



10-Aug-2017

Kris Rowe
HRL Compliance Solutions, Inc
2385 F 1/2 Road
Grand Junction, CO 81505

Re: **Terra Energy - PA 21-2**

Work Order: **1708211**

Dear Kris,

ALS Environmental received 1 sample on 03-Aug-2017 09:15 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 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 22.

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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Client: HRL Compliance Solutions, Inc
Project: Terra Energy - PA 21-2
Work Order: 1708211

Work Order Sample Summary

<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>
1708211-01	Impacted Area	Soil		8/2/2017 09:05	8/3/2017 09:15	<input type="checkbox"/>

Client: HRL Compliance Solutions, Inc
Project: Terra Energy - PA 21-2
Work Order: 1708211

Case Narrative

Batch 105504, Method CR6_7196_S, Sample 1708211-01A 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.

Batch 105521, Method SVO_8270_S, Sample 1708211-01A MS: The MS recovery was above the upper control limit for Anthracene. However, the MSD recovery and the RPD between the MS and MSD were within control limits. No qualification is required.

Batch 105547, Method ICP_6010_S, Sample 1708211-01A MS/MSD: The MS and MSD recovery was outside of the control limit for Barium; however, the result in the parent sample is greater than 4x the spike amount. No qualification is required.

Batch R217473, Method MOISTURE, Sample 1708211-01A: RPD is outside of test defined limits for moisture. Results should be considered estimated.

Qualifier	Description
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-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
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.

Acronym	Description
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

Units Reported	Description
% of sample	Percent of Sample
mg/Kg	Milligrams per Kilogram
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

Date: 10-Aug-17

Client: HRL Compliance Solutions, Inc
Project: Terra Energy - PA 21-2
Sample ID: Impacted Area
Collection Date: 8/2/2017 09:05 AM

Work Order: 1708211
Lab ID: 1708211-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID							
			Method: SW8015M		Prep: SW3541 / 8/8/17		Analyst: KB
DRO (C10-C28)	56		3.0	5.2	mg/Kg-dry	1	8/9/2017 11:35
Surr: 4-Terphenyl-d14	62.0			35-85	%REC	1	8/9/2017 11:35
GASOLINE RANGE ORGANICS BY GC-FID							
			Method: SW8015D		Prep: SW5035 / 8/4/17		Analyst: KB
GRO (C6-C10)	U		2.3	5.5	mg/Kg	1	8/7/2017 20:20
Surr: Toluene-d8	100			71-123	%REC	1	8/7/2017 20:20
MERCURY BY CVAA							
			Method: SW7471B		Prep: SW7471 / 8/8/17		Analyst: RSB
Mercury	0.026		0.0030	0.018	mg/Kg-dry	1	8/8/2017 18:10
METALS ANALYSIS BY ICP							
			Method: SW846 6010C		Prep: SW3050B / 8/8/17		Analyst: RH
Arsenic	7.6		0.095	0.37	mg/Kg-dry	1	8/8/2017 20:54
Barium	4,000		1.5	3.7	mg/Kg-dry	10	8/10/2017 14:00
Cadmium	0.38	J	0.035	0.73	mg/Kg-dry	1	8/8/2017 20:54
Chromium	16		0.020	0.37	mg/Kg-dry	1	8/8/2017 20:54
Copper	15		0.16	0.73	mg/Kg-dry	1	8/8/2017 20:54
Lead	13		0.077	0.37	mg/Kg-dry	1	8/8/2017 20:54
Nickel	14		0.15	0.37	mg/Kg-dry	1	8/8/2017 20:54
Selenium	1.3		0.20	0.73	mg/Kg-dry	1	8/8/2017 20:54
Silver	U		0.045	0.37	mg/Kg-dry	1	8/8/2017 20:54
Zinc	50		0.058	0.73	mg/Kg-dry	1	8/8/2017 20:54
SOLUBLE CATIONS FOR SAR							
			Method: SW846 6010C		Prep: USDA Method 20B / 8/7/17		Analyst: RH
Calcium	2,200		0.15	5.0	mg/L	10	8/7/2017 18:45
Magnesium	340		0.13	2.0	mg/L	10	8/7/2017 18:45
Sodium	5,600		1.2	20	mg/L	100	8/8/2017 15:34
SODIUM ADSORPTION RATIO							
			Method: USDA H60 METHOD 2		Prep: USDA Method 20B / 8/7/17		Analyst: RH
Exchangeable Sodium Percentage	29		0.010	0.010	none	1	8/7/2017
Sodium Adsorption Ratio	29		0.010	0.010	none	1	8/7/2017
SEMI-VOLATILE ORGANIC COMPOUNDS							
			Method: SW846 8270D		Prep: SW3541 / 8/8/17		Analyst: RS
Acenaphthene	U		0.0051	0.0070	mg/Kg-dry	1	8/8/2017 20:12
Anthracene	0.025		0.0049	0.0070	mg/Kg-dry	1	8/8/2017 20:12
Benzo(a)anthracene	0.042		0.0060	0.0070	mg/Kg-dry	1	8/8/2017 20:12
Benzo(a)pyrene	0.10		0.0043	0.0070	mg/Kg-dry	1	8/8/2017 20:12
Benzo(b)fluoranthene	0.095		0.0052	0.0070	mg/Kg-dry	1	8/8/2017 20:12
Benzo(k)fluoranthene	0.030		0.0053	0.0070	mg/Kg-dry	1	8/8/2017 20:12
Chrysene	0.056		0.0056	0.0070	mg/Kg-dry	1	8/8/2017 20:12
Dibenzo(a,h)anthracene	0.023		0.0038	0.0070	mg/Kg-dry	1	8/8/2017 20:12

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

ALS Group, USA

Date: 10-Aug-17

Client: HRL Compliance Solutions, Inc
Project: Terra Energy - PA 21-2
Sample ID: Impacted Area
Collection Date: 8/2/2017 09:05 AM

Work Order: 1708211
Lab ID: 1708211-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Fluoranthene	0.20		0.0034	0.0070	mg/Kg-dry	1	8/8/2017 20:12
Fluorene	U		0.0051	0.0070	mg/Kg-dry	1	8/8/2017 20:12
Indeno(1,2,3-cd)pyrene	0.17		0.0049	0.0070	mg/Kg-dry	1	8/8/2017 20:12
Naphthalene	U		0.0045	0.0070	mg/Kg-dry	1	8/8/2017 20:12
Pyrene	0.46		0.0013	0.0070	mg/Kg-dry	1	8/8/2017 20:12
Surr: 2-Fluorobiphenyl	84.3			44-107	%REC	1	8/8/2017 20:12
Surr: 4-Terphenyl-d14	88.0			52-123	%REC	1	8/8/2017 20:12
Surr: Nitrobenzene-d5	72.8			41-94	%REC	1	8/8/2017 20:12
VOLATILE ORGANIC COMPOUNDS			Method: SW8260B		Prep: SW5035 / 8/4/17		Analyst: WH
Benzene	U		0.0057	0.033	mg/Kg	1	8/8/2017 04:30
Ethylbenzene	0.023	J	0.0070	0.033	mg/Kg	1	8/8/2017 04:30
m,p-Xylene	0.069		0.016	0.066	mg/Kg	1	8/8/2017 04:30
o-Xylene	U		0.013	0.033	mg/Kg	1	8/8/2017 04:30
Toluene	U		0.0091	0.033	mg/Kg	1	8/8/2017 04:30
Xylenes, Total	0.069	J	0.029	0.10	mg/Kg	1	8/8/2017 04:30
Surr: 1,2-Dichloroethane-d4	96.8			70-130	%REC	1	8/8/2017 04:30
Surr: 4-Bromofluorobenzene	99.2			70-130	%REC	1	8/8/2017 04:30
Surr: Dibromofluoromethane	93.0			70-130	%REC	1	8/8/2017 04:30
Surr: Toluene-d8	99.3			70-130	%REC	1	8/8/2017 04:30
ELECTRICAL CONDUCTIVITY (SAR)			Method: USDA H60 METHOD 2		Prep: USDA Method 20B / 8/7/17		Analyst: JB
Electrical Conductivity @ Saturation	44		0.028	0.25	mmhos/cm @25°	50	8/8/2017 09:30
CHROMIUM, TRIVALENT			Method: CALCULATION				Analyst: JB
Chromium, Trivalent	16		0.33	1.1	mg/Kg-dry	1	8/9/2017 16:30
CHROMIUM, HEXAVALENT			Method: SW7196A		Prep: SW3060A / 8/7/17		Analyst: LW
Chromium, Hexavalent	U		0.33	1.1	mg/Kg-dry	1	8/8/2017 13:00
MOISTURE			Method: SW3550C				Analyst: SBR
Moisture	5.1		0.025	0.050	% of sample	1	8/8/2017 16:56
PH			Method: SW9045D		Prep: EXTRACT / 8/4/17		Analyst: JB
pH	7.72		0.10	0.100	s.u.	1	8/4/2017 12:00

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

Client: HRL Compliance Solutions, Inc
Work Order: 1708211
Project: Terra Energy - PA 21-2

QC BATCH REPORT

Batch ID: **105522** Instrument ID **GC8** Method: **SW8015M**

MBLK		Sample ID: DBLKS1-105522-105522				Units: mg/Kg		Analysis Date: 8/9/2017 09:10 AM		
Client ID:		Run ID: GC8_170809B		SeqNo: 4574382		Prep Date: 8/8/2017		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	U	5.0								
<i>Surr: 4-Terphenyl-d14</i>	2.241	0	3.33	0	67.3	35-85	0			

LCS		Sample ID: DLCSS1-105522-105522				Units: mg/Kg		Analysis Date: 8/9/2017 09:39 AM		
Client ID:		Run ID: GC8_170809B		SeqNo: 4574383		Prep Date: 8/8/2017		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	277.9	5.0	333	0	83.4	58-111	0			
<i>Surr: 4-Terphenyl-d14</i>	2.077	0	3.33	0	62.4	35-85	0			

MS		Sample ID: 1708209-01B MS				Units: mg/Kg		Analysis Date: 8/9/2017 10:08 AM		
Client ID:		Run ID: GC8_170809B		SeqNo: 4574384		Prep Date: 8/8/2017		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	291.9	4.9	329.4	34.62	78.1	58-111	0			
<i>Surr: 4-Terphenyl-d14</i>	2.068	0	3.294	0	62.8	35-85	0			

MSD		Sample ID: 1708209-01B MSD				Units: mg/Kg		Analysis Date: 8/9/2017 10:37 AM		
Client ID:		Run ID: GC8_170809B		SeqNo: 4574385		Prep Date: 8/8/2017		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	247.8	4.9	326.2	34.62	65.4	58-111	291.9	16.3	30	
<i>Surr: 4-Terphenyl-d14</i>	1.919	0	3.262	0	58.8	35-85	2.068	7.48	30	

The following samples were analyzed in this batch: 1708211-01A

Client: HRL Compliance Solutions, Inc
Work Order: 1708211
Project: Terra Energy - PA 21-2

QC BATCH REPORT

Batch ID: **105431** Instrument ID **GC9** Method: **SW8015D**

MBLK		Sample ID: MBLK-105431-105431				Units: µg/Kg-dry		Analysis Date: 8/7/2017 04:55 PM		
Client ID:		Run ID: GC9_170807B				SeqNo: 4571610		Prep Date: 8/4/2017		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	U	5,000								
<i>Surr: Toluene-d8</i>	5016	0	5000	0	100	71-123	0			

LCS		Sample ID: LCS-105431-105431				Units: µg/Kg-dry		Analysis Date: 8/8/2017 08:48 AM		
Client ID:		Run ID: GC9_170807B				SeqNo: 4571622		Prep Date: 8/4/2017		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	515100	5,000	500000	0	103	71-123	0			
<i>Surr: Toluene-d8</i>	4753	0	5000	0	95.1	71-123	0			

MS		Sample ID: 1708117-01A MS				Units: µg/Kg-dry		Analysis Date: 8/7/2017 05:24 PM		
Client ID:		Run ID: GC9_170807B				SeqNo: 4571611		Prep Date: 8/4/2017		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	1147000	8,900	888900	34940	125	71-123	0			S
<i>Surr: Toluene-d8</i>	9438	0	8889	0	106	71-123	0			

The following samples were analyzed in this batch: 1708211-01A

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

Client: HRL Compliance Solutions, Inc

Work Order: 1708211

Project: Terra Energy - PA 21-2

QC BATCH REPORT

Batch ID: **105488**

Instrument ID **SAR**

Method: **USDA H60 Metho**

DUP	Sample ID: 1708212-01BDUP		Units: none		Analysis Date: 8/7/2017					
Client ID:	Run ID: SAR_170807A		SeqNo: 4572354		Prep Date: 8/7/2017		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Exchangeable Sodium Percentage	1.332	0.010	0	0	0		1.405	5.33	50	
Sodium Adsorption Ratio	1.77	0.010	0	0	0		1.82	2.83	50	

The following samples were analyzed in this batch:

1708211-01B

Client: HRL Compliance Solutions, Inc
 Work Order: 1708211
 Project: Terra Energy - PA 21-2

QC BATCH REPORT

Batch ID: **105547** Instrument ID **ICP2** Method: **SW846 6010C**

MBLK		Sample ID: MBLK-105547-105547				Units: mg/Kg		Analysis Date: 8/8/2017 07:38 PM		
Client ID:		Run ID: ICP2_170808A			SeqNo: 4574093		Prep Date: 8/8/2017		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.25								
Barium	U	0.25								
Cadmium	0.04076	0.50								J
Chromium	0.02017	0.25								J
Copper	U	0.50								
Lead	U	0.25								
Nickel	U	0.25								
Selenium	U	0.50								
Silver	U	0.25								
Zinc	0.0664	0.50								J

LCS		Sample ID: LCS-105547-105547				Units: mg/Kg		Analysis Date: 8/8/2017 07:44 PM		
Client ID:		Run ID: ICP2_170808A			SeqNo: 4574094		Prep Date: 8/8/2017		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	5.06	0.25	5	0	101	80-120	0			
Barium	5.091	0.25	5	0	102	80-120	0			
Cadmium	5.058	0.50	5	0	101	80-120	0			
Chromium	5.492	0.25	5	0	110	80-120	0			
Copper	5.29	0.50	5	0	106	80-120	0			
Lead	5.362	0.25	5	0	107	80-120	0			
Nickel	5.219	0.25	5	0	104	80-120	0			
Selenium	4.614	0.50	5	0	92.3	80-120	0			
Silver	5.149	0.25	5	0	103	80-120	0			
Zinc	5.414	0.50	5	0	108	80-120	0			

MS		Sample ID: 1708211-01AMS				Units: mg/Kg		Analysis Date: 8/8/2017 09:15 PM		
Client ID: Impacted Area		Run ID: ICP2_170808A			SeqNo: 4574109		Prep Date: 8/8/2017		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	14.48	0.35	6.935	7.236	104	75-125	0			
Cadmium	7.884	0.69	6.935	0.3567	109	75-125	0			
Chromium	22.83	0.35	6.935	15.15	111	75-125	0			
Copper	22.1	0.69	6.935	14.1	115	75-125	0			
Lead	18.67	0.35	6.935	11.9	97.6	75-125	0			
Nickel	20.54	0.35	6.935	13.56	101	75-125	0			
Selenium	7.662	0.69	6.935	1.235	92.7	75-125	0			
Silver	7.177	0.35	6.935	-0.2182	107	75-125	0			
Zinc	54.08	0.69	6.935	47.21	99	75-125	0			O

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

Client: HRL Compliance Solutions, Inc
 Work Order: 1708211
 Project: Terra Energy - PA 21-2

QC BATCH REPORT

Batch ID: 105547 Instrument ID ICP2 Method: SW846 6010C

MS		Sample ID: 1708211-01AMS				Units: mg/Kg		Analysis Date: 8/10/2017 02:06 PM		
Client ID: Impacted Area		Run ID: ICP2_170810A			SeqNo: 4576584		Prep Date: 8/8/2017		DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	4212	3.5	6.935	3834	5450	75-125		0		SO

MSD		Sample ID: 1708211-01AMSD				Units: mg/Kg		Analysis Date: 8/8/2017 09:48 PM		
Client ID: Impacted Area		Run ID: ICP2_170808A			SeqNo: 4574131		Prep Date: 8/8/2017		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	14.6	0.35	6.944	7.236	106	75-125	14.48	0.86	20	
Cadmium	7.831	0.69	6.944	0.3567	108	75-125	7.884	0.672	20	
Chromium	22.89	0.35	6.944	15.15	111	75-125	22.83	0.282	20	
Copper	21.19	0.69	6.944	14.1	102	75-125	22.1	4.21	20	
Lead	18.84	0.35	6.944	11.9	99.8	75-125	18.67	0.881	20	
Nickel	21.66	0.35	6.944	13.56	117	75-125	20.54	5.34	20	
Selenium	7.925	0.69	6.944	1.235	96.3	75-125	7.662	3.37	20	
Silver	7.141	0.35	6.944	-0.2182	106	75-125	7.177	0.508	20	
Zinc	55.21	0.69	6.944	47.21	115	75-125	54.08	2.07	20	O

MSD		Sample ID: 1708211-01AMSD				Units: mg/Kg		Analysis Date: 8/10/2017 02:13 PM		
Client ID: Impacted Area		Run ID: ICP2_170810A			SeqNo: 4576585		Prep Date: 8/8/2017		DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	4220	3.5	6.944	3834	5560	75-125	4212	0.186	20	SO

The following samples were analyzed in this batch: 1708211-01A

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

Client: HRL Compliance Solutions, Inc
 Work Order: 1708211
 Project: Terra Energy - PA 21-2

QC BATCH REPORT

Batch ID: 105521 Instrument ID SVMS5 Method: SW846 8270D

MBLK		Sample ID: SBLKS1-105521-105521				Units: µg/Kg		Analysis Date: 8/8/2017 04:56 PM		
Client ID:		Run ID: SVMS5_170808A		SeqNo: 4573898		Prep Date: 8/8/2017		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	U	6.7								
Anthracene	U	6.7								
Benzo(a)anthracene	U	6.7								
Benzo(a)pyrene	U	6.7								
Benzo(b)fluoranthene	U	6.7								
Benzo(k)fluoranthene	U	6.7								
Chrysene	U	6.7								
Dibenzo(a,h)anthracene	U	6.7								
Fluoranthene	U	6.7								
Fluorene	U	6.7								
Indeno(1,2,3-cd)pyrene	U	6.7								
Naphthalene	U	6.7								
Pyrene	U	6.7								
Surr: 2-Fluorobiphenyl	2763	0	3333	0	82.9	44-107		0		
Surr: 4-Terphenyl-d14	3487	0	3333	0	105	52-123		0		
Surr: Nitrobenzene-d5	2500	0	3333	0	75	41-94		0		

LCS		Sample ID: SLCSS1-105521-105521				Units: µg/Kg		Analysis Date: 8/8/2017 05:19 PM		
Client ID:		Run ID: SVMS5_170808A		SeqNo: 4573899		Prep Date: 8/8/2017		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1225	6.7	1333	0	91.9	55-101		0		
Anthracene	1392	6.7	1333	0	104	67-105		0		
Benzo(a)anthracene	1353	6.7	1333	0	101	68-105		0		
Benzo(a)pyrene	1347	6.7	1333	0	101	68-110		0		
Benzo(b)fluoranthene	1249	6.7	1333	0	93.7	65-110		0		
Benzo(k)fluoranthene	1319	6.7	1333	0	98.9	66-113		0		
Chrysene	1412	6.7	1333	0	106	68-108		0		
Dibenzo(a,h)anthracene	1303	6.7	1333	0	97.8	62-119		0		
Fluoranthene	1403	6.7	1333	0	105	67-106		0		
Fluorene	1348	6.7	1333	0	101	59-107		0		
Indeno(1,2,3-cd)pyrene	1309	6.7	1333	0	98.2	56-120		0		
Naphthalene	1044	6.7	1333	0	78.3	46-98		0		
Pyrene	1578	6.7	1333	0	118	60-119		0		
Surr: 2-Fluorobiphenyl	2921	0	3333	0	87.6	44-107		0		
Surr: 4-Terphenyl-d14	3673	0	3333	0	110	52-123		0		
Surr: Nitrobenzene-d5	2450	0	3333	0	73.5	41-94		0		

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

Client: HRL Compliance Solutions, Inc
 Work Order: 1708211
 Project: Terra Energy - PA 21-2

QC BATCH REPORT

Batch ID: 105521 Instrument ID SVMS5 Method: SW846 8270D

MS				Sample ID: 1708211-01A MS			Units: µg/Kg		Analysis Date: 8/8/2017 07:26 PM		
Client ID: Impacted Area				Run ID: SVMS5_170808A			SeqNo: 4573900		Prep Date: 8/8/2017		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Acenaphthene	1232	6.5	1290	0	95.5	55-101	0				
Anthracene	1415	6.5	1290	23.86	108	67-105	0			S	
Benzo(a)anthracene	1326	6.5	1290	39.77	99.7	68-105	0				
Benzo(a)pyrene	1377	6.5	1290	97.45	99.2	68-110	0				
Benzo(b)fluoranthene	1283	6.5	1290	90.16	92.5	65-110	0				
Benzo(k)fluoranthene	1198	6.5	1290	28.51	90.7	66-113	0				
Chrysene	1414	6.5	1290	53.03	105	68-108	0				
Dibenzo(a,h)anthracene	1241	6.5	1290	21.88	94.5	62-119	0				
Fluoranthene	1552	6.5	1290	185.6	106	67-106	0				
Fluorene	1285	6.5	1290	0	99.6	59-107	0				
Indeno(1,2,3-cd)pyrene	1491	6.5	1290	165.7	103	56-120	0				
Naphthalene	1065	6.5	1290	0	82.6	46-98	0				
Pyrene	1915	6.5	1290	434.2	115	60-119	0				
Surr: 2-Fluorobiphenyl	3108	0	3225	0	96.3	44-107	0				
Surr: 4-Terphenyl-d14	3339	0	3225	0	104	52-123	0				
Surr: Nitrobenzene-d5	2535	0	3225	0	78.6	41-94	0				

MSD				Sample ID: 1708211-01A MSD			Units: µg/Kg		Analysis Date: 8/8/2017 07:49 PM		
Client ID: Impacted Area				Run ID: SVMS5_170808A			SeqNo: 4573901		Prep Date: 8/8/2017		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Acenaphthene	1049	6.5	1307	0	80.2	55-101	1232	16.1	30		
Anthracene	1224	6.5	1307	23.86	91.8	67-105	1415	14.5	30		
Benzo(a)anthracene	1162	6.5	1307	39.77	85.9	68-105	1326	13.2	30		
Benzo(a)pyrene	1181	6.5	1307	97.45	82.9	68-110	1377	15.3	30		
Benzo(b)fluoranthene	1103	6.5	1307	90.16	77.5	65-110	1283	15.1	30		
Benzo(k)fluoranthene	1035	6.5	1307	28.51	77	66-113	1198	14.6	30		
Chrysene	1216	6.5	1307	53.03	89	68-108	1414	15	30		
Dibenzo(a,h)anthracene	1080	6.5	1307	21.88	80.9	62-119	1241	13.8	30		
Fluoranthene	1377	6.5	1307	185.6	91.2	67-106	1552	11.9	30		
Fluorene	1182	6.5	1307	0	90.4	59-107	1285	8.37	30		
Indeno(1,2,3-cd)pyrene	1280	6.5	1307	165.7	85.2	56-120	1491	15.2	30		
Naphthalene	821.7	6.5	1307	0	62.9	46-98	1065	25.8	30		
Pyrene	1726	6.5	1307	434.2	98.8	60-119	1915	10.4	30		
Surr: 2-Fluorobiphenyl	2562	0	3268	0	78.4	44-107	3108	19.3	40		
Surr: 4-Terphenyl-d14	2903	0	3268	0	88.8	52-123	3339	14	40		
Surr: Nitrobenzene-d5	1949	0	3268	0	59.6	41-94	2535	26.1	40		

The following samples were analyzed in this batch:

1708211-01A

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

Client: HRL Compliance Solutions, Inc

QC BATCH REPORT

Work Order: 1708211

Project: Terra Energy - PA 21-2

Batch ID: 105430

Instrument ID VMS9

Method: SW8260B

MBLK		Sample ID: MBLK-105430-105430				Units: µg/Kg-dry		Analysis Date: 8/4/2017 11:18 AM		
Client ID:		Run ID: VMS9_170804A			SeqNo: 4567755		Prep Date: 8/4/2017		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	U	30	0	0	0	0-0	0			
Ethylbenzene	U	30	0	0	0	0-0	0			
m,p-Xylene	U	60	0	0	0	0-0	0			
o-Xylene	U	30	0	0	0	0-0	0			
Toluene	U	30	0	0	0	0-0	0			
Xylenes, Total	U	90	0	0	0	0-0	0			
Surr: 1,2-Dichloroethane-d4	1016	0	1000	0	102	70-130	0			
Surr: 4-Bromofluorobenzene	1043	0	1000	0	104	70-130	0			
Surr: Dibromofluoromethane	870.5	0	1000	0	87	70-130	0			
Surr: Toluene-d8	992.5	0	1000	0	99.2	70-130	0			

LCS		Sample ID: LCS-105430-105430				Units: µg/Kg-dry		Analysis Date: 8/4/2017 10:11 AM		
Client ID:		Run ID: VMS9_170804A			SeqNo: 4567754		Prep Date: 8/4/2017		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	946	30	1000	0	94.6	75-125	0			
Ethylbenzene	941.5	30	1000	0	94.2	75-125	0			
m,p-Xylene	1880	60	2000	0	94	80-125	0			
o-Xylene	968.5	30	1000	0	96.8	75-125	0			
Toluene	926	30	1000	0	92.6	70-125	0			
Xylenes, Total	2848	90	3000	0	95	75-125	0			
Surr: 1,2-Dichloroethane-d4	996.5	0	1000	0	99.6	70-130	0			
Surr: 4-Bromofluorobenzene	1013	0	1000	0	101	70-130	0			
Surr: Dibromofluoromethane	1014	0	1000	0	101	70-130	0			
Surr: Toluene-d8	1005	0	1000	0	100	70-130	0			

MS		Sample ID: 1708117-01A MS				Units: µg/Kg-dry		Analysis Date: 8/4/2017 07:55 PM		
Client ID:		Run ID: VMS9_170804A			SeqNo: 4569719		Prep Date: 8/4/2017		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	2204	53	1778	640.9	87.9	75-125	0			
Ethylbenzene	1868	53	1778	167.1	95.7	75-125	0			
m,p-Xylene	4490	110	3556	1290	90	80-125	0			
o-Xylene	2113	53	1778	389.3	97	75-125	0			
Toluene	3047	53	1778	1898	64.6	70-125	0			S
Xylenes, Total	6603	160	5333	1679	92.3	75-125	0			
Surr: 1,2-Dichloroethane-d4	1780	0	1778	0	100	70-130	0			
Surr: 4-Bromofluorobenzene	1846	0	1778	0	104	70-130	0			
Surr: Dibromofluoromethane	1761	0	1778	0	99	70-130	0			
Surr: Toluene-d8	1714	0	1778	0	96.4	70-130	0			

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

Client: HRL Compliance Solutions, Inc
Work Order: 1708211
Project: Terra Energy - PA 21-2

QC BATCH REPORT

Batch ID: **105430** Instrument ID **VMS9** Method: **SW8260B**

MSD		Sample ID: 1708117-01A MSD				Units: µg/Kg-dry		Analysis Date: 8/4/2017 08:17 PM		
Client ID:		Run ID: VMS9_170804A			SeqNo: 4569720		Prep Date: 8/4/2017		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	2262	53	1778	640.9	91.2	75-125	2204	2.63	30	
Ethylbenzene	1947	53	1778	167.1	100	75-125	1868	4.1	30	
m,p-Xylene	4648	110	3556	1290	94.4	80-125	4490	3.46	30	
o-Xylene	2193	53	1778	389.3	101	75-125	2113	3.72	30	
Toluene	3124	53	1778	1898	69	70-125	3047	2.48	30	S
Xylenes, Total	6841	160	5333	1679	96.8	75-125	6603	3.54	30	
<i>Surr: 1,2-Dichloroethane-d4</i>	1820	0	1778	0	102	70-130	1780	2.22	30	
<i>Surr: 4-Bromofluorobenzene</i>	1862	0	1778	0	105	70-130	1846	0.863	30	
<i>Surr: Dibromofluoromethane</i>	1786	0	1778	0	100	70-130	1761	1.4	30	
<i>Surr: Toluene-d8</i>	1723	0	1778	0	96.9	70-130	1714	0.517	30	

The following samples were analyzed in this batch: 1708211-01A

Client: HRL Compliance Solutions, Inc
Work Order: 1708211
Project: Terra Energy - PA 21-2

QC BATCH REPORT

Batch ID: **105426** Instrument ID **WETCHEM** Method: **SW9045D**

LCS		Sample ID: LCS-105426-105426				Units: s.u.		Analysis Date: 8/4/2017 12:00 PM		
Client ID:		Run ID: WETCHEM_170804E		SeqNo: 4567634		Prep Date: 8/4/2017		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	3.96	0.10	4	0	99	90-110	0			

DUP		Sample ID: 1708118-01A DUP				Units: s.u.		Analysis Date: 8/4/2017 12:00 PM		
Client ID:		Run ID: WETCHEM_170804E		SeqNo: 4567637		Prep Date: 8/4/2017		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	7.59	0.10	0	0	0	0-0	7.76	2.21	20	

DUP		Sample ID: 1708224-01A DUP				Units: s.u.		Analysis Date: 8/4/2017 12:00 PM		
Client ID:		Run ID: WETCHEM_170804E		SeqNo: 4567649		Prep Date: 8/4/2017		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	7.61	0.10	0	0	0	0-0	7.67	0.785	20	

The following samples were analyzed in this batch: 1708211-01A

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

Client: HRL Compliance Solutions, Inc
Work Order: 1708211
Project: Terra Energy - PA 21-2

QC BATCH REPORT

Batch ID: **105488** Instrument ID **WETCHEM** Method: **USDA H60 Metho**

DUP	Sample ID: 1708212-01B DUP		Units: mmhos/cm @25°		Analysis Date: 8/8/2017 09:30 AM					
Client ID:	Run ID: WETCHEM_170808D		SeqNo: 4571482		Prep Date: 8/7/2017		DF: 50			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	8.725	0.25	0	0	0		8.81	0.969	50	

The following samples were analyzed in this batch:

1708211-01B

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

Client: HRL Compliance Solutions, Inc
 Work Order: 1708211
 Project: Terra Energy - PA 21-2

QC BATCH REPORT

Batch ID: **105504** Instrument ID **WETCHEM** Method: **SW7196A**

MBLK	Sample ID: MBLK-105504-105504				Units: mg/Kg		Analysis Date: 8/8/2017 01:00 PM			
Client ID:	Run ID: WETCHEM_170808B			SeqNo: 4570989		Prep Date: 8/7/2017		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent U 1.0

LCS	Sample ID: LCS-105504-105504				Units: mg/Kg		Analysis Date: 8/8/2017 01:00 PM			
Client ID:	Run ID: WETCHEM_170808B			SeqNo: 4570990		Prep Date: 8/7/2017		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 4.07 1.0 5 0 81.4 80-120 0

MS	Sample ID: 1708211-01A MS				Units: mg/Kg		Analysis Date: 8/8/2017 01:00 PM			
Client ID: Impacted Area	Run ID: WETCHEM_170808B			SeqNo: 4570998		Prep Date: 8/7/2017		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 3.34 1.0 5 -0.09 68.6 75-125 0 S

MS	Sample ID: 1708211-01A MSI				Units: mg/Kg		Analysis Date: 8/8/2017 01:00 PM			
Client ID: Impacted Area	Run ID: WETCHEM_170808B			SeqNo: 4571000		Prep Date: 8/7/2017		DF: 100		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 2279 100 2848 -0.09 80 75-125 0

MSD	Sample ID: 1708211-01A MSD				Units: mg/Kg		Analysis Date: 8/8/2017 01:00 PM			
Client ID: Impacted Area	Run ID: WETCHEM_170808B			SeqNo: 4570999		Prep Date: 8/7/2017		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 3.34 1.0 5 -0.09 68.6 75-125 3.34 0 20 S

The following samples were analyzed in this batch:

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



ALS Laboratory Group

3352 126th Ave. Holland, MI 49424

TF: (800) 443-1511 PH: (616) 399-6070 FX: (616) 399-6185

Chain-of-Custody

Form 2028

WORKORDER #	1708211
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PAGE	1	of	1
DISPOSAL	<input checked="" type="checkbox"/> Lab or <input type="checkbox"/> Return to Client		

PROJECT NAME		SAMPLER		DATE		TURNAROUND		DISPOSAL							
Terra Energy - PA 21-2		Casey Richardson		8-2-17		STANDARD		<input checked="" type="checkbox"/> Lab or <input type="checkbox"/> Return to Client							
PROJECT No.		SITE ID		CONFIRMATION		EDD FORMAT		PURCHASE ORDER							
COMPANY NAME		BILL TO COMPANY		Terra Energy		INVOICE ATTN TO		Mike Gardner							
END REPORT TO		Kris Rowe, Mike Gardner		ADDRESS		1058 County Road 215		CITY / STATE / ZIP							
ADDRESS		2385 F 1/2 Road		PHONE		970-263-2780		FAX							
CITY / STATE / ZIP		Grand Junction, CO, 81505		PHONE		970-243-3271		FAX							
E-MAIL		krowe@hrlcomp.com, mgardner@terraep.com		E-MAIL		mgardner@terraep.com									
Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC	DRO	GRO	BTEX	Metals (COGCC; Table 910-1)	Semi-Vols - PAH	SAR	EC	PH
1	IMPACTED AREA	SOIL	8-2-17	905	3	e	II	x	x	x	x	x	x	x	x

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

For metals or anions, please detail analytes below.

Comments:	QC PACKAGE (check below)	
	<input checked="" type="checkbox"/>	LEVEL II (Standard QC)
	<input type="checkbox"/>	LEVEL III (Std QC + forms)
	<input type="checkbox"/>	LEVEL IV (Std QC + forms + raw data)
	<input type="checkbox"/>	

SR2 3.4°C

COGCC Table 910-1 analytical suite

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
RELINQUISHED BY	<i>Casey Richardson</i>	CASEY RICHARDSON	8-2-17	1030
RECEIVED BY	<i>N. Martinez</i>	N. Martinez	8-2-17	1100
RELINQUISHED BY	<i>Diane F. Sheu</i>	Diane F. Sheu	8-2-17	1830
RECEIVED BY	<i>Diane F. Sheu</i>	Diane F. Sheu	8/3/17	0915

Sample Receipt Checklist

Client Name: **HRL**

Date/Time Received: **03-Aug-17 09:15**

Work Order: **1708211**

Received by: **DS**

Checklist completed by Diane Shaw 03-Aug-17
eSignature Date

Reviewed by: Chad Whilton 04-Aug-17
eSignature Date

Matrices: Soil
Carrier name: FedEx

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No
- Sample(s) received on ice? Yes No

Temperature(s)/Thermometer(s): 3.4/3.4 c SR2

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage: 8/3/2017 2:43:35 PM

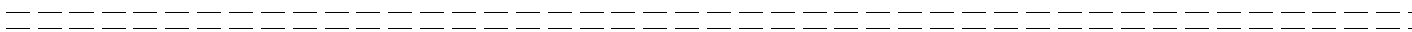
Water - VOA vials have zero headspace? Yes No No VOA vials submitted

Water - pH acceptable upon receipt? Yes No N/A

pH adjusted? Yes No N/A

pH adjusted by:

Login Notes:



Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction: