas (For Lea County Field)

Locations regarding: State 26 com 5- API 30-025-28612
State 23/26 Battery- API 30-025-22713
Lea County New Mexico

Dear Ms. Groves and Mr. Keyes,
On behalf of Crownquest Operating, LLC. (CQ), Microbial Energy Soil Services is providing this work plan to the New Mexico Oil Conservation Division (NMOCD) and the New Mexico State Land Office. This work plan presents the additional remediation activities needed at the State 23/26 Battery and the State 26 com 5.

Site Descriptions

The sites are located approximately 22.09 miles northwest of Lovington, New Mexico. The legal location for the sites are as follows:

State 26 com 5: N-26-14S-32E 660 FSL 1980 FWL Lat/Long: 33.0702095,-103.6904449
NAD83



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State 23/26 Battery: A-27-14S-32E NSL 3088 EWL 50 Lat/Long: 33.0883446,-103.6904449
NAD83

Background Information

26 com 5: (Earlier this year) There were two contractors who performed work on this location, Microbial Energy being one of them. Before Microbial Energy, caliche was brought in and placed on location to help dilute oil staining. The carbon later presented itself through the new caliche. Microbial Energy made an attempt to remove oil stained caliche as an excavation process. Contaminated soils were hauled to Jay Dan Landfarm, 122 E. Central, Lovington NM. Hydrocarbon saturated soils around wellhead are still prevalent.

23/26 Battery: (Earlier this year) Approximately 250 yds of soil were removed to Jay Dan Landfarm. Electrical poles and lines were removed. Concrete pads (2) broken down and removed.

Scope of Work Needed to Complete

The scope of work needed is to remove and degrade hydrocarbons remaining on surface. It is also to remove any non natural materials (concrete, pipe, telephone poles etc..) from these locations.

The field work will consist of the following:

1. Excavate any soils previously placed as backfill that show high TPH and or soil staining at both locations.
2. Pressure wash wellhead with microbial solution at 26 com 5 wellhead.
3. Excavate/remove contaminated soils at 26 com 5 wellhead.
4. Remove concrete slab at 23/26 battery.
5. Remove debris from both locations



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Work Plan Approval Request

- Microbial Energy is requesting to spray microbial carbon degrading solution at 26 com 5 wellhead after removing of contaminated soil. The liquid solution will be used in an effort to degrade historic releases further down past excavation.
- Microbial Energy would like to start with this proposed work plan, July 10, 2016 with approval from NMOCD representative and State Office representative.

Attached:

- Sample results from locations
- Google Earth placemarks of discrete sample locations

Please contact Adrian A. Griego of Microbial Energy at your earliest convenience

adrian@microbialenergyinc.com

505.419.0541

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1606A42**

Date Reported:

CLIENT: Microbial Energy Inc

Client Sample ID: 26 Com 5 Well Head

Project: Lea County June 2016

Collection Date: 6/16/2016 1:20:00 PM

Lab ID: 1606A42-001

Matrix: SOIL

Received Date: 6/17/2016 8:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: LGT
Chloride	1400	75		mg/Kg	50	6/22/2016 11:40:39 PM
EPA METHOD 418.1: TPH						Analyst: TOM
Petroleum Hydrocarbons, TR	60000	2000		mg/Kg	100	6/23/2016

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 1 of 0
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1606A42**

Date Reported:

CLIENT: Microbial Energy Inc

Client Sample ID: 26 Com 5 Pad North

Project: Lea County June 2016

Collection Date: 6/16/2016 1:23:00 PM

Lab ID: 1606A42-002

Matrix: SOIL

Received Date: 6/17/2016 8:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	180	30		mg/Kg	20	6/22/2016 5:14:12 AM
EPA METHOD 418.1: TPH						Analyst: TOM
Petroleum Hydrocarbons, TR	5500	1900		mg/Kg	100	6/23/2016

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 2 of 0
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1606A42**

Date Reported:

CLIENT: Microbial Energy Inc

Client Sample ID: 26 Com 5 Pad South

Project: Lea County June 2016

Collection Date: 6/16/2016 1:26:00 PM

Lab ID: 1606A42-003

Matrix: SOIL

Received Date: 6/17/2016 8:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	530	30		mg/Kg	20	6/22/2016 5:39:02 AM
EPA METHOD 418.1: TPH						Analyst: TOM
Petroleum Hydrocarbons, TR	130	19		mg/Kg	1	6/23/2016

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 3 of 0
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1606A42**

Date Reported:

CLIENT: Microbial Energy Inc

Client Sample ID: 23/26 Battery S Left

Project: Lea County June 2016

Collection Date: 6/16/2016 1:35:00 PM

Lab ID: 1606A42-006

Matrix: SOIL

Received Date: 6/17/2016 8:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	120	30		mg/Kg	20	6/22/2016 6:53:30 AM
EPA METHOD 418.1: TPH						Analyst: TOM
Petroleum Hydrocarbons, TR	480	200		mg/Kg	10	6/23/2016

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 6 of 0
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1606A42**

Date Reported:

CLIENT: Microbial Energy Inc

Client Sample ID: 23/26 Battery S Right

Project: Lea County June 2016

Collection Date: 6/16/2016 1:38:00 PM

Lab ID: 1606A42-007

Matrix: SOIL

Received Date: 6/17/2016 8:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: LGT
Chloride	270	30		mg/Kg	20	6/22/2016 3:55:16 AM
EPA METHOD 418.1: TPH						Analyst: TOM
Petroleum Hydrocarbons, TR	4900	200		mg/Kg	10	6/23/2016

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 7 of 0
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1606A42**

Date Reported:

CLIENT: Microbial Energy Inc

Client Sample ID: 23/26 Batt Middle Left

Project: Lea County June 2016

Collection Date: 6/16/2016 1:41:00 PM

Lab ID: 1606A42-008

Matrix: SOIL

Received Date: 6/17/2016 8:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: LGT
Chloride	13	1.5		mg/Kg	1	6/22/2016 4:32:30 AM
EPA METHOD 418.1: TPH						Analyst: TOM
Petroleum Hydrocarbons, TR	580	19		mg/Kg	1	6/23/2016

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 8 of 0
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1606A42**

Date Reported:

CLIENT: Microbial Energy Inc

Client Sample ID: 23/26 Batt Middle Right

Project: Lea County June 2016

Collection Date: 6/16/2016 1:44:00 PM

Lab ID: 1606A42-009

Matrix: SOIL

Received Date: 6/17/2016 8:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: LGT
Chloride	30	1.5		mg/Kg	1	6/22/2016 4:57:20 AM
EPA METHOD 418.1: TPH						Analyst: TOM
Petroleum Hydrocarbons, TR	820	19		mg/Kg	1	6/23/2016

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 9 of 0
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1606A42**

Date Reported:

CLIENT: Microbial Energy Inc

Client Sample ID: 23/26 Battery N Left

Project: Lea County June 2016

Collection Date: 6/16/2016 1:47:00 PM

Lab ID: 1606A42-010

Matrix: SOIL

Received Date: 6/17/2016 8:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: LGT
Chloride	63	30		mg/Kg	20	6/22/2016 5:34:34 AM
EPA METHOD 418.1: TPH						Analyst: TOM
Petroleum Hydrocarbons, TR	470	20		mg/Kg	1	6/23/2016

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1606A42**

Date Reported:

CLIENT: Microbial Energy Inc

Project: Lea County June 2016

Lab ID: 1606A42-011

Matrix: SOIL

Client Sample ID: 23/26 Battery N Right

Collection Date: 6/16/2016 1:50:00 PM

Received Date: 6/17/2016 8:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: LGT
Chloride	67	30		mg/Kg	20	6/22/2016 5:59:23 AM
EPA METHOD 418.1: TPH						Analyst: TOM
Petroleum Hydrocarbons, TR	9600	200		mg/Kg	10	6/23/2016

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1606A42**

Date Reported:

CLIENT: Microbial Energy Inc

Client Sample ID: Roadway South

Project: Lea County June 2016

Collection Date: 6/16/2016 1:29:00 PM

Lab ID: 1606A42-004

Matrix: SOIL

Received Date: 6/17/2016 8:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	82	30		mg/Kg	20	6/22/2016 6:03:51 AM
EPA METHOD 418.1: TPH						Analyst: TOM
Petroleum Hydrocarbons, TR	5800	200		mg/Kg	10	6/23/2016

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 4 of 0
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1606A42**

Date Reported:

CLIENT: Microbial Energy Inc

Client Sample ID: Roadway North

Project: Lea County June 2016

Collection Date: 6/16/2016 1:32:00 PM

Lab ID: 1606A42-005

Matrix: SOIL

Received Date: 6/17/2016 8:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	260	30		mg/Kg	20	6/22/2016 6:28:40 AM
EPA METHOD 418.1: TPH						Analyst: TOM
Petroleum Hydrocarbons, TR	3900	200		mg/Kg	10	6/23/2016

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 5 of 0
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified	