



12-Jan-2017

Mike Gardner  
Terra Energy Partners, LLC  
1058 Country Rd 215  
Parachute, CO 81635

Re: **PA 41-31-695 Landfarm**

Work Order: **1701243**

Dear Mike,

ALS Environmental received 1 sample on 16-Dec-2016 for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 13.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Chad Whelton", is written over a white background.

Electronically approved by: Chad Whelton

Chad Whelton  
Project Manager

Certificate No: MN 998501

### Report of Laboratory Analysis

ADDRESS 3352 128th Ave Holland, Michigan 49424 | PHONE (616) 399-6070 | FAX (616) 399-6185

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Environmental ALS

[www.alsglobal.com](http://www.alsglobal.com)

RIGHT SOLUTIONS RIGHT PARTNER

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**Client:** Terra Energy Partners, LLC  
**Project:** PA 41-31-695 Landfarm  
**Work Order:** 1701243

**Work Order Sample Summary**

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<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1701243-01	PA 41-31-695 Landfarm	Soil		12/15/2016	12/16/2016	<input type="checkbox"/>

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**Client:** Terra Energy Partners, LLC

**Project:** PA 41-31-695 Landfarm

**Work Order:** 1701243

**Case Narrative**

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Batch 96026, Method VOC\_8260\_S, Sample 1701243-01A: Surrogate recovery is above the upper control limit due to matrix interference.

**Client:** Terra Energy Partners, LLC  
**Project:** PA 41-31-695 Landfarm  
**WorkOrder:** 1701243

**QUALIFIERS,  
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
% of sample	Percent of Sample
°F	Degrees Fahrenheit
µg/Kg	Micrograms per Kilogram
mg/Kg-dry	Milligrams per Kilogram Dry Weight
none	

**ALS Group, USA**

Date: 12-Jan-17

**Client:** Terra Energy Partners, LLC

**Project:** PA 41-31-695 Landfarm

**Sample ID:** PA 41-31-695 Landfarm

**Collection Date:** 12/15/2016

**Work Order:** 1701243

**Lab ID:** 1701243-01

**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>ORGANIC COMPOUNDS BY GC-FID</b>			<b>SW8015M</b>			Analyst: <b>KYM</b>
Methanol	ND		5.4	mg/Kg-dry	1	1/9/2017 01:25 PM
<b>VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8260B</b>		Prep: SW5035 / 12/20/16	Analyst: <b>BG</b>
<b>Hexane</b>	<b>83</b>		<b>37</b>	<b>µg/Kg</b>	1	12/20/2016 07:06 PM
Surr: 1,2-Dichloroethane-d4	89.0		70-130	%REC	1	12/20/2016 07:06 PM
Surr: 4-Bromofluorobenzene	92.8		70-130	%REC	1	12/20/2016 07:06 PM
Surr: Dibromofluoromethane	89.1		70-130	%REC	1	12/20/2016 07:06 PM
Surr: Toluene-d8	150	S	70-130	%REC	1	12/20/2016 07:06 PM
<b>FLASHPOINT/IGNITABILITY ANALYSIS</b>			<b>SW1010A</b>			Analyst: <b>MB</b>
Flashpoint/Ignitability	>200			°F	1	1/11/2017 10:00 AM
<b>PAINT FILTER (FREE LIQUIDS)</b>			<b>SW9095B</b>			Analyst: <b>KF</b>
Free Liquids	Absent			none	1	1/10/2017 11:30 AM
<b>MOISTURE</b>			<b>SW3550C</b>			Analyst: <b>EDL</b>
Moisture	10		0.050	% of sample	1	12/16/2016 04:31 PM

**Note:** See Qualifiers page for a list of qualifiers and their definitions.

**Client:** Terra Energy Partners, LLC  
**Work Order:** 1701243  
**Project:** PA 41-31-695 Landfarm

**QC BATCH REPORT**

Batch ID: **R203932** Instrument ID **GC5** Method: **SW8015M**

MBLK		Sample ID: <b>MBLKW1-R203932</b>				Units: <b>mg/L</b>		Analysis Date: <b>1/9/2017 11:07 AM</b>		
Client ID:		Run ID: <b>GC5_170109A</b>		SeqNo: <b>4238575</b>		Prep Date: <b>1/9/2017</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Methanol	ND	5.0								

MBLK		Sample ID: <b>MBLKS1-R203932</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>1/9/2017 01:12 PM</b>		
Client ID:		Run ID: <b>GC5_170109A</b>		SeqNo: <b>4238682</b>		Prep Date: <b>1/9/2017</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Methanol	ND	5.0								

LCS		Sample ID: <b>LCSW1-R203932</b>				Units: <b>mg/L</b>		Analysis Date: <b>1/9/2017 10:18 AM</b>		
Client ID:		Run ID: <b>GC5_170109A</b>		SeqNo: <b>4238569</b>		Prep Date: <b>1/9/2017</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Methanol	503.4	5.0	500		0	101	50-150	0		

LCS		Sample ID: <b>LCSS1-R203932</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>1/9/2017 12:22 PM</b>		
Client ID:		Run ID: <b>GC5_170109A</b>		SeqNo: <b>4238679</b>		Prep Date: <b>1/9/2017</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Methanol	490.1	5.0	500		0	98	50-150	0		

MS		Sample ID: <b>1701262-01D MS</b>				Units: <b>mg/L</b>		Analysis Date: <b>1/9/2017 10:30 AM</b>		
Client ID:		Run ID: <b>GC5_170109A</b>		SeqNo: <b>4238571</b>		Prep Date: <b>1/9/2017</b>		DF: <b>2</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Methanol	1025	10	1000		0	103	50-150	0		

MS		Sample ID: <b>1701243-01A MS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>1/9/2017 12:35 PM</b>		
Client ID: <b>PA 41-31-695 Landfarm</b>		Run ID: <b>GC5_170109A</b>		SeqNo: <b>4238680</b>		Prep Date: <b>1/9/2017</b>		DF: <b>2</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Methanol	951.1	9.6	1000		0	95.1	50-150	0		

MSD		Sample ID: <b>1701262-01D MSD</b>				Units: <b>mg/L</b>		Analysis Date: <b>1/9/2017 10:42 AM</b>		
Client ID:		Run ID: <b>GC5_170109A</b>		SeqNo: <b>4238573</b>		Prep Date: <b>1/9/2017</b>		DF: <b>2</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Methanol	891.3	10	1000		0	89.1	50-150	1025	14	30

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Terra Energy Partners, LLC  
**Work Order:** 1701243  
**Project:** PA 41-31-695 Landfarm

# QC BATCH REPORT

Batch ID: **R203932** Instrument ID **GC5** Method: **SW8015M**

MSD		Sample ID: 1701243-01A MSD				Units: mg/Kg		Analysis Date: 1/9/2017 12:47 PM		
Client ID: PA 41-31-695 Landfarm		Run ID: GC5_170109A		SeqNo: 4238681		Prep Date: 1/9/2017		DF: 2		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Methanol	946.9	9.6	1000	0	94.7	50-150	951.1	0.441	30	

The following samples were analyzed in this batch:

1701243-01A

**Client:** Terra Energy Partners, LLC  
**Work Order:** 1701243  
**Project:** PA 41-31-695 Landfarm

# QC BATCH REPORT

Batch ID: **96026**      Instrument ID **VMS5**      Method: **SW8260B**

MBLK		Sample ID: <b>MBLK-96026-96026</b>				Units: <b>µg/Kg-dry</b>		Analysis Date: <b>12/20/2016 12:28 PM</b>		
Client ID:		Run ID: <b>VMS5_161220A</b>			SeqNo: <b>4211890</b>		Prep Date: <b>12/20/2016</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Hexane	ND	100								
<i>Surr: 1,2-Dichloroethane-d4</i>	955.5	0	1000	0	95.6	70-130	0			
<i>Surr: 4-Bromofluorobenzene</i>	960.5	0	1000	0	96	70-130	0			
<i>Surr: Dibromofluoromethane</i>	962.5	0	1000	0	96.2	70-130	0			
<i>Surr: Toluene-d8</i>	993	0	1000	0	99.3	70-130	0			

**The following samples were analyzed in this batch:** 1701243-01A

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Terra Energy Partners, LLC  
 Work Order: 1701243  
 Project: PA 41-31-695 Landfarm

# QC BATCH REPORT

Batch ID: **R202733** Instrument ID **MOIST** Method: **SW3550C**

MBLK		Sample ID: <b>WBLKS-R202733</b>				Units: % of sample			Analysis Date: <b>12/16/2016 04:31 PM</b>		
Client ID:		Run ID: <b>MOIST_161216C</b>				SeqNo: <b>4208453</b>		Prep Date:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Moisture ND 0.050

LCS		Sample ID: <b>LCS-R202733</b>				Units: % of sample			Analysis Date: <b>12/16/2016 04:31 PM</b>		
Client ID:		Run ID: <b>MOIST_161216C</b>				SeqNo: <b>4208452</b>		Prep Date:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Moisture 100 0.050 100 0 100 99.5-100.5 0

DUP		Sample ID: <b>1612970-02B DUP</b>				Units: % of sample			Analysis Date: <b>12/16/2016 04:31 PM</b>		
Client ID:		Run ID: <b>MOIST_161216C</b>				SeqNo: <b>4208447</b>		Prep Date:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Moisture 21.4 0.050 0 0 0 22.25 3.89 20

DUP		Sample ID: <b>1612970-03B DUP</b>				Units: % of sample			Analysis Date: <b>12/16/2016 04:31 PM</b>		
Client ID:		Run ID: <b>MOIST_161216C</b>				SeqNo: <b>4208449</b>		Prep Date:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Moisture 17.27 0.050 0 0 0 17.89 3.53 20

The following samples were analyzed in this batch: 1701243-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Terra Energy Partners, LLC  
**Work Order:** 1701243  
**Project:** PA 41-31-695 Landfarm

## QC BATCH REPORT

Batch ID: **R204034**      Instrument ID **WETCHEM**      Method: **SW1010A**

<b>LCS</b>		Sample ID: <b>LCS-R204034-R204034</b>				Units: °F		Analysis Date: <b>1/11/2017 10:00 AM</b>		
Client ID:		Run ID: <b>WETCHEM_170111P</b>		SeqNo: <b>4240820</b>		Prep Date:		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Flashpoint/Ignitability	81	0	81	0	100	97-103	0			

<b>DUP</b>		Sample ID: <b>1701126-17A DUP</b>				Units: °F		Analysis Date: <b>1/11/2017 10:00 AM</b>		
Client ID:		Run ID: <b>WETCHEM_170111P</b>		SeqNo: <b>4240826</b>		Prep Date:		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Flashpoint/Ignitability	ND	0	0	0	0	0-0	0	0	0	10

**The following samples were analyzed in this batch:**      1701243-01A

**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.



WORKORDER

1612971

PROJECT NAME <b>PA 41-31-695</b>		SAMPLER <b>M. GARDNER</b>		DATE <b>12-15-16</b>		PAGE <b>1 of 1</b>	
PROJECTING <b>Land Farm</b>		SITE ID <b>PA 41-31-695</b>		TURNOVER <b>Standard</b>		DISPOSAL By Lab or Return to Client	
COMPANY NAME <b>TEP Rocky Mtn LLC</b>		BILL TO COMPANY <b>TEP Rocky Mtn LLC</b>		INVOICE ATTEND <b>Mike Gardner</b>			
SEND REPORT TO <b>Mike Gardner</b>		ADDRESS <b>1058 Co Rd 215</b>		CITY/STATE/ZIP <b>Parachute CO 81635</b>			
PHONE <b>970-823-4878</b>		PHONE <b>970-823-4878</b>		FAX			
EMAIL <b>mgardner@terraesp.com</b>		EMAIL <b>mgardner@terraesp.com</b>		FAX			
Lab ID	FRIDID	Matrix	Sample Date	Sample Time	Boules	Pres	QC
<b>1</b>	<b>PA 41-31-695</b>	<b>Soil</b>	<b>12-15-16</b>	<b>15:30</b>	<b>Z</b>		
	<b>Land Farm</b>						

COGCC Table 810-1  
 Paint Filter  
 Ignitability  
 Hexane  
 Methanol  
 CL 16/17

\*Time Zone (Circle): EST CST MST PST Matrix O=oil S=soil NS=non-soil solid W=water L=liquid E=extract F=filter

For metals or anions, please detail analysis below.

