



07-Oct-2016

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

Re: **PA 14-32 Excavation**

Work Order: **1610102**

Dear Mike,

ALS Environmental received 1 sample on 04-Oct-2016 09:30 AM 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 NELAP standard requirements and QC 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 26.

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".

Electronically approved by: Chad Whelton

Chad Whelton  
Project Manager



Certificate No: MN 998501

## Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

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Environmental ALS Environmental logo icon.

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**Client:** Terra Energy Partners, LLC  
**Project:** PA 14-32 Excavation  
**Work Order:** 1610102

**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>
1610102-01	PA 14-32 Excavation	Soil		10/3/2016 14:00	10/4/2016 09:30	<input type="checkbox"/>

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**Client:** Terra Energy Partners, LLC

**Project:** PA 14-32 Excavation

**Work Order:** 1610102

**Case Narrative**

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Batch 92374, Method ICP\_6020\_S, Sample 1610102-01A: The metals reporting limits are elevated due to dilution for high concentrations of non-target analytes.

Batch 92384, Method CR6\_7196\_S, Sample 1610102-01A MS/MSD: The MS and MSD recovery was below the lower control limit for Hexavalent Chromium. The corresponding result in the parent sample may be biased low.

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
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
n	Not offered for accreditation
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
mg/Kg-dry	Milligrams per Kilogram Dry Weight
mg/L	Milligrams per Liter
mmhos/cm @25°C	Millimhos-Centimeter at 25 Degrees Celcius
none	
s.u.	Standard Units

**ALS Group USA, Corp**

Date: 07-Oct-16

**Client:** Terra Energy Partners, LLC  
**Project:** PA 14-32 Excavation  
**Sample ID:** PA 14-32 Excavation  
**Collection Date:** 10/3/2016 02:00 PM

**Work Order:** 1610102  
**Lab ID:** 1610102-01  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>			<b>SW8015M</b>		Prep: SW3546 / 10/4/16	Analyst: <b>IT</b>
<b>DRO (C10-C28)</b>	<b>45</b>		<b>9.4</b>	<b>mg/Kg-dry</b>	1	10/5/2016 07:46 PM
<i>Surr: 4-Terphenyl-d14</i>	<i>61.4</i>		<i>39-133</i>	<i>%REC</i>	1	10/5/2016 07:46 PM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>			<b>SW8015D</b>		Prep: SW5035 / 10/4/16	Analyst: <b>IT</b>
<b>GRO (C6-C10)</b>	<b>ND</b>		<b>3.5</b>	<b>mg/Kg-dry</b>	1	10/5/2016 04:11 PM
<i>Surr: Toluene-d8</i>	<i>96.6</i>		<i>50-150</i>	<i>%REC</i>	1	10/5/2016 04:11 PM
<b>MERCURY BY CVAA</b>			<b>SW7471B</b>		Prep: SW7471 / 10/5/16	Analyst: <b>LR</b>
<b>Mercury</b>	<b>0.025</b>		<b>0.016</b>	<b>mg/Kg-dry</b>	1	10/5/2016 04:46 PM
<b>SOLUBLE CATIONS FOR SAR</b>			<b>SW846 6010C</b>		Prep: USDA Method 20B / 10/6/16	Analyst: <b>JEC</b>
<b>Calcium</b>	<b>69</b>		<b>5.0</b>	<b>mg/L</b>	10	10/7/2016 02:41 PM
<b>Magnesium</b>	<b>29</b>		<b>2.0</b>	<b>mg/L</b>	10	10/7/2016 02:41 PM
<b>Sodium</b>	<b>220</b>		<b>2.0</b>	<b>mg/L</b>	10	10/7/2016 02:41 PM
<b>SODIUM ADSORPTION RATIO</b>			<b>USDA H60 METHO</b>		Prep: USDA Method 20B / 10/6/16	Analyst: <b>JEC</b>
<b>Sodium Adsorption Ratio</b>	<b>5.7</b>		<b>0.010</b>	<b>none</b>	1	10/7/2016
<b>METALS BY ICP-MS</b>			<b>SW6020A</b>		Prep: SW3050B / 10/4/16	Analyst: <b>ML</b>
<b>Arsenic</b>	<b>9.7</b>		<b>1.9</b>	<b>mg/Kg-dry</b>	4	10/5/2016 09:27 AM
<b>Barium</b>	<b>230</b>		<b>1.9</b>	<b>mg/Kg-dry</b>	4	10/5/2016 09:27 AM
<b>Cadmium</b>	<b>ND</b>		<b>0.75</b>	<b>mg/Kg-dry</b>	4	10/5/2016 07:53 PM
<b>Chromium</b>	<b>9.6</b>		<b>1.9</b>	<b>mg/Kg-dry</b>	4	10/5/2016 09:27 AM
<b>Copper</b>	<b>13</b>		<b>1.9</b>	<b>mg/Kg-dry</b>	4	10/5/2016 09:27 AM
<b>Lead</b>	<b>13</b>		<b>1.9</b>	<b>mg/Kg-dry</b>	4	10/5/2016 09:27 AM
<b>Nickel</b>	<b>16</b>		<b>1.9</b>	<b>mg/Kg-dry</b>	4	10/5/2016 09:27 AM
<b>Selenium</b>	<b>ND</b>		<b>1.9</b>	<b>mg/Kg-dry</b>	4	10/5/2016 09:27 AM
<b>Silver</b>	<b>ND</b>		<b>1.9</b>	<b>mg/Kg-dry</b>	4	10/6/2016 11:32 AM
<b>Zinc</b>	<b>57</b>		<b>3.7</b>	<b>mg/Kg-dry</b>	4	10/5/2016 09:27 AM
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>			<b>SW846 8270D</b>		Prep: SW3546 / 10/4/16	Analyst: <b>RS</b>
<b>Acenaphthene</b>	<b>ND</b>		<b>0.0075</b>	<b>mg/Kg-dry</b>	1	10/5/2016 09:59 AM
<b>Anthracene</b>	<b>ND</b>		<b>0.0075</b>	<b>mg/Kg-dry</b>	1	10/5/2016 09:59 AM
<b>Benzo(a)anthracene</b>	<b>ND</b>		<b>0.0075</b>	<b>mg/Kg-dry</b>	1	10/5/2016 09:59 AM
<b>Benzo(a)pyrene</b>	<b>ND</b>		<b>0.0075</b>	<b>mg/Kg-dry</b>	1	10/5/2016 09:59 AM
<b>Benzo(b)fluoranthene</b>	<b>ND</b>		<b>0.0075</b>	<b>mg/Kg-dry</b>	1	10/5/2016 09:59 AM
<b>Benzo(k)fluoranthene</b>	<b>ND</b>		<b>0.0075</b>	<b>mg/Kg-dry</b>	1	10/5/2016 09:59 AM
<b>Chrysene</b>	<b>ND</b>		<b>0.0075</b>	<b>mg/Kg-dry</b>	1	10/5/2016 09:59 AM
<b>Dibenzo(a,h)anthracene</b>	<b>ND</b>		<b>0.0075</b>	<b>mg/Kg-dry</b>	1	10/5/2016 09:59 AM
<b>Fluoranthene</b>	<b>ND</b>		<b>0.0075</b>	<b>mg/Kg-dry</b>	1	10/5/2016 09:59 AM

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

# ALS Group USA, Corp

Date: 07-Oct-16

**Client:** Terra Energy Partners, LLC  
**Project:** PA 14-32 Excavation  
**Sample ID:** PA 14-32 Excavation  
**Collection Date:** 10/3/2016 02:00 PM

**Work Order:** 1610102  
**Lab ID:** 1610102-01  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		0.0075	mg/Kg-dry	1	10/5/2016 09:59 AM
Indeno(1,2,3-cd)pyrene	ND		0.0075	mg/Kg-dry	1	10/5/2016 09:59 AM
Naphthalene	ND		0.0075	mg/Kg-dry	1	10/5/2016 09:59 AM
Pyrene	ND		0.0075	mg/Kg-dry	1	10/5/2016 09:59 AM
Surr: 2-Fluorobiphenyl	81.2		12-100	%REC	1	10/5/2016 09:59 AM
Surr: 4-Terphenyl-d14	85.5		25-137	%REC	1	10/5/2016 09:59 AM
Surr: Nitrobenzene-d5	76.1		37-107	%REC	1	10/5/2016 09:59 AM
<b>VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8260B</b>		Prep: SW5035 / 10/4/16	Analyst: <b>BG</b>
Benzene	ND		0.041	mg/Kg-dry	1	10/5/2016 11:50 AM
Ethylbenzene	ND		0.041	mg/Kg-dry	1	10/5/2016 11:50 AM
<b>m,p-Xylene</b>	<b>0.25</b>		<b>0.083</b>	<b>mg/Kg-dry</b>	1	10/5/2016 11:50 AM
<b>o-Xylene</b>	<b>0.048</b>		<b>0.041</b>	<b>mg/Kg-dry</b>	1	10/5/2016 11:50 AM
Toluene	ND		0.041	mg/Kg-dry	1	10/5/2016 11:50 AM
<b>Xylenes, Total</b>	<b>0.30</b>		<b>0.12</b>	<b>mg/Kg-dry</b>	1	10/5/2016 11:50 AM
Surr: 1,2-Dichloroethane-d4	94.7		70-130	%REC	1	10/5/2016 11:50 AM
Surr: 4-Bromofluorobenzene	103		70-130	%REC	1	10/5/2016 11:50 AM
Surr: Dibromofluoromethane	89.8		70-130	%REC	1	10/5/2016 11:50 AM
Surr: Toluene-d8	91.8		70-130	%REC	1	10/5/2016 11:50 AM
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			<b>USDA H60 METHO</b>		Prep: USDA Method 20B / 10/6/16	Analyst: <b>JB</b>
<b>Electrical Conductivity @ Saturation</b>	<b>1.9</b>		<b>0.25</b>	<b>mmhos/cm @2</b>	50	10/7/2016 12:00 PM
<b>CHROMIUM, TRIVALENT</b>			<b>CALCULATION</b>			Analyst: <b>JJG</b>
<b>Chromium, Trivalent</b>	<b>9.6</b>		<b>0.59</b>	<b>mg/Kg-dry</b>	1	10/6/2016 08:25 AM
<b>CHROMIUM, HEXAVALENT</b>			<b>SW7196A</b>		Prep: SW3060A / 10/4/16	Analyst: <b>MB</b>
<b>Chromium, Hexavalent</b>	ND		1.2	mg/Kg-dry	1	10/5/2016 03:00 PM
<b>MOISTURE</b>			<b>SW3550C</b>			Analyst: <b>EDL</b>
<b>Moisture</b>	<b>16</b>		<b>0.050</b>	<b>% of sample</b>	1	10/4/2016 12:48 PM
<b>PH</b>			<b>SW9045D</b>		Prep: EXTRACT / 10/4/16	Analyst: <b>JB</b>
<b>pH</b>	<b>7.9</b>			<b>s.u.</b>	1	10/4/2016 03:30 PM

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

**Client:** Terra Energy Partners, LLC  
**Work Order:** 1610102  
**Project:** PA 14-32 Excavation

**QC BATCH REPORT**

Batch ID: **92367** Instrument ID **GC8** Method: **SW8015M**

MBLK		Sample ID: <b>DBLKS1-92367-92367</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/5/2016 10:29 AM</b>		
Client ID:		Run ID: <b>GC8_161005A</b>		SeqNo: <b>4068243</b>		Prep Date: <b>10/4/2016</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	ND	8.3								
<i>Surr: 4-Terphenyl-d14</i>	2.521	0	3.333	0	75.6	39-133	0			

LCS		Sample ID: <b>DLCSS1-92367-92367</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/5/2016 10:59 AM</b>		
Client ID:		Run ID: <b>GC8_161005A</b>		SeqNo: <b>4068244</b>		Prep Date: <b>10/4/2016</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	295.1	8.3	333.3	0	88.5	61-109	0			
<i>Surr: 4-Terphenyl-d14</i>	2.031	0	3.333	0	60.9	39-133	0			

MS		Sample ID: <b>16091840-09C MS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/5/2016 11:29 AM</b>		
Client ID:		Run ID: <b>GC8_161005A</b>		SeqNo: <b>4068245</b>		Prep Date: <b>10/4/2016</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	269.1	8.0	318.3	8.726	81.8	48-110	0			
<i>Surr: 4-Terphenyl-d14</i>	1.785	0	3.183	0	56.1	39-133	0			

MSD		Sample ID: <b>16091840-09C MSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/5/2016 11:58 AM</b>		
Client ID:		Run ID: <b>GC8_161005A</b>		SeqNo: <b>4068246</b>		Prep Date: <b>10/4/2016</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	288.3	7.9	316.2	8.726	88.4	48-110	269.1	6.92	30	
<i>Surr: 4-Terphenyl-d14</i>	1.92	0	3.162	0	60.7	39-133	1.785	7.27	30	

The following samples were analyzed in this batch:

Client: Terra Energy Partners, LLC  
 Work Order: 1610102  
 Project: PA 14-32 Excavation

# QC BATCH REPORT

Batch ID: 92341 Instrument ID GC9 Method: SW8015D

MBLK		Sample ID: MBLK-92341-92341				Units: µg/Kg-dry		Analysis Date: 10/4/2016 03:21 PM		
Client ID:		Run ID: GC9_161004A		SeqNo: 4064969		Prep Date: 10/4/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	ND	2,500								
Surr: Toluene-d8	4596	0	5000	0	91.9	50-150	0			

LCS		Sample ID: LCS-92341-92341				Units: µg/Kg-dry		Analysis Date: 10/4/2016 02:56 PM		
Client ID:		Run ID: GC9_161004A		SeqNo: 4064968		Prep Date: 10/4/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	455000	2,500	500000	0	91	70-130	0			
Surr: Toluene-d8	5384	0	5000	0	108	50-150	0			

MS		Sample ID: 1610098-02A MS				Units: µg/Kg-dry		Analysis Date: 10/4/2016 06:15 PM		
Client ID:		Run ID: GC9_161004A		SeqNo: 4067076		Prep Date: 10/4/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	809100	4,200	833300	0	97.1	70-130	0			
Surr: Toluene-d8	9102	0	8333	0	109	50-150	0			

MSD		Sample ID: 1610098-02A MSD				Units: µg/Kg-dry		Analysis Date: 10/4/2016 06:40 PM		
Client ID:		Run ID: GC9_161004A		SeqNo: 4067077		Prep Date: 10/4/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	825300	4,200	833300	0	99	70-130	809100	1.98	30	
Surr: Toluene-d8	9143	0	8333	0	110	50-150	9102	0.457	30	

The following samples were analyzed in this batch:

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

Client: Terra Energy Partners, LLC  
 Work Order: 1610102  
 Project: PA 14-32 Excavation

# QC BATCH REPORT

Batch ID: **92407** Instrument ID **HG1** Method: **SW7471B**

<b>MBLK</b>	Sample ID: <b>MBLK-92407-92407</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/5/2016 04:05 PM</b>			
Client ID:	Run ID: <b>HG1_161005B</b>			SeqNo: <b>4068267</b>		Prep Date: <b>10/5/2016</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury ND 0.020

<b>LCS</b>	Sample ID: <b>LCS-92407-92407</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/5/2016 04:08 PM</b>			
Client ID:	Run ID: <b>HG1_161005B</b>			SeqNo: <b>4068268</b>		Prep Date: <b>10/5/2016</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1817 0.020 0.1665 0 109 80-120 0

<b>MS</b>	Sample ID: <b>16091840-01CMS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/5/2016 04:13 PM</b>			
Client ID:	Run ID: <b>HG1_161005B</b>			SeqNo: <b>4068270</b>		Prep Date: <b>10/5/2016</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1246 0.012 0.1037 0.009803 111 75-125 0

<b>MSD</b>	Sample ID: <b>16091840-01CMSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/5/2016 04:16 PM</b>			
Client ID:	Run ID: <b>HG1_161005B</b>			SeqNo: <b>4068271</b>		Prep Date: <b>10/5/2016</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.124 0.012 0.1036 0.009803 110 75-125 0.1246 0.521 35

The following samples were analyzed in this batch: 1610102-01A

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

**Client:** Terra Energy Partners, LLC  
**Work Order:** 1610102  
**Project:** PA 14-32 Excavation

## QC BATCH REPORT

Batch ID: **92492**      Instrument ID **ICP2**      Method: **SW846 6010C**

DUP		Sample ID: <b>1610100-06BDUP</b>				Units: <b>mg/L</b>		Analysis Date: <b>10/7/2016 02:36 PM</b>		
Client ID:		Run ID: <b>ICP2_161007A</b>			SeqNo: <b>4073140</b>		Prep Date: <b>10/6/2016</b>		DF: <b>10</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	70.92	5.0	0	0	0	0-0	107.2	40.8		
Magnesium	9.579	2.0	0	0	0	0-0	14.3	39.6		
Sodium	5.895	2.0	0	0	0	0-0	9.585	47.7		

DUP		Sample ID: <b>1610100-06BDUP</b>				Units: <b>none</b>		Analysis Date: <b>10/7/2016</b>		
Client ID:		Run ID: <b>SAR_161007A</b>			SeqNo: <b>4073190</b>		Prep Date: <b>10/6/2016</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	0.1743	0.010	0	0	0		0.2308	27.9	50	

**The following samples were analyzed in this batch:**      | 1610102-01A      |

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

Client: Terra Energy Partners, LLC  
 Work Order: 1610102  
 Project: PA 14-32 Excavation

# QC BATCH REPORT

Batch ID: **92374** Instrument ID **ICPMS1** Method: **SW6020A**

MBLK		Sample ID: <b>MBLK-92374-92374</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/5/2016 06:04 AM</b>		
Client ID:		Run ID: <b>ICPMS1_161004A</b>			SeqNo: <b>4066609</b>		Prep Date: <b>10/4/2016</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.25								
Barium	ND	0.25								
Chromium	0.02815	0.25								J
Copper	ND	0.25								
Lead	0.006655	0.25								J
Nickel	ND	0.25								
Selenium	ND	0.25								
Silver	ND	0.25								
Zinc	ND	0.50								

MBLK		Sample ID: <b>MBLK-92374-92374</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/5/2016 06:10 PM</b>		
Client ID:		Run ID: <b>ICPMS1_161005A</b>			SeqNo: <b>4068583</b>		Prep Date: <b>10/4/2016</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cadmium	ND	0.10								

LCS		Sample ID: <b>LCS-92374-92374</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/5/2016 06:29 AM</b>		
Client ID:		Run ID: <b>ICPMS1_161004A</b>			SeqNo: <b>4066613</b>		Prep Date: <b>10/4/2016</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.499	0.25	5	0	90	80-120	0			
Barium	4.48	0.25	5	0	89.6	80-120	0			
Chromium	4.518	0.25	5	0	90.4	80-120	0			
Copper	4.448	0.25	5	0	89	80-120	0			
Lead	4.415	0.25	5	0	88.3	80-120	0			
Nickel	4.478	0.25	5	0	89.6	80-120	0			
Zinc	4.412	0.50	5	0	88.2	80-120	0			

LCS		Sample ID: <b>LCS-92374-92374</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/5/2016 06:16 PM</b>		
Client ID:		Run ID: <b>ICPMS1_161005A</b>			SeqNo: <b>4068584</b>		Prep Date: <b>10/4/2016</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cadmium	4.662	0.10	5	0	93.2	80-120	0			
Selenium	4.48	0.25	5	0	89.6	80-120	0			

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

Client: Terra Energy Partners, LLC  
 Work Order: 1610102  
 Project: PA 14-32 Excavation

# QC BATCH REPORT

Batch ID: 92374 Instrument ID ICPMS1 Method: SW6020A

MS		Sample ID: 1610029-06AMS				Units: mg/Kg		Analysis Date: 10/5/2016 06:47 AM		
Client ID:		Run ID: ICPMS1_161004A			SeqNo: 4066622		Prep Date: 10/4/2016		DF: 4	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	9.632	1.6	8.21	0.9696	106	75-125	0			
Barium	23.11	1.6	8.21	13.26	120	75-125	0			
Chromium	10.86	1.6	8.21	2.595	101	75-125	0			
Copper	9.757	1.6	8.21	1.34	103	75-125	0			
Lead	15.1	1.6	8.21	3.574	140	75-125	0			S
Nickel	9.773	1.6	8.21	1.506	101	75-125	0			
Zinc	20.4	3.3	8.21	7.164	161	75-125	0			S

MS		Sample ID: 1610029-06AMS				Units: mg/Kg		Analysis Date: 10/5/2016 06:28 PM		
Client ID:		Run ID: ICPMS1_161005A			SeqNo: 4068586		Prep Date: 10/4/2016		DF: 4	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cadmium	7.849	0.66	8.21	0.01265	95.4	75-125	0			
Selenium	7.658	1.6	8.21	0.1269	91.7	75-125	0			

MSD		Sample ID: 1610029-06AMSD				Units: mg/Kg		Analysis Date: 10/5/2016 06:53 AM		
Client ID:		Run ID: ICPMS1_161004A			SeqNo: 4066623		Prep Date: 10/4/2016		DF: 4	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	9.207	1.7	8.264	0.9696	99.7	75-125	9.632	4.52	20	
Barium	21.53	1.7	8.264	13.26	100	75-125	23.11	7.06	20	
Chromium	9.898	1.7	8.264	2.595	88.4	75-125	10.86	9.31	20	
Copper	9.583	1.7	8.264	1.34	99.7	75-125	9.757	1.79	20	
Lead	15.64	1.7	8.264	3.574	146	75-125	15.1	3.53	20	S
Nickel	10.13	1.7	8.264	1.506	104	75-125	9.773	3.54	20	
Zinc	18.96	3.3	8.264	7.164	143	75-125	20.4	7.31	20	S

MSD		Sample ID: 1610029-06AMSD				Units: mg/Kg		Analysis Date: 10/5/2016 06:34 PM		
Client ID:		Run ID: ICPMS1_161005A			SeqNo: 4068587		Prep Date: 10/4/2016		DF: 4	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cadmium	7.841	0.66	8.264	0.01265	94.7	75-125	7.849	0.097	20	
Selenium	7.511	1.7	8.264	0.1269	89.3	75-125	7.658	1.95	20	

The following samples were analyzed in this batch:

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

Client: Terra Energy Partners, LLC  
 Work Order: 1610102  
 Project: PA 14-32 Excavation

# QC BATCH REPORT

Batch ID: 92442 Instrument ID ICPMS1 Method: SW6020A

MBLK		Sample ID: MBLK-92442-92442				Units: mg/Kg		Analysis Date: 10/6/2016 06:18 AM		
Client ID:		Run ID: ICPMS1_161005A				SeqNo: 4068700		Prep Date: 10/5/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cadmium	ND	0.10								
Silver	ND	0.25								

LCS		Sample ID: LCS-92442-92442				Units: mg/Kg		Analysis Date: 10/6/2016 07:08 AM		
Client ID:		Run ID: ICPMS1_161005A				SeqNo: 4068706		Prep Date: 10/5/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cadmium	4.746	0.10	5	0	94.9	80-120	0			
Silver	4.701	0.25	5	0	94	80-120	0			

MS		Sample ID: 16091842-08BMS				Units: mg/Kg		Analysis Date: 10/6/2016 07:57 AM		
Client ID:		Run ID: ICPMS1_161005A				SeqNo: 4068714		Prep Date: 10/5/2016		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cadmium	13.2	1.5	7.278	13.61	-5.62	75-125	0			S
Silver	7.3	3.6	7.278	0.07836	99.2	75-125	0			

MSD		Sample ID: 16091842-08BMSD				Units: mg/Kg		Analysis Date: 10/6/2016 08:03 AM		
Client ID:		Run ID: ICPMS1_161005A				SeqNo: 4068715		Prep Date: 10/5/2016		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cadmium	17.18	1.5	7.267	13.61	49.1	75-125	13.2	26.2	20	SR
Silver	7.039	3.6	7.267	0.07836	95.8	75-125	7.3	3.63	20	

The following samples were analyzed in this batch: 1610102-01A

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

Client: Terra Energy Partners, LLC  
 Work Order: 1610102  
 Project: PA 14-32 Excavation

# QC BATCH REPORT

Batch ID: 92356 Instrument ID SVMS5 Method: SW846 8270D

MBLK		Sample ID: SBLKS1-92356-92356				Units: µg/Kg		Analysis Date: 10/4/2016 09:14 PM		
Client ID:		Run ID: SVMS5_161004A		SeqNo: 4067114		Prep Date: 10/4/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	ND	6.7								
Anthracene	ND	6.7								
Benzo(a)anthracene	ND	6.7								
Benzo(a)pyrene	ND	6.7								
Benzo(b)fluoranthene	ND	6.7								
Benzo(k)fluoranthene	ND	6.7								
Chrysene	ND	6.7								
Dibenzo(a,h)anthracene	ND	6.7								
Fluoranthene	ND	6.7								
Fluorene	ND	6.7								
Indeno(1,2,3-cd)pyrene	ND	6.7								
Naphthalene	ND	6.7								
Pyrene	ND	6.7								
Surr: 2-Fluorobiphenyl	2677	0	3333	0	80.3	12-100	0			
Surr: 4-Terphenyl-d14	2751	0	3333	0	82.5	25-137	0			
Surr: Nitrobenzene-d5	2422	0	3333	0	72.7	37-107	0			

LCS		Sample ID: SLCSS1-92356-92356				Units: µg/Kg		Analysis Date: 10/4/2016 09:37 PM		
Client ID:		Run ID: SVMS5_161004A		SeqNo: 4067115		Prep Date: 10/4/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1186	6.7	1333	0	89	45-110	0			
Anthracene	1181	6.7	1333	0	88.6	55-105	0			
Benzo(a)anthracene	1154	6.7	1333	0	86.6	50-110	0			
Benzo(a)pyrene	1128	6.7	1333	0	84.6	50-110	0			
Benzo(b)fluoranthene	1135	6.7	1333	0	85.1	45-115	0			
Benzo(k)fluoranthene	1144	6.7	1333	0	85.8	45-115	0			
Chrysene	1211	6.7	1333	0	90.8	55-110	0			
Dibenzo(a,h)anthracene	1130	6.7	1333	0	84.8	40-125	0			
Fluoranthene	1196	6.7	1333	0	89.7	55-115	0			
Fluorene	1169	6.7	1333	0	87.7	50-110	0			
Indeno(1,2,3-cd)pyrene	1128	6.7	1333	0	84.6	40-120	0			
Naphthalene	776.7	6.7	1333	0	58.3	40-105	0			
Pyrene	1186	6.7	1333	0	89	45-125	0			
Surr: 2-Fluorobiphenyl	2862	0	3333	0	85.9	12-100	0			
Surr: 4-Terphenyl-d14	2800	0	3333	0	84	25-137	0			
Surr: Nitrobenzene-d5	2528	0	3333	0	75.8	37-107	0			

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

Client: Terra Energy Partners, LLC  
 Work Order: 1610102  
 Project: PA 14-32 Excavation

# QC BATCH REPORT

Batch ID: 92356 Instrument ID SVMS5 Method: SW846 8270D

MS				Sample ID: 1610098-01B MS			Units: µg/Kg		Analysis Date: 10/5/2016 12:51 PM		
Client ID:				Run ID: SVMS5_161004A			SeqNo: 4067136		Prep Date: 10/4/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Acenaphthene	1057	6.5	1308	0	80.8	45-110	0				
Anthracene	1081	6.5	1308	0	82.6	55-105	0				
Benzo(a)anthracene	1011	6.5	1308	0	77.3	50-110	0				
Benzo(a)pyrene	1004	6.5	1308	0	76.8	50-110	0				
Benzo(b)fluoranthene	974.7	6.5	1308	0	74.5	45-115	0				
Benzo(k)fluoranthene	1009	6.5	1308	0	77.1	45-115	0				
Chrysene	1059	6.5	1308	0	81	55-110	0				
Dibenzo(a,h)anthracene	995	6.5	1308	0	76.1	40-125	0				
Fluoranthene	1079	6.5	1308	0	82.5	55-115	0				
Fluorene	1059	6.5	1308	0	81	50-110	0				
Indeno(1,2,3-cd)pyrene	1018	6.5	1308	0	77.8	40-120	0				
Naphthalene	726.2	6.5	1308	0	55.5	40-105	0				
Pyrene	1047	6.5	1308	0	80	45-125	0				
Surr: 2-Fluorobiphenyl	2577	0	3271	0	78.8	12-100	0				
Surr: 4-Terphenyl-d14	2502	0	3271	0	76.5	25-137	0				
Surr: Nitrobenzene-d5	2377	0	3271	0	72.7	37-107	0				

MSD				Sample ID: 1610098-01B MSD			Units: µg/Kg		Analysis Date: 10/5/2016 01:14 AM		
Client ID:				Run ID: SVMS5_161004A			SeqNo: 4067120		Prep Date: 10/4/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Acenaphthene	867.7	6.4	1270	0	68.3	45-110	1057	19.7	30		
Anthracene	920.4	6.4	1270	0	72.5	55-105	1081	16	30		
Benzo(a)anthracene	896.3	6.4	1270	0	70.6	50-110	1011	12.1	30		
Benzo(a)pyrene	884.8	6.4	1270	0	69.7	50-110	1004	12.6	30		
Benzo(b)fluoranthene	874	6.4	1270	0	68.8	45-115	974.7	10.9	30		
Benzo(k)fluoranthene	885.5	6.4	1270	0	69.7	45-115	1009	13	30		
Chrysene	926.1	6.4	1270	0	72.9	55-110	1059	13.4	30		
Dibenzo(a,h)anthracene	875.9	6.4	1270	0	69	40-125	995	12.7	30		
Fluoranthene	945.8	6.4	1270	0	74.5	55-115	1079	13.1	30		
Fluorene	879.1	6.4	1270	0	69.2	50-110	1059	18.6	30		
Indeno(1,2,3-cd)pyrene	929.9	6.4	1270	0	73.2	40-120	1018	9.03	30		
Naphthalene	613	6.4	1270	0	48.3	40-105	726.2	16.9	30		
Pyrene	942.6	6.4	1270	0	74.2	45-125	1047	10.5	30		
Surr: 2-Fluorobiphenyl	2134	0	3176	0	67.2	12-100	2577	18.8	40		
Surr: 4-Terphenyl-d14	2170	0	3176	0	68.3	25-137	2502	14.2	40		
Surr: Nitrobenzene-d5	2062	0	3176	0	64.9	37-107	2377	14.2	40		

The following samples were analyzed in this batch:

1610102-01A

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

Client: Terra Energy Partners, LLC

Work Order: 1610102

Project: PA 14-32 Excavation

# QC BATCH REPORT

Batch ID: 92362

Instrument ID VMS6

Method: SW8260B

MBLK		Sample ID: MBLK-92362-92362				Units: µg/Kg-dry		Analysis Date: 10/4/2016 03:19 PM		
Client ID:		Run ID: VMS6_161004A			SeqNo: 4065905		Prep Date: 10/4/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	ND	30								
Ethylbenzene	ND	30								
m,p-Xylene	ND	60								
o-Xylene	ND	30								
Toluene	ND	30								
Xylenes, Total	ND	90								
Surr: 1,2-Dichloroethane-d4	940.5	0	1000	0	94	70-130	0			
Surr: 4-Bromofluorobenzene	1022	0	1000	0	102	70-130	0			
Surr: Dibromofluoromethane	943	0	1000	0	94.3	70-130	0			
Surr: Toluene-d8	921.5	0	1000	0	92.2	70-130	0			

MBLK		Sample ID: MBLK-92362-92362				Units: µg/Kg-dry		Analysis Date: 10/5/2016 12:43 PM		
Client ID:		Run ID: VMS9_161005A			SeqNo: 4069175		Prep Date: 10/4/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	ND	30								
Ethylbenzene	ND	30								
m,p-Xylene	ND	60								
o-Xylene	ND	30								
Toluene	ND	30								
Xylenes, Total	ND	90								
Surr: 1,2-Dichloroethane-d4	1007	0	1000	0	101	70-130	0			
Surr: 4-Bromofluorobenzene	946.5	0	1000	0	94.6	70-130	0			
Surr: Dibromofluoromethane	969	0	1000	0	96.9	70-130	0			
Surr: Toluene-d8	981	0	1000	0	98.1	70-130	0			

LCS		Sample ID: LCS-92362-92362				Units: µg/Kg-dry		Analysis Date: 10/4/2016 02:01 PM		
Client ID:		Run ID: VMS6_161004A			SeqNo: 4065904		Prep Date: 10/4/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1038	30	1000	0	104	75-125	0			
Ethylbenzene	1020	30	1000	0	102	75-125	0			
m,p-Xylene	2053	60	2000	0	103	80-125	0			
o-Xylene	1002	30	1000	0	100	75-125	0			
Toluene	960	30	1000	0	96	70-125	0			
Xylenes, Total	3056	90	3000	0	102	75-125	0			
Surr: 1,2-Dichloroethane-d4	956	0	1000	0	95.6	70-130	0			
Surr: 4-Bromofluorobenzene	1048	0	1000	0	105	70-130	0			
Surr: Dibromofluoromethane	992	0	1000	0	99.2	70-130	0			
Surr: Toluene-d8	943.5	0	1000	0	94.4	70-130	0			

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

Client: Terra Energy Partners, LLC  
 Work Order: 1610102  
 Project: PA 14-32 Excavation

# QC BATCH REPORT

Batch ID: **92362** Instrument ID **VMS6** Method: **SW8260B**

LCS		Sample ID: <b>LCS-92362-92362</b>				Units: <b>µg/Kg-dry</b>		Analysis Date: <b>10/5/2016 11:28 AM</b>		
Client ID:		Run ID: <b>VMS9_161005A</b>			SeqNo: <b>4069174</b>		Prep Date: <b>10/4/2016</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1049	30	1000	0	105	75-125	0			
Ethylbenzene	985.5	30	1000	0	98.6	75-125	0			
m,p-Xylene	1998	60	2000	0	99.9	80-125	0			
o-Xylene	984.5	30	1000	0	98.4	75-125	0			
Toluene	1014	30	1000	0	101	70-125	0			
Xylenes, Total	2982	90	3000	0	99.4	75-125	0			
Surr: 1,2-Dichloroethane-d4	1021	0	1000	0	102	70-130	0			
Surr: 4-Bromofluorobenzene	989.5	0	1000	0	99	70-130	0			
Surr: Dibromofluoromethane	1051	0	1000	0	105	70-130	0			
Surr: Toluene-d8	998	0	1000	0	99.8	70-130	0			

MS		Sample ID: <b>1610098-02A MS</b>				Units: <b>µg/Kg-dry</b>		Analysis Date: <b>10/4/2016 07:59 PM</b>		
Client ID:		Run ID: <b>VMS9_161004A</b>			SeqNo: <b>4065366</b>		Prep Date: <b>10/4/2016</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1699	50	1667	0	102	75-125	0			
Ethylbenzene	1579	50	1667	0	94.8	75-125	0			
m,p-Xylene	3244	100	3333	0	97.3	80-125	0			
o-Xylene	1595	50	1667	0	95.7	75-125	0			
Toluene	1619	50	1667	0	97.2	70-125	0			
Xylenes, Total	4839	150	5000	0	96.8	75-125	0			
Surr: 1,2-Dichloroethane-d4	1751	0	1667	0	105	70-130	0			
Surr: 4-Bromofluorobenzene	1722	0	1667	0	103	70-130	0			
Surr: Dibromofluoromethane	1672	0	1667	0	100	70-130	0			
Surr: Toluene-d8	1647	0	1667	0	98.8	70-130	0			

MSD		Sample ID: <b>1610098-02A MSD</b>				Units: <b>µg/Kg-dry</b>		Analysis Date: <b>10/4/2016 08:24 PM</b>		
Client ID:		Run ID: <b>VMS9_161004A</b>			SeqNo: <b>4065367</b>		Prep Date: <b>10/4/2016</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1754	50	1667	0	105	75-125	1699	3.19	30	
Ethylbenzene	1664	50	1667	0	99.8	75-125	1579	5.24	30	
m,p-Xylene	3476	100	3333	0	104	80-125	3244	6.89	30	
o-Xylene	1673	50	1667	0	100	75-125	1595	4.79	30	
Toluene	1668	50	1667	0	100	70-125	1619	2.94	30	
Xylenes, Total	5149	150	5000	0	103	75-125	4839	6.21	30	
Surr: 1,2-Dichloroethane-d4	1750	0	1667	0	105	70-130	1751	0.0476	30	
Surr: 4-Bromofluorobenzene	1758	0	1667	0	105	70-130	1722	2.01	30	
Surr: Dibromofluoromethane	1706	0	1667	0	102	70-130	1672	1.97	30	
Surr: Toluene-d8	1662	0	1667	0	99.7	70-130	1647	0.907	30	

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

**Client:** Terra Energy Partners, LLC  
**Work Order:** 1610102  
**Project:** PA 14-32 Excavation

## QC BATCH REPORT

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Batch ID: **92362**      Instrument ID **VMS6**      Method: **SW8260B**

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**The following samples were analyzed in this batch:**

1610102-01A
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**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Terra Energy Partners, LLC  
**Work Order:** 1610102  
**Project:** PA 14-32 Excavation

## QC BATCH REPORT

Batch ID: **92370**      Instrument ID **WETCHEM**      Method: **SW9045D**

<b>LCS</b>		Sample ID: <b>LCS-92370-92370</b>				Units: <b>s.u.</b>		Analysis Date: <b>10/4/2016 03:30 PM</b>		
Client ID:		Run ID: <b>WETCHEM_161004K</b>		SeqNo: <b>4064876</b>		Prep Date: <b>10/4/2016</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	3.96	0	4	0	99	90-110	0			

<b>DUP</b>		Sample ID: <b>1610084-01A DUP</b>				Units: <b>s.u.</b>		Analysis Date: <b>10/4/2016 03:30 PM</b>		
Client ID:		Run ID: <b>WETCHEM_161004K</b>		SeqNo: <b>4064880</b>		Prep Date: <b>10/4/2016</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	6.78	0	0	0	0	0-0	7.16	5.45	20	

<b>DUP</b>		Sample ID: <b>1610098-01B DUP</b>				Units: <b>s.u.</b>		Analysis Date: <b>10/4/2016 03:30 PM</b>		
Client ID:		Run ID: <b>WETCHEM_161004K</b>		SeqNo: <b>4064882</b>		Prep Date: <b>10/4/2016</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	7.29	0	0	0	0	0-0	7.28	0.137	20	

**The following samples were analyzed in this batch:**      1610102-01A

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

Client: Terra Energy Partners, LLC  
 Work Order: 1610102  
 Project: PA 14-32 Excavation

# QC BATCH REPORT

Batch ID: **92384** Instrument ID **WETCHEM** Method: **SW7196A**

MBLK		Sample ID: <b>MBLK-92384-92384</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/5/2016 03:00 PM</b>		
Client ID:		Run ID: <b>WETCHEM_161005M</b>				SeqNo: <b>4068356</b>		Prep Date: <b>10/4/2016</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent ND 0.97

LCS		Sample ID: <b>LCS-92384-92384</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/5/2016 03:00 PM</b>		
Client ID:		Run ID: <b>WETCHEM_161005M</b>				SeqNo: <b>4068355</b>		Prep Date: <b>10/4/2016</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 4.725 0.98 4.902 0 96.4 80-120 0

MS		Sample ID: <b>16091677-07B MS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/5/2016 03:00 PM</b>		
Client ID:		Run ID: <b>WETCHEM_161005M</b>				SeqNo: <b>4068337</b>		Prep Date: <b>10/4/2016</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 4.725 0.98 4.902 0.08738 94.6 75-125 0

MS		Sample ID: <b>16091677-07B MSI</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/5/2016 03:00 PM</b>		
Client ID:		Run ID: <b>WETCHEM_161005M</b>				SeqNo: <b>4068339</b>		Prep Date: <b>10/4/2016</b>		DF: <b>100</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 2360 99 2374 0.08738 99.4 75-125 0

MS		Sample ID: <b>1610102-01A MS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/5/2016 03:00 PM</b>		
Client ID: <b>PA 14-32 Excavation</b>		Run ID: <b>WETCHEM_161005M</b>				SeqNo: <b>4068351</b>		Prep Date: <b>10/4/2016</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 3.2 1.0 5 0.2136 59.7 75-125 0 S

MS		Sample ID: <b>1610102-01A MSI</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/5/2016 03:00 PM</b>		
Client ID: <b>PA 14-32 Excavation</b>		Run ID: <b>WETCHEM_161005M</b>				SeqNo: <b>4068353</b>		Prep Date: <b>10/4/2016</b>		DF: <b>100</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 2863 95 2896 0.2136 98.8 75-125 0

MSD		Sample ID: <b>16091677-07B MSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/5/2016 03:00 PM</b>		
Client ID:		Run ID: <b>WETCHEM_161005M</b>				SeqNo: <b>4068338</b>		Prep Date: <b>10/4/2016</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 4.843 0.98 4.902 0.08738 97 75-125 4.725 2.46 20

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

**Client:** Terra Energy Partners, LLC  
**Work Order:** 1610102  
**Project:** PA 14-32 Excavation

# QC BATCH REPORT

Batch ID: **92384** Instrument ID **WETCHEM** Method: **SW7196A**

MSD		Sample ID: 1610102-01A MSD				Units: mg/Kg		Analysis Date: 10/5/2016 03:00 PM		
Client ID: PA 14-32 Excavation		Run ID: WETCHEM_161005M		SeqNo: 4068352		Prep Date: 10/4/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	3.33	1.0	5	0.2136	62.3	75-125	3.2	3.98	20	S

The following samples were analyzed in this batch:

1610102-01A

**Client:** Terra Energy Partners, LLC  
**Work Order:** 1610102  
**Project:** PA 14-32 Excavation

# QC BATCH REPORT

Batch ID: **92492**      Instrument ID **WETCHEM**      Method: **USDA H60 Metho**

<b>DUP</b>	Sample ID: <b>1610100-06B DUP</b>		Units: <b>mmhos/cm @25°</b>		Analysis Date: <b>10/7/2016 12:00 PM</b>					
Client ID:	Run ID: <b>WETCHEM_161007D</b>		SeqNo: <b>4072146</b>		Prep Date: <b>10/6/2016</b> DF: <b>50</b>					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	0.649	0.25	0	0	0		0.6495	0.077	50	

**The following samples were analyzed in this batch:**     

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

**Client:** Terra Energy Partners, LLC  
**Work Order:** 1610102  
**Project:** PA 14-32 Excavation

# QC BATCH REPORT

Batch ID: **R197351**      Instrument ID **MOIST**      Method: **SW3550C**

<b>MBLK</b>	Sample ID: <b>WBLKS-R197351</b>				Units: % of sample			Analysis Date: <b>10/4/2016 12:48 PM</b>		
Client ID:	Run ID: <b>MOIST_161004A</b>			SeqNo: <b>4066871</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

<b>LCS</b>	Sample ID: <b>LCS-R197351</b>				Units: % of sample			Analysis Date: <b>10/4/2016 12:48 PM</b>		
Client ID:	Run ID: <b>MOIST_161004A</b>			SeqNo: <b>4066870</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

<b>DUP</b>	Sample ID: <b>1610024-20A DUP</b>				Units: % of sample			Analysis Date: <b>10/4/2016 12:48 PM</b>		
Client ID:	Run ID: <b>MOIST_161004A</b>			SeqNo: <b>4066839</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                                      21.36      0.050                      0                      0      0                      20.99      1.75      20

<b>DUP</b>	Sample ID: <b>1610104-06A DUP</b>				Units: % of sample			Analysis Date: <b>10/4/2016 12:48 PM</b>		
Client ID:	Run ID: <b>MOIST_161004A</b>			SeqNo: <b>4066856</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                                      19.11      0.050                      0                      0      0                      16.6      14.1      20

The following samples were analyzed in this batch: 1610102-01A

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



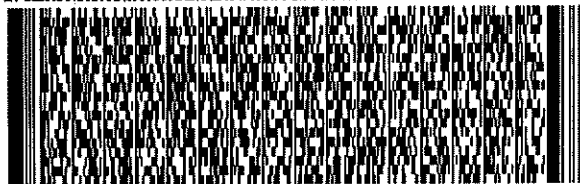
ORIGIN ID: RILA (616) 298-1033  
NICK MARTINEZ  
ALS ENVIRONMENTAL PARACHUTE  
PARACHUTE SERVICE CENTER  
127 EAST 1ST ST  
PARACHUTE, CO 81635  
UNITED STATES US

SHIP DATE: 03OCT16  
ACTWGT: 68.00 LB  
CAD: 2264840/NET3780  
DIMS: 14x28x15 IN  
BILL SENDER

TO SAMPLE RECEIVING  
ALS ENVIRONMENTAL HOLLAND LAB  
3352 128TH AVE

544J1FE2E74EB

HOLLAND MI 49424  
(616) 399-6070 REF: 100316-1  
KW DEPT.  
PO PARACHUTE



FedEx Express



REL# 3785346

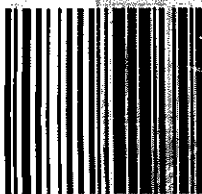
TUE - 04 OCT 10:30A  
PRIORITY OVERNIGHT

MPS# 2 of 2  
0283 7773 8140 9721  
Mstr# 7773 8141 0107

0201

49424  
CD

XX HLMA



ALS Environmental  
3352 128th Avenue  
Holland, Michigan 49424  
Tel. +1 616 399 6070  
Fax. +1 616 399 6185

CUSTODY SEAL  
Seal Broken By:  
Date: 10/3 Time: 10:30  
Date:

Attention: When using this label:  
1. Use the print button on the printer.  
2. Peel the label from the shipping container.  
3. Place the label on the shipping container.  
Warning: Use only for shipping purposes. This label is not to be used for any other purpose.  
Use of this label is limited to the current FedEx service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for loss, damage, delay, non-delivery, misdelivery or misrouting of any item, unless you find the current FedEx Service Guide.  
of sales, income into any other form, limited to the greater of \$100 per package, or the actual value of the package, loss or damage to the package, loss of contents, incidental, consequential, or special is not covered. Recovery cannot exceed actual documented loss. Maximum for items of value is \$100 per package. Written claim must be filed within 90 days of the date of shipment.

Use a laser or inkjet printer.  
Your shipment so that the barcode portion of the label can be read and scanned.  
shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in the cancellation of your FedEx account number.  
to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for loss, damage, delay, non-delivery, misdelivery or misrouting of any item, unless you find the current FedEx Service Guide.  
of sales, income into any other form, limited to the greater of \$100 per package, or the actual value of the package, loss or damage to the package, loss of contents, incidental, consequential, or special is not covered. Recovery cannot exceed actual documented loss. Maximum for items of value is \$100 per package. Written claim must be filed within 90 days of the date of shipment.

Sample Receipt Checklist

Client Name: **TERRAENERGY**

Date/Time Received: **04-Oct-16 09:30**

Work Order: **1610102**

Received by: **DS**

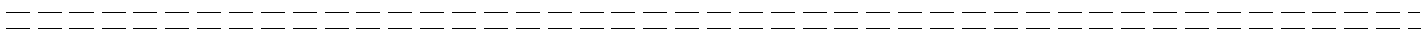
Checklist completed by Diane Shaw 04-Oct-16  
eSignature Date

Reviewed by: Chad Whilton 04-Oct-16  
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>3.0/3.0 c</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>10/4/2016 10:40:32 AM</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: