

October 16, 2017

Report to:

Vincent Hach
Roosevelt Energy Services, LLC
200 Collum Street
Maybell, CO 81640

Bill to:

Vincent Hach
Roosevelt Energy Services, LLC
200 Collum Street
Maybell, CO 81640

Project ID:

ACZ Project ID: L40067

Vincent Hach:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on September 22, 2017. This project has been assigned to ACZ's project number, L40067. Please reference this number in all future inquiries.

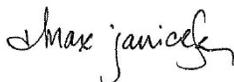
All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L40067. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after November 15, 2017. If the samples are determined to be hazardous, additional charges apply for disposal (typically \$11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.



Max Janicek has reviewed and approved this report.



Roosevelt Energy Services, LLC

Project ID:

Sample ID: LANDFARM-WEST

ACZ Sample ID: **L40067-01**

Date Sampled: 09/22/17 10:45

Date Received: 09/22/17

Sample Matrix: Soil

Diesel Range Organics (C10-C28)Analysis Method: **M8015D GC/FID**Extract Method: **M3540****Workgroup:** WG432443

Analyst: gss

Extract Date: 09/27/17 16:25

Analysis Date: 09/29/17 13:05

Compound	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PQL
TPH C10 to C28			U	66.7	*	mg/Kg	7	30
Surrogate Recoveries	CAS	% Recovery		Dilution	XQ	Units	LCL	UCL
OTP	84-15-1	79.7		66.7		%	60	115

Roosevelt Energy Services, LLC

Project ID:

Sample ID: LANDFARM-WEST

ACZ Sample ID: **L40067-01**

Date Sampled: 09/22/17 10:45

Date Received: 09/22/17

Sample Matrix: Soil

Gasoline Range Organics (C6-C10)Analysis Method: **M8015D GC/FID**Extract Method: **5035A****Workgroup:** WG432254

Analyst: jel

Extract Date: 09/28/17 14:15

Analysis Date: 09/28/17 14:15

Compound	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PQL
TVH C6 to C10	TVH		U	5	*	mg/Kg	0.3	0.3
Surrogate Recoveries	CAS	% Recovery		Dilution	XQ	Units	LCL	UCL
Bromofluorobenzene (TVH)	460-00 4	103.3		5		%	70	130

Roosevelt Energy Services, LLC

Project ID:

Sample ID: LANDFARM-EAST

ACZ Sample ID: **L40067-02**

Date Sampled: 09/22/17 10:45

Date Received: 09/22/17

Sample Matrix: Soil

Diesel Range Organics (C10-C28)Analysis Method: **M8015D GC/FID**Extract Method: **M3540****Workgroup:** WG432443

Analyst: gss

Extract Date: 09/27/17 17:50

Analysis Date: 09/29/17 13:28

Compound	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PQL
TPH C10 to C28			U	66.7	*	mg/Kg	7	30
Surrogate Recoveries	CAS	% Recovery		Dilution	XQ	Units	LCL	UCL
OTP	84-15-1	76.1		66.7		%	60	115

Roosevelt Energy Services, LLC

Project ID:

Sample ID: LANDFARM-EAST

ACZ Sample ID: **L40067-02**

Date Sampled: 09/22/17 10:45

Date Received: 09/22/17

Sample Matrix: Soil

Gasoline Range Organics (C6-C10)Analysis Method: **M8015D GC/FID**Extract Method: **5035A****Workgroup:** WG432254

Analyst: jel

Extract Date: 09/28/17 14:44

Analysis Date: 09/28/17 14:44

Compound	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PQL
TVH C6 to C10	TVH		U	5	*	mg/Kg	0.3	0.3
Surrogate Recoveries	CAS	% Recovery		Dilution	XQ	Units	LCL	UCL
Bromofluorobenzene (TVH)	460-00 4	104.5		5		%	70	130

Roosevelt Energy Services, LLC

Project ID:

Sample ID: BERM-

ACZ Sample ID: **L40067-03**

Date Sampled: 09/22/17 10:45

Date Received: 09/22/17

Sample Matrix: Soil

Diesel Range Organics (C10-C28)

Analysis Method: **M8015D GC/FID**

Extract Method: **M3540**

Workgroup: WG432443

Analyst: gss

Extract Date: 09/27/17 22:05

Analysis Date: 09/29/17 14:38

Compound	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PQL
TPH C10 to C28			U	66.7	*	mg/Kg	7	30
Surrogate Recoveries	CAS	% Recovery		Dilution	XQ	Units	LCL	UCL
OTP	84-15-1	78.4		66.7		%	60	115

Roosevelt Energy Services, LLC

Project ID:

Sample ID: ROAD

ACZ Sample ID: **L40067-04**

Date Sampled: 09/22/17 10:45

Date Received: 09/22/17

Sample Matrix: Soil

Diesel Range Organics (C10-C28)Analysis Method: **M8015D GC/FID**Extract Method: **M3540****Workgroup:** WG432443

Analyst: gss

Extract Date: 09/27/17 23:30

Analysis Date: 09/29/17 15:01

Compound	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PQL
TPH C10 to C28			U	66.7	*	mg/Kg	7	30
Surrogate Recoveries	CAS	% Recovery		Dilution	XQ	Units	LCL	UCL
OTP	84-15-1	79		66.7		%	60	115

Report Header Explanations

<i>Batch</i>	A distinct set of samples analyzed at a specific time
<i>Found</i>	Value of the QC Type of interest
<i>Limit</i>	Upper limit for RPD, in %.
<i>Lower</i>	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
<i>LCL</i>	Lower Control Limit
<i>MDL</i>	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #4) Allows for instrument and annual fluctuations.
<i>PCN/SCN</i>	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
<i>PQL</i>	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
<i>QC</i>	True Value of the Control Sample or the amount added to the Spike
<i>Rec</i>	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
<i>RPD</i>	Relative Percent Difference, calculation used for Duplicate QC Types
<i>Upper</i>	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
<i>UCL</i>	Upper Control Limit
<i>Sample</i>	Value of the Sample of interest

QC Sample Types

<i>SURR</i>	Surrogate	<i>LFM</i>	Laboratory Fortified Matrix
<i>INTS</i>	Internal Standard	<i>LFMD</i>	Laboratory Fortified Matrix Duplicate
<i>DUP</i>	Sample Duplicate	<i>LRB</i>	Laboratory Reagent Blank
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>MS/MSD</i>	Matrix Spike/Matrix Spike Duplicate
<i>LCSW</i>	Laboratory Control Sample - Water	<i>PBS</i>	Prep Blank - Soil
<i>LFB</i>	Laboratory Fortified Blank	<i>PBW</i>	Prep Blank - Water

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
O	Analyte concentration is estimated due to result exceeding calibration range.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
J	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

- (1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
- (2) EPA 600/4-90/020. Methods for the Determination of Organic Compounds in Drinking Water (I), July 1990.
- (3) EPA 600/R-92/129. Methods for the Determination of Organic Compounds in Drinking Water (II), July 1990.
- (4) EPA SW-846. Test Methods for Evaluating Solid Waste.
- (5) Standard Methods for the Examination of Water and Wastewater.

Comments

- (1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
- (2) Excluding Oil & Grease, solid & biological matrices for organic analyses are reported on a wet weight basis.
- (3) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
- (4) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click:

<http://www.acz.com/public/extquallist.pdf>

ACZ Project ID: **L40067**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L40067-01	WG432443	TPH C10 to C28	M8015D GC/FID	D1	Sample required dilution due to matrix.
	WG432254	TVH C6 to C10	M8015D GC/FID	D1	Sample required dilution due to matrix.
			M8015D GC/FID	ZM	Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035.
L40067-02	WG432443	TPH C10 to C28	M8015D GC/FID	D1	Sample required dilution due to matrix.
	WG432254	TVH C6 to C10	M8015D GC/FID	D1	Sample required dilution due to matrix.
			M8015D GC/FID	ZM	Data is estimated because result is below 200 ug/Kg; ACZ does not have a closed-system purge and trap as described in method 5035.
L40067-03	WG432443	TPH C10 to C28	M8015D GC/FID	D1	Sample required dilution due to matrix.
L40067-04	WG432443	TPH C10 to C28	M8015D GC/FID	D1	Sample required dilution due to matrix.

Roosevelt Energy Services, LLC

ACZ Project ID: **L40067**

No certification qualifiers associated with this analysis

Roosevelt Energy Services, LLC

ACZ Project ID: L40067
 Date Received: 09/22/2017 16:20
 Received By:
 Date Printed: 9/25/2017

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?		X	
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?		X	
6) Is the Chain of Custody form complete and accurate? The date/time was entered on the COC per the information present on the sample containers for sample(s) 1 through 4. The sample matrix was entered per the requested quotation.		X	
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples? A change was made in the Report to Email, Sample ID Line1, Analyses requested, Remarks, Relinquished By section prior to ACZ custody.	X		

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits? ¹			X
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?			X
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

NA indicates Not Applicable

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
4258	4.7	<=6.0	14	N/A

Roosevelt Energy Services, LLC

ACZ Project ID: L40067
Date Received: 09/22/2017 16:20
Received By:
Date Printed: 9/25/2017

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

¹ The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na₂S₂O₃ preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