Comments:  <b>SR2 3.4%</b> 	QC PACKAGE (Check below)	
	<input checked="" type="checkbox"/>	LEVEL II (Standard QC)
	<input type="checkbox"/>	LEVEL III (Std QC + Ions)
	<input type="checkbox"/>	LEVEL IV (Std QC + Ions + new checks)
Preservative Key: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-NaHSO4 7-Other 8-4 degrees C 9-5035		

SIGNATURE	PRINTED NAME	DATE	TIME
	Mike Gardner	12/15/16	
	N. Mark	12-15-16	1800
	N.M.	12-15-16	1800
	Keith Weber	12/16/16	1115

ORIGIN ID: FHLA (616) 298-1033  
NICK MARTINEZ  
ALS ENVIRONMENTAL PARACHUTE  
PARACHUTE SERVICE CENTER  
127 EAST 187 ST  
PARACHUTE, CO 81635  
UNITED STATES US

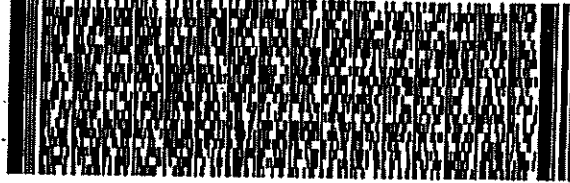
SHIP DATE: 15DEC18  
ACTWGT: 60.00 LB  
CAD: 22648400NET3790  
DIMS: 24x15x15 IN  
BILL SENDER

TO SAMPLE RECEIVING  
ALS ENVIRONMENTAL HOLLAND LAB  
3352 128TH AVE

64JUDZ711EB

HOLLAND MI 49424  
(616) 399-8070 REF: 121516-2  
NW DEPT:  
PO: PARACHUTE

ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED



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Express



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378346

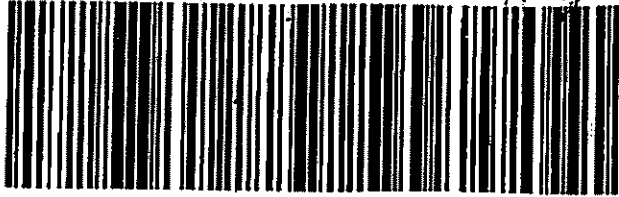
FRI - 16 DEC 10:30A  
PRIORITY OVERNIGHT

2 of 3  
MPBM 0293 7779 6920 0562  
Mstr# 7779 6920 0286

0201

XX HLMA

49424  
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**ALS Environmental**  
3352 128th Avenue  
Holland, Michigan 49424  
Tel. +1 616 399 8070  
Fax. +1 616 399 8185

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**CUSTODY SEAL**

Date: 12/15/18  
 (Name) [Signature]  
 (Company) [Signature]

(User) to print By: [Signature]

Sample Receipt Checklist

Client Name: **TERRAENERGY**

Date/Time Received: **16-Dec-16 00:00**

Work Order: **1701243**

Received by: **KRW**

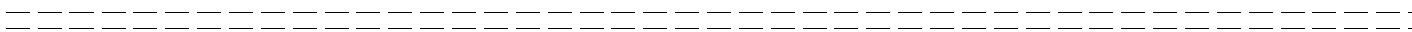
Checklist completed by Chad Whelton 06-Jan-17  
eSignature Date

Reviewed by: Chad Whelton 06-Jan-17  
eSignature Date

Matrices: Soil  
 Carrier name: FedEx

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>3.4/3.4 C</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u> </u>		
Date/Time sample(s) sent to storage:	<u>12/16/2016 2:01:53 PM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted by:	<u> </u>		

Login Notes:



Client Contacted: \_\_\_\_\_ Date Contacted: \_\_\_\_\_ Person Contacted: \_\_\_\_\_  
 Contacted By: \_\_\_\_\_ Regarding: \_\_\_\_\_

Comments:

CorrectiveAction: