TEP RWF 21-18-694 Old Cuttings Trench Final Report
4/13/2020
Doc #2573072
Facility ID 335569

13-Apr-2020

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

Re: **RWF 21-18-694 Old Cuttings Trench** Work Order: **20040469**

Dear Mike,

ALS Environmental received 1 sample on 08-Apr-2020 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental - Holland 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 24.

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

ADDRESS: 3352 128th Avenue, Holland, MI, USA
PHONE: +1 (616) 399-6070 FAX: +1 (616) 399-6185

Sincerely,

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Report of Laboratory Analysis

Certificate No: MN 026-999-449

ALS Group, USA

Date: 13-Apr-20

Client: Terra Energy Partners, LLC
Project: RWF 21-18-694 Old Cuttings Trench
Work Order: **20040469**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
20040469-01	SL-1: Old Cuttings Trench (NW Corner of Open Excav	Soil		4/7/2020 11:30	4/8/2020 10:00	☐

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
Hr	BOD/CBOD - Sample was reset outside Hold Time, value should be considered estimated.
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
°C	Degrees Celcius
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: *13-Apr-20*

Client: Terra Energy Partners, LLC
Project: RWF 21-18-694 Old Cuttings Trench
Sample ID: SL-1: Old Cuttings Trench (NW Corner of Open Excav
Collection Date: 4/7/2020 11:30 AM

Work Order: 20040469
Lab ID: 20040469-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID		Method: **SW8015D**			Prep: SW3550 / 4/8/20		Analyst: **RM**
DRO (C10-C28)	**16**		**3.1**	**11**	**mg/Kg-dry**	1	4/8/2020 22:14
Surr: 4-Terphenyl-d14	*85.6*			*33-111*	*%REC*	1	4/8/2020 22:14
GASOLINE RANGE ORGANICS BY GC-FID		Method: **SW8015D**			Prep: SW5035 / 4/8/20		Analyst: **RM**
GRO (C6-C10)	U		2.6	6.2	mg/Kg	1	4/8/2020 16:41
Surr: Toluene-d8	*105*			*71-123*	*%REC*	1	4/8/2020 16:41
MERCURY BY CVAA		Method: **SW7471B**			Prep: SW7471 / 4/8/20		Analyst: **MAC**
Mercury	**0.042**		**0.013**	**0.020**	**mg/Kg-dry**	1	4/9/2020 09:53
METALS BY ICP-MS		Method: **SW6020B**			Prep: SW3050B / 4/8/20		Analyst: **STP**
Arsenic	**8.1**		**0.043**	**0.36**	**mg/Kg-dry**	1	4/8/2020 23:02
Barium	**360**		**3.3**	**3.6**	**mg/Kg-dry**	10	4/9/2020 15:35
Cadmium	**0.53**		**0.021**	**0.14**	**mg/Kg-dry**	1	4/8/2020 23:02
Chromium	**8.2**		**0.16**	**0.36**	**mg/Kg-dry**	1	4/8/2020 23:02
Copper	**11**		**0.36**	**0.36**	**mg/Kg-dry**	1	4/8/2020 23:02
Lead	**13**		**0.17**	**0.36**	**mg/Kg-dry**	1	4/8/2020 23:02
Nickel	**13**		**0.19**	**0.36**	**mg/Kg-dry**	1	4/8/2020 23:02
Selenium	**0.46**		**0.33**	**0.36**	**mg/Kg-dry**	1	4/8/2020 23:02
Silver	**0.055**	J	**0.047**	**0.36**	**mg/Kg-dry**	1	4/8/2020 23:02
Zinc	**48**		**0.70**	**0.71**	**mg/Kg-dry**	1	4/8/2020 23:02
SOLUBLE CATIONS FOR SAR		Method: **SW6020B**			Prep: USDA Method 20B / 4/10/20		Analyst: **STP**
Calcium	**320**		**2.5**	**5.0**	**mg/L**	10	4/10/2020 16:06
Magnesium	**100**		**0.50**	**2.0**	**mg/L**	10	4/10/2020 16:06
Sodium	**180**		**0.45**	**2.0**	**mg/L**	10	4/10/2020 16:06
SODIUM ADSORPTION RATIO		Method: **USDA H60 METHOD 2**			Prep: USDA Method 20B / 4/10/20		Analyst: **STP**
Sodium Adsorption Ratio	**2.3**		**0.010**	**0.010**	**none**	1	4/10/2020
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHS)		Method: **SW846 8270D**			Prep: SW3546 / 4/8/20		Analyst: **EEW**
Acenaphthene	U		0.00091	0.0047	mg/Kg-dry	1	4/8/2020 21:17
Anthracene	U		0.0016	0.0047	mg/Kg-dry	1	4/8/2020 21:17
Benzo(a)anthracene	U		0.0019	0.0047	mg/Kg-dry	1	4/8/2020 21:17
Benzo(a)pyrene	U		0.0013	0.0047	mg/Kg-dry	1	4/8/2020 21:17
Benzo(b)fluoranthene	U		0.0011	0.0047	mg/Kg-dry	1	4/8/2020 21:17
Benzo(k)fluoranthene	U		0.0014	0.0047	mg/Kg-dry	1	4/8/2020 21:17
Chrysene	U		0.00097	0.0047	mg/Kg-dry	1	4/8/2020 21:17
Dibenzo(a,h)anthracene	U		0.0011	0.0047	mg/Kg-dry	1	4/8/2020 21:17
Fluoranthene	U		0.00087	0.0047	mg/Kg-dry	1	4/8/2020 21:17

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

Client: Terra Energy Partners, LLC
Project: RWF 21-18-694 Old Cuttings Trench
Sample ID: SL-1: Old Cuttings Trench (NW Corner of Open Excav
Collection Date: 4/7/2020 11:30 AM

Work Order: 20040469
Lab ID: 20040469-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	U		0.0016	0.0047	mg/Kg-dry	1	4/8/2020 21:17
Indeno(1,2,3-cd)pyrene	U		0.0017	0.0047	mg/Kg-dry	1	4/8/2020 21:17
Naphthalene	U		0.0020	0.0047	mg/Kg-dry	1	4/8/2020 21:17
Pyrene	U		0.00078	0.0047	mg/Kg-dry	1	4/8/2020 21:17
Surr: 2-Fluorobiphenyl	*89.8*			*20-140*	*%REC*	1	4/8/2020 21:17
Surr: 4-Terphenyl-d14	*80.6*			*22-172*	*%REC*	1	4/8/2020 21:17
Surr: Nitrobenzene-d5	*69.0*			*28-140*	*%REC*	1	4/8/2020 21:17
VOLATILE ORGANIC COMPOUNDS		Method:	**SW8260C**		Prep: SW5035 / 4/8/20		Analyst: **MF**
Benzene	U		0.0063	0.037	mg/Kg-dry	1	4/8/2020 17:59
Ethylbenzene	U		0.0078	0.037	mg/Kg-dry	1	4/8/2020 17:59
m,p-Xylene	U		0.049	0.074	mg/Kg-dry	1	4/8/2020 17:59
o-Xylene	U		0.014	0.037	mg/Kg-dry	1	4/8/2020 17:59
Toluene	U		0.010	0.037	mg/Kg-dry	1	4/8/2020 17:59
Xylenes, Total	U		0.049	0.11	mg/Kg-dry	1	4/8/2020 17:59
Surr: 1,2-Dichloroethane-d4	*102*			*70-130*	*%REC*	1	4/8/2020 17:59
Surr: 4-Bromofluorobenzene	*106*			*70-130*	*%REC*	1	4/8/2020 17:59
Surr: Dibromofluoromethane	*101*			*70-130*	*%REC*	1	4/8/2020 17:59
Surr: Toluene-d8	*96.4*			*70-130*	*%REC*	1	4/8/2020 17:59
ELECTRICAL CONDUCTIVITY (SAR)		Method:	**USDA H60 METHOD 2**		Prep: USDA Method 20B / 4/10/20		Analyst: **DVD**
Electrical Conductivity @ Saturation	**3.6**		**0.011**	**0.10**	**mmhos/cm @25°**	20	4/10/2020 13:20
CHROMIUM, TRIVALENT		Method:	**CALCULATION**				Analyst: **JZB**
Chromium, Trivalent	**8.2**		**0.96**	**1.1**	**mg/Kg-dry**	1	4/9/2020 15:53
CHROMIUM, HEXAVALENT		Method:	**SW7196A**		Prep: SW3060A / 4/8/20		Analyst: **KTP**
Chromium, Hexavalent	U		0.96	1.1	mg/Kg-dry	1	4/9/2020 14:05
MOISTURE		Method:	**SW3550C**				Analyst: **KTP**
Moisture	**11**		**0.10**	**0.10**	**% of sample**	1	4/8/2020 12:44
PH		Method:	**SW9045D**		Prep: EXTRACT / 4/8/20		Analyst: **QTN**
pH	**8.22**		**0.10**	**0.100**	**s.u.**	1	4/9/2020 13:43
Temperature	**20.2**		**0.10**	**0.100**	**°C**	1	4/9/2020 13:43

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

QC BATCH REPORT

Batch ID: **154359** Instrument ID **GC8** Method: **SW8015D**

MBLK Sample ID: **DBLKS1-154359-154359** Units: **mg/Kg** Analysis Date: **4/8/2020 05:04 PM**

Client ID: Run ID: **GC8_200408A** SeqNo: **6347877** Prep Date: **4/8/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	U	10								
Surr: 4-Terphenyl-d14	*3.391*	0	*3.33*	0	*102*	*33-111*	0			

LCS Sample ID: **DLCSS1-154359-154359** Units: **mg/Kg** Analysis Date: **4/8/2020 05:43 PM**

Client ID: Run ID: **GC8_200408A** SeqNo: **6347878** Prep Date: **4/8/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	363.2	10	333	0	109	80-121	0			
Surr: 4-Terphenyl-d14	*3.08*	0	*3.33*	0	*92.5*	*33-111*	0			

MS Sample ID: **20040277-06A MS** Units: **mg/Kg** Analysis Date: **4/8/2020 06:22 PM**

Client ID: Run ID: **GC8_200408A** SeqNo: **6347879** Prep Date: **4/8/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	342.7	9.8	325.7	13.4	101	80-121	0			
Surr: 4-Terphenyl-d14	*2.803*	0	*3.257*	0	*86.1*	*33-111*	0			

MSD Sample ID: **20040277-06A MSD** Units: **mg/Kg** Analysis Date: **4/8/2020 07:01 PM**

Client ID: Run ID: **GC8_200408A** SeqNo: **6347880** Prep Date: **4/8/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	360.5	9.9	328.6	13.4	106	80-121	342.7	5.04	30	
Surr: 4-Terphenyl-d14	*2.924*	0	*3.286*	0	*89*	*33-111*	2.803	*4.24*	*30*	

The following samples were analyzed in this batch: 20040469-01A

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

Client: Terra Energy Partners, LLC
Work Order: 20040469
Project: RWF 21-18-694 Old Cuttings Trench

QC BATCH REPORT

Batch ID: **154380** Instrument ID **GC10** Method: **SW8015D**

MBLK Sample ID: **MBLK-154380-154380** Units: **µg/Kg-dry** Analysis Date: **4/8/2020 02:46 PM**
Client ID: Run ID: **GC10_200408A** SeqNo: **6347868** Prep Date: **4/8/2020** 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								
Surr: Toluene-d8	*5729*	0	*5000*	0	*115*	*71-123*	0			

LCS Sample ID: **LCS-154380-154380** Units: **µg/Kg-dry** Analysis Date: **4/8/2020 03:09 PM**
Client ID: Run ID: **GC10_200408A** SeqNo: **6347869** Prep Date: **4/8/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	276400	5,000	250000	0	111	71-123	0			
Surr: Toluene-d8	*5439*	0	*5000*	0	*109*	*71-123*	0			

MS Sample ID: **20040467-01A MS** Units: **µg/Kg-dry** Analysis Date: **4/8/2020 05:51 PM**
Client ID: Run ID: **GC10_200408A** SeqNo: **6347875** Prep Date: **4/8/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	593500	6,900	685800	0	86.5	71-123	0			
Surr: Toluene-d8	*7114*	0	*6858*	0	*104*	*71-123*	0			

MSD Sample ID: **20040467-01A MSD** Units: **µg/Kg-dry** Analysis Date: **4/8/2020 06:14 PM**
Client ID: Run ID: **GC10_200408A** SeqNo: **6347876** Prep Date: **4/8/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	585700	7,200	719800	0	81.4	71-123	593500	1.32	30	
Surr: Toluene-d8	*7219*	0	*7198*	0	*100*	*71-123*	7114	*1.47*	*30*	

The following samples were analyzed in this batch: 20040469-01A

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

Client: Terra Energy Partners, LLC
Work Order: 20040469
Project: RWF 21-18-694 Old Cuttings Trench

QC BATCH REPORT

Batch ID: **154369** Instrument ID **HG4** Method: **SW7471B**

MBLK Sample ID: **MBLK-154369-154369** Units: **mg/Kg** Analysis Date: **4/9/2020 09:34 AM**
Client ID: Run ID: **HG4_200409A** SeqNo: **6346675** Prep Date: **4/8/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	U	0.020								

LCS Sample ID: **LCS-154369-154369** Units: **mg/Kg** Analysis Date: **4/9/2020 09:36 AM**
Client ID: Run ID: **HG4_200409A** SeqNo: **6346677** Prep Date: **4/8/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1967	0.020	0.1665	0	118	80-120	0			

MS Sample ID: **20040469-01AMS** Units: **mg/Kg** Analysis Date: **4/9/2020 09:55 AM**
Client ID: **SL-1: Old Cuttings Trench (NW Corner of Open Excav** Run ID: **HG4_200409A** SeqNo: **6346690** Prep Date: **4/8/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1828	0.018	0.1467	0.0371	99.3	75-125	0			

MSD Sample ID: **20040469-01AMSD** Units: **mg/Kg** Analysis Date: **4/9/2020 09:57 AM**
Client ID: **SL-1: Old Cuttings Trench (NW Corner of Open Excav** Run ID: **HG4_200409A** SeqNo: **6346691** Prep Date: **4/8/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1768	0.017	0.1419	0.0371	98.5	75-125	0.1828	3.32	35	

The following samples were analyzed in this batch: 20040469-01A

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

Client: Terra Energy Partners, LLC
Work Order: 20040469
Project: RWF 21-18-694 Old Cuttings Trench

QC BATCH REPORT

Batch ID: **154372** Instrument ID **ICPMS3** Method: **SW6020B**

MBLK Sample ID: **MBLK-154372-154372** Units: **mg/Kg** Analysis Date: **4/8/2020 10:01 PM**
Client ID: Run ID: **ICPMS3_200408B** SeqNo: **6346257** Prep Date: **4/8/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.22								
Cadmium	U	0.089								
Chromium	U	0.22								
Copper	U	0.22								
Lead	U	0.22								
Nickel	U	0.22								
Selenium	U	0.22								
Silver	U	0.22								
Zinc	U	0.45								

MBLK Sample ID: **MBLK-154372-154372** Units: **mg/Kg** Analysis Date: **4/9/2020 04:18 PM**
Client ID: Run ID: **ICPMS3_200409B** SeqNo: **6349291** Prep Date: **4/8/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	U	0.22								

LCS Sample ID: **LCS-154372-154372** Units: **mg/Kg** Analysis Date: **4/8/2020 10:03 PM**
Client ID: Run ID: **ICPMS3_200408B** SeqNo: **6346258** Prep Date: **4/8/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.296	0.25	4.926	0	87.2	80-120	0			
Barium	4.354	0.25	4.926	0	88.4	80-120	0			
Cadmium	4.415	0.099	4.926	0	89.6	80-120	0			
Chromium	4.615	0.25	4.926	0	93.7	80-120	0			
Copper	4.524	0.25	4.926	0	91.8	80-120	0			
Lead	4.383	0.25	4.926	0	89	80-120	0			
Nickel	4.337	0.25	4.926	0	88	80-120	0			
Selenium	4.42	0.25	4.926	0	89.7	80-120	0			
Silver	4.31	0.25	4.926	0	87.5	80-120	0			
Zinc	5.864	0.49	4.926	0	119	80-120	0			

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

Client: Terra Energy Partners, LLC
Work Order: 20040469
Project: RWF 21-18-694 Old Cuttings Trench

QC BATCH REPORT

Batch ID: **154372** Instrument ID **ICPMS3** Method: **SW6020B**

MS Sample ID: **20040295-01AMS** Units: **mg/Kg** Analysis Date: **4/8/2020 10:46 PM**
Client ID: Run ID: **ICPMS3_200408B** SeqNo: **6346281** Prep Date: **4/8/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	8.768	0.32	6.452	1.918	106	75-125	0			
Barium	127	0.32	6.452	120.5	101	75-125	0			EO
Cadmium	6.557	0.13	6.452	0.2231	98.2	75-125	0			
Chromium	27.48	0.32	6.452	21.37	94.7	75-125	0			
Lead	5.735	0.32	6.452	2.252	54	75-125	0			S
Nickel	11.39	0.32	6.452	5.161	96.6	75-125	0			
Selenium	9.173	0.32	6.452	1.825	114	75-125	0			
Silver	6.892	0.32	6.452	0.9044	92.8	75-125	0			

MS Sample ID: **20040295-01AMS** Units: **mg/Kg** Analysis Date: **4/9/2020 04:38 PM**
Client ID: Run ID: **ICPMS3_200409B** SeqNo: **6349303** Prep Date: **4/8/2020** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Zinc	168.7	6.5	6.452	161.6	110	75-125	0			O

MS Sample ID: **20040295-01AMS** Units: **mg/Kg** Analysis Date: **4/10/2020 02:48 PM**
Client ID: Run ID: **ICPMS3_200410B** SeqNo: **6350317** Prep Date: **4/8/2020** DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Copper	138.9	32	6.452	119.5	302	75-125	0			SO

MSD Sample ID: **20040295-01AMSD** Units: **mg/Kg** Analysis Date: **4/8/2020 10:47 PM**
Client ID: Run ID: **ICPMS3_200408B** SeqNo: **6346282** Prep Date: **4/8/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	8.96	0.32	6.418	1.918	110	75-125	8.768	2.16	20	
Barium	127.5	0.32	6.418	120.5	109	75-125	127	0.387	20	EO
Cadmium	6.83	0.13	6.418	0.2231	103	75-125	6.557	4.09	20	
Chromium	27.7	0.32	6.418	21.37	98.6	75-125	27.48	0.795	20	
Lead	5.839	0.32	6.418	2.252	55.9	75-125	5.735	1.8	20	S
Nickel	11.51	0.32	6.418	5.161	98.9	75-125	11.39	0.977	20	
Selenium	9.853	0.32	6.418	1.825	125	75-125	9.173	7.15	20	S
Silver	7.077	0.32	6.418	0.9044	96.2	75-125	6.892	2.65	20	

MSD Sample ID: **20040295-01AMSD** Units: **mg/Kg** Analysis Date: **4/9/2020 04:40 PM**
Client ID: Run ID: **ICPMS3_200409B** SeqNo: **6349304** Prep Date: **4/8/2020** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Zinc	170.9	6.4	6.418	161.6	145	75-125	168.7	1.29	20	SO

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

Client: Terra Energy Partners, LLC
Work Order: 20040469
Project: RWF 21-18-694 Old Cuttings Trench

QC BATCH REPORT

Batch ID: **154372** Instrument ID **ICPMS3** Method: **SW6020B**

MSD	Sample ID: **20040295-01AMSD**				Units: **mg/Kg**			Analysis Date: **4/10/2020 02:50 PM**			
Client ID:		Run ID: **ICPMS3_200410B**			SeqNo: **6350318**		Prep Date: **4/8/2020**		DF: **100**		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Copper	133.1	32	6.418	119.5	212	75-125	138.9	4.31	20	SO	

The following samples were analyzed in this batch: 20040469-01A

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

Client: Terra Energy Partners, LLC
Work Order: 20040469
Project: RWF 21-18-694 Old Cuttings Trench

QC BATCH REPORT

Batch ID: **154458** Instrument ID **ICPMS3** Method: **SW6020B**

DUP Sample ID: **20040467-01ADUP** Units: **mg/L** Analysis Date: **4/10/2020 03:58 PM**
Client ID: Run ID: **ICPMS3_200410A** SeqNo: **6350455** Prep Date: **4/10/2020** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	137.3	5.0	0	0	0	0-0	219.4	46		
Magnesium	23.37	2.0	0	0	0	0-0	41.27	55.4		
Sodium	79.78	2.0	0	0	0	0-0	129.2	47.3		

The following samples were analyzed in this batch: 20040469-01A

Batch ID: **154458** Instrument ID **SAR** Method: **USDA H60 Metho**

DUP Sample ID: **20040467-01ADUP** Units: **none** Analysis Date: **4/10/2020**
Client ID: Run ID: **SAR_200410A** SeqNo: **6350475** Prep Date: **4/10/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	1.657	0.010	0	0	0		2.098	23.5	50	

The following samples were analyzed in this batch: 20040469-01A

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

Client: Terra Energy Partners, LLC
Work Order: 20040469
Project: RWF 21-18-694 Old Cuttings Trench

QC BATCH REPORT

Batch ID: **154358** Instrument ID **SVMS6** Method: **SW846 8270D**

MBLK Sample ID: **SBLKS1-154358-154358** Units: **µg/Kg** Analysis Date: **4/8/2020 04:54 PM**
Client ID: Run ID: **SVMS6_200408A** SeqNo: **6346939** Prep Date: **4/8/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	U	4.2								
Anthracene	U	4.2								
Benzo(a)anthracene	U	4.2								
Benzo(a)pyrene	U	4.2								
Benzo(b)fluoranthene	U	4.2								
Benzo(k)fluoranthene	U	4.2								
Chrysene	U	4.2								
Dibenzo(a,h)anthracene	U	4.2								
Fluoranthene	U	4.2								
Fluorene	U	4.2								
Indeno(1,2,3-cd)pyrene	U	4.2								
Naphthalene	U	4.2								
Pyrene	U	4.2								
Surr: 2-Fluorobiphenyl	*3617*	0	*3333*	0	*109*	*20-140*	0			
Surr: 4-Terphenyl-d14	*3153*	0	*3333*	0	*94.6*	*22-172*	0			
Surr: Nitrobenzene-d5	*2887*	0	*3333*	0	*86.6*	*28-140*	0			

LCS Sample ID: **SLCSS1-154358-154358** Units: **µg/Kg** Analysis Date: **4/8/2020 05:09 PM**
Client ID: Run ID: **SVMS6_200408A** SeqNo: **6346940** Prep Date: **4/8/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1017	4.2	1333	0	76.3	40-140	0			
Anthracene	1093	4.2	1333	0	82	40-140	0			
Benzo(a)anthracene	1003	4.2	1333	0	75.3	40-140	0			
Benzo(a)pyrene	963.4	4.2	1333	0	72.3	40-140	0			
Benzo(b)fluoranthene	943.5	4.2	1333	0	70.8	40-140	0			
Benzo(k)fluoranthene	975.1	4.2	1333	0	73.2	40-140	0			
Chrysene	1016	4.2	1333	0	76.2	40-140	0			
Dibenzo(a,h)anthracene	974.3	4.2	1333	0	73.1	40-140	0			
Fluoranthene	1173	4.2	1333	0	88	40-140	0			
Fluorene	1070	4.2	1333	0	80.3	40-140	0			
Indeno(1,2,3-cd)pyrene	994.7	4.2	1333	0	74.6	40-140	0			
Naphthalene	1089	4.2	1333	0	81.7	40-140	0			
Pyrene	1022	4.2	1333	0	76.7	40-140	0			
Surr: 2-Fluorobiphenyl	*3538*	0	*3333*	0	*106*	*20-140*	0			
Surr: 4-Terphenyl-d14	*3134*	0	*3333*	0	*94*	*22-172*	0			
Surr: Nitrobenzene-d5	*2521*	0	*3333*	0	*75.6*	*28-140*	0			

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

Client: Terra Energy Partners, LLC
Work Order: 20040469
Project: RWF 21-18-694 Old Cuttings Trench

QC BATCH REPORT

Batch ID: **154358** Instrument ID **SVMS6** Method: **SW846 8270D**

MS Sample ID: **20040467-01A MS** Units: **µg/Kg** Analysis Date: **4/8/2020 05:25 PM**
Client ID: Run ID: **SVMS6_200408A** SeqNo: **6346941** Prep Date: **4/8/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	927.1	4.1	1306	0	71	40-140	0			
Anthracene	1012	4.1	1306	0	77.5	40-140	0			
Benzo(a)anthracene	941	4.1	1306	0	72.1	40-140	0			
Benzo(a)pyrene	925.3	4.1	1306	0	70.9	40-140	0			
Benzo(b)fluoranthene	926.5	4.1	1306	0	71	40-140	0			
Benzo(k)fluoranthene	887.4	4.1	1306	0	68	40-140	0			
Chrysene	956.5	4.1	1306	0	73.3	40-140	0			
Dibenzo(a,h)anthracene	953.9	4.1	1306	0	73.1	40-140	0			
Fluoranthene	1074	4.1	1306	0	82.2	40-140	0			
Fluorene	971.2	4.1	1306	0	74.4	40-140	0			
Indeno(1,2,3-cd)pyrene	955.3	4.1	1306	0	73.2	40-140	0			
Naphthalene	1007	4.1	1306	0	77.1	40-140	0			
Pyrene	1007	4.1	1306	0	77.1	40-140	0			
Surr: 2-Fluorobiphenyl	*3304*	0	*3265*	0	*101*	*20-140*	0			
Surr: 4-Terphenyl-d14	*3099*	0	*3265*	0	*94.9*	*22-172*	0			
Surr: Nitrobenzene-d5	*2431*	0	*3265*	0	*74.5*	*28-140*	0			

MSD Sample ID: **20040467-01A MSD** Units: **µg/Kg** Analysis Date: **4/8/2020 05:40 PM**
Client ID: Run ID: **SVMS6_200408A** SeqNo: **6346942** Prep Date: **4/8/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	809.7	4.0	1266	0	64	40-140	927.1	13.5	30	
Anthracene	885.3	4.0	1266	0	69.9	40-140	1012	13.3	30	
Benzo(a)anthracene	818.1	4.0	1266	0	64.6	40-140	941	14	30	
Benzo(a)pyrene	806.5	4.0	1266	0	63.7	40-140	925.3	13.7	30	
Benzo(b)fluoranthene	807.1	4.0	1266	0	63.8	40-140	926.5	13.8	30	
Benzo(k)fluoranthene	764	4.0	1266	0	60.3	40-140	887.4	14.9	30	
Chrysene	828.6	4.0	1266	0	65.5	40-140	956.5	14.3	30	
Dibenzo(a,h)anthracene	827.1	4.0	1266	0	65.3	40-140	953.9	14.2	30	
Fluoranthene	940.9	4.0	1266	0	74.3	40-140	1074	13.2	30	
Fluorene	852.7	4.0	1266	0	67.4	40-140	971.2	13	30	
Indeno(1,2,3-cd)pyrene	834.5	4.0	1266	0	65.9	40-140	955.3	13.5	30	
Naphthalene	891.1	4.0	1266	0	70.4	40-140	1007	12.2	30	
Pyrene	841.1	4.0	1266	0	66.4	40-140	1007	18	30	
Surr: 2-Fluorobiphenyl	*2928*	0	*3165*	0	*92.5*	*20-140*	3304	*12.1*	*0*	
Surr: 4-Terphenyl-d14	*2654*	0	*3165*	0	*83.8*	*22-172*	3099	*15.5*	*0*	
Surr: Nitrobenzene-d5	*2207*	0	*3165*	0	*69.7*	*28-140*	2431	*9.63*	*0*	

The following samples were analyzed in this batch: 20040469-01A

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

Client: Terra Energy Partners, LLC
Work Order: 20040469
Project: RWF 21-18-694 Old Cuttings Trench

QC BATCH REPORT

Batch ID: **154379** Instrument ID **VMS8** Method: **SW8260C**

MBLK Sample ID: **MBLK-154379-154379** Units: **µg/Kg-dry** Analysis Date: **4/8/2020 01:07 PM**
Client ID: Run ID: **VMS8_200408A** SeqNo: **6346427** Prep Date: **4/8/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	U	30								
Ethylbenzene	U	30								
m,p-Xylene	U	60								
o-Xylene	U	30								
Toluene	U	30								
Xylenes, Total	U	90								
Surr: 1,2-Dichloroethane-d4	*1032*	0	*1000*	0	*103*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*1094*	0	*1000*	0	*109*	*70-130*	0			
Surr: Dibromofluoromethane	*1013*	0	*1000*	0	*101*	*70-130*	0			
Surr: Toluene-d8	*966*	0	*1000*	0	*96.6*	*70-130*	0			

LCS Sample ID: **LCS-154379-154379** Units: **µg/Kg-dry** Analysis Date: **4/8/2020 11:43 AM**
Client ID: Run ID: **VMS8_200408A** SeqNo: **6346426** Prep Date: **4/8/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	988.5	30	1000	0	98.8	75-125	0			
Ethylbenzene	1008	30	1000	0	101	75-125	0			
m,p-Xylene	2026	60	2000	0	101	80-125	0			
o-Xylene	1012	30	1000	0	101	75-125	0			
Toluene	1064	30	1000	0	106	70-125	0			
Xylenes, Total	3038	90	3000	0	101	75-125	0			
Surr: 1,2-Dichloroethane-d4	*1092*	0	*1000*	0	*109*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*1060*	0	*1000*	0	*106*	*70-130*	0			
Surr: Dibromofluoromethane	*1012*	0	*1000*	0	*101*	*70-130*	0			
Surr: Toluene-d8	*979.5*	0	*1000*	0	*98*	*70-130*	0			

MS Sample ID: **20040467-01A MS** Units: **µg/Kg-dry** Analysis Date: **4/8/2020 06:48 PM**
Client ID: Run ID: **VMS8_200408A** SeqNo: **6346444** Prep Date: **4/8/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1502	41	1372	0	110	75-125	0			
Ethylbenzene	1449	41	1372	0	106	75-125	0			
m,p-Xylene	2942	82	2743	46.64	106	80-125	0			
o-Xylene	1452	41	1372	0	106	75-125	0			
Toluene	1558	41	1372	0	114	70-125	0			
Xylenes, Total	4394	120	4115	0	107	75-125	0			
Surr: 1,2-Dichloroethane-d4	*1387*	0	*1372*	0	*101*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*1428*	0	*1372*	0	*104*	*70-130*	0			
Surr: Dibromofluoromethane	*1369*	0	*1372*	0	*99.9*	*70-130*	0			
Surr: Toluene-d8	*1342*	0	*1372*	0	*97.9*	*70-130*	0			

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

Client: Terra Energy Partners, LLC
Work Order: 20040469
Project: RWF 21-18-694 Old Cuttings Trench

QC BATCH REPORT

Batch ID: **154379** Instrument ID **VMS8** Method: **SW8260C**

MSD Sample ID: **20040467-01A MSD** Units: **µg/Kg-dry** Analysis Date: **4/8/2020 07:04 PM**
Client ID: Run ID: **VMS8_200408A** SeqNo: **6346446** Prep Date: **4/8/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1606	43	1440	0	112	75-125	1502	6.7	30	
Ethylbenzene	1588	43	1440	0	110	75-125	1449	9.15	30	
m,p-Xylene	3183	86	2879	46.64	109	80-125	2942	7.88	30	
o-Xylene	1555	43	1440	0	108	75-125	1452	6.86	30	
Toluene	1715	43	1440	0	119	70-125	1558	9.57	30	
Xylenes, Total	4738	130	4319	0	110	75-125	4394	7.54	30	
Surr: 1,2-Dichloroethane-d4	*1417*	0	*1440*	0	*98.4*	*70-130*	1387	*2.14*	*30*	
Surr: 4-Bromofluorobenzene	*1477*	0	*1440*	0	*103*	*70-130*	1428	*3.4*	*30*	
Surr: Dibromofluoromethane	*1436*	0	*1440*	0	*99.7*	*70-130*	1369	*4.75*	*30*	
Surr: Toluene-d8	*1414*	0	*1440*	0	*98.2*	*70-130*	1342	*5.21*	*30*	

The following samples were analyzed in this batch: 20040469-01A

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

Client: Terra Energy Partners, LLC
Work Order: 20040469
Project: RWF 21-18-694 Old Cuttings Trench

QC BATCH REPORT

Batch ID: **154396** Instrument ID **WETCHEM** Method: **SW9045D**

LCS Sample ID: **LCS-154396-154396** Units: **s.u.** Analysis Date: **4/9/2020 01:43 PM**
Client ID: Run ID: **WETCHEM_200409O** SeqNo: **6347679** Prep Date: **4/8/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	3.97	0.10	4	0	99.2	90-110	0			

DUP Sample ID: **20040523-01A DUP** Units: **s.u.** Analysis Date: **4/9/2020 01:43 PM**
Client ID: Run ID: **WETCHEM_200409O** SeqNo: **6347685** Prep Date: **4/8/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	7.41	0.10	0	0	0	0-0	7.39	0.27	20	
Temperature	20.1	0.10	0	0	0		20.2	0.496		

The following samples were analyzed in this batch: 20040469-01A

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

Client: Terra Energy Partners, LLC
Work Order: 20040469
Project: RWF 21-18-694 Old Cuttings Trench

QC BATCH REPORT

Batch ID: **154425** Instrument ID **WETCHEM** Method: **SW7196A**

MBLK Sample ID: **MBLK-154425-154425** Units: **mg/Kg** Analysis Date: **4/9/2020 02:05 PM**
Client ID: Run ID: **WETCHEM_200409S** SeqNo: **6347837** Prep Date: **4/8/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	U	0.99								

LCS Sample ID: **LCS-154425-154425** Units: **mg/Kg** Analysis Date: **4/9/2020 02:05 PM**
Client ID: Run ID: **WETCHEM_200409S** SeqNo: **6347838** Prep Date: **4/8/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	4.713	0.99	4.95	0	95.2	80-120	0			

MS Sample ID: **20040275-02A MS** Units: **mg/Kg** Analysis Date: **4/9/2020 02:05 PM**
Client ID: Run ID: **WETCHEM_200409S** SeqNo: **6347840** Prep Date: **4/8/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	4.63	1.0	5	0.4216	84.2	75-125	0			

MS Sample ID: **20040275-02A MSI** Units: **mg/Kg** Analysis Date: **4/9/2020 02:05 PM**
Client ID: Run ID: **WETCHEM_200409S** SeqNo: **6347842** Prep Date: **4/8/2020** DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	2287	99	2310	0.4216	99	75-125	0			

MS Sample ID: **20040467-01A MS** Units: **mg/Kg** Analysis Date: **4/9/2020 02:05 PM**
Client ID: Run ID: **WETCHEM_200409S** SeqNo: **6347853** Prep Date: **4/8/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	1.667	0.98	4.902	0.3	27.9	75-125	0			S

MS Sample ID: **20040467-01A MSI** Units: **mg/Kg** Analysis Date: **4/9/2020 02:05 PM**
Client ID: Run ID: **WETCHEM_200409S** SeqNo: **6347855** Prep Date: **4/8/2020** DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	2107	97	2093	0.3	101	75-125	0			

MSD Sample ID: **20040275-02A MSD** Units: **mg/Kg** Analysis Date: **4/9/2020 02:05 PM**
Client ID: Run ID: **WETCHEM_200409S** SeqNo: **6347841** Prep Date: **4/8/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	5.27	1.0	5	0.4216	97	75-125	4.63	12.9	20	

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

Client: Terra Energy Partners, LLC
Work Order: 20040469
Project: RWF 21-18-694 Old Cuttings Trench

QC BATCH REPORT

Batch ID: **154425** Instrument ID **WETCHEM** Method: **SW7196A**

MSD Sample ID: **20040467-01A MSD** Units: **mg/Kg** Analysis Date: **4/9/2020 02:05 PM**
Client ID: Run ID: **WETCHEM_200409S** SeqNo: **6347854** Prep Date: **4/8/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	1.307	0.99	4.95	0.3	20.3	75-125	0.3	125	20	SR

The following samples were analyzed in this batch: 20040469-01A

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

Client: Terra Energy Partners, LLC
Work Order: 20040469
Project: RWF 21-18-694 Old Cuttings Trench

QC BATCH REPORT

Batch ID: **154458** Instrument ID **WETCHEM** Method: **USDA H60 Metho**

MBLK Sample ID: **MB-R286375-154458** Units: **mmhos/cm @25°** Analysis Date: **4/10/2020 01:20 PM**
Client ID: Run ID: **WETCHEM_200410F** SeqNo: **6349688** Prep Date: **4/10/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	0.0006	0.0050								J

DUP Sample ID: **20040467-01A DUP** Units: **mmhos/cm @25°** Analysis Date: **4/10/2020 01:20 PM**
Client ID: Run ID: **WETCHEM_200410F** SeqNo: **6349691** Prep Date: **4/10/2020** DF: **20**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	1.384	0.10	0	0	0		2.116	41.8	50	

LCS1 Sample ID: **LCS 1-154458** Units: **mmhos/cm @25°** Analysis Date: **4/10/2020 01:20 PM**
Client ID: Run ID: **WETCHEM_200410F** SeqNo: **6349689** Prep Date: **4/10/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	0.01497	0.0050	0.0149	0	100	92-111	0			

LCS2 Sample ID: **LCS 2-154458** Units: **mmhos/cm @25°** Analysis Date: **4/10/2020 01:20 PM**
Client ID: Run ID: **WETCHEM_200410F** SeqNo: **6349695** Prep Date: **4/10/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	0.58	0.0050	0.592	0	98	88-114	0			

The following samples were analyzed in this batch: 20040469-01A

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

Client: Terra Energy Partners, LLC
Work Order: 20040469
Project: RWF 21-18-694 Old Cuttings Trench

QC BATCH REPORT

Batch ID: **R286276** Instrument ID **MOIST** Method: **SW3550C**

MBLK Sample ID: **WBLKS-R286276** Units: **% of sample** Analysis Date: **4/8/2020 12:44 PM**
Client ID: Run ID: **MOIST_200408B** SeqNo: **6347127** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	U	0.10								

LCS Sample ID: **LCS-R286276** Units: **% of sample** Analysis Date: **4/8/2020 12:44 PM**
Client ID: Run ID: **MOIST_200408B** SeqNo: **6347126** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	99.99	0.10	100	0	100	98-102	0			

DUP Sample ID: **20040467-01A DUP** Units: **% of sample** Analysis Date: **4/8/2020 12:44 PM**
Client ID: Run ID: **MOIST_200408B** SeqNo: **6347121** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	15.95	0.10	0	0	0	0-0	15.91	0.251	10	

The following samples were analyzed in this batch: 20040469-01A

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

ALS Laboratory Group

HOLLAND, Michigan 49424

Chain-of-Custody

Form 202r8

WORKORDER #	20040469				
PAGE	1 of 1				
DISPOSAL	By Lab or Return to Client				

SAMPLER	Mike Gardner	DATE	4/7/2020
SITE ID	RWF 21-18-694	TURNAROUND	Rush
EDD FORMAT			
PURCHASE ORDER			

PROJECT NAME	RWF 21-18-694 Old Cuttings Trench		
PROJECT No.			
COMPANY NAME	TEP Rocky Mountain LLC	BILL TO COMPANY	TEP Rocky Mountain LLC
SEND REPORT TO	Mike Gardner	INVOICE ATTN TO	Mike Gardner, Tammy Gose
ADDRESS		ADDRESS	1058 Co Rd 215
CITY / STATE / ZIP		CITY / STATE / ZIP	Parachute, CO 81635
PHONE		PHONE	970-263-2760
FAX		FAX	
E-MAIL	mgardner@terraep.com	E-MAIL	mgardner@terraep.com; tgose@terraep.com

Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC	COGCC 910-1 List
1	SL-1: Old Cuttings Trench (NW Corner of Open Excavation)	Soil	4/7/2020	11:30	1 x 16 oz			X

*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 analytes below.

Comments:	QC PACKAGE (check below)	
SR2 3.4°C	X	LEVEL II (Standard QC)
		LEVEL III (Std QC + forms)
		LEVEL IV (Std QC + forms + raw data)

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		Mike Gardner	4/7/2020	
RECEIVED BY			4-7-20	1430
RELINQUISHED BY			4-7-20	1830
RECEIVED BY		Diane F. Shea	4/8/20	1000
RELINQUISHED BY				
RECEIVED BY				

ALS Group, USA

Sample Receipt Checklist

Client Name: **TERRAENERGY** Date/Time Received: **08-Apr-20 10:00**

Work Order: **20040469** Received by: **DS**

Checklist completed by Diane Shaw (eSignature) 08-Apr-20 (Date) Reviewed by: Chad Whelton (eSignature) 08-Apr-20 (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:	4/8/2020 11:25:43 AM		
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: