19-Dec-2019

Brad Kesler
Terra Energy Partners, LLC
1058 Country Rd 215
Parachute, CO 81635

Re: **Starkey Watershare** Work Order: **19120837**

Dear Brad,

ALS Environmental received 1 sample on 11-Dec-2019 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 40.

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: 19-Dec-19

Client: Terra Energy Partners, LLC
Project: Starkey Watershare
Work Order: **19120837**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
19120837-01	Starkey Production Pit	Water		12/10/2019 13:00	12/11/2019 10:00	☐

Client: Terra Energy Partners, LLC
Project: Starkey Watershare
Work Order: 19120837

Case Narrative

Batch 146987, Method ICP_200.7_WW, Sample 19120837-01C MS/MSD: The MS/MSD recoveries were outside of the control limits for Barium, Calcium, Lithium, Sodium, and Strontium; however, the results in the parent sample are greater than 4x the spike amount. No qualification is required.

Batch R277386, Method IC_300.0_WW, Sample 19120837-01D: The reporting limits for Nitrate and Nitrite are elevated due to dilution for high concentrations of non-target analytes.

Batch R277529, Method PH_150.1_WW, Sample LCS-R277529: Sample was processed outside of holding time for pH, as the analysis is a field test and holding time is defined as 15 minutes.

Batch R278047A, Method VOC_624.1_WW, Sample VLCSW1-191218: The LCS recoveries were above the upper control limits for 2-Chlorotoluene and Dichlorodifluoromethane. All the sample results in the batch were non-detect. No qualification is required.

Batch R278047A, Method VOC_624.1_WW, Sample 19120837-01A MS/MSD: The MS/MSD recoveries were above the upper control limits for multiple compounds per the QC report. The corresponding results in the parent sample may be biased high for these analytes.

ALS Group, USA

Date: 19-Dec-19

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
°C	Degrees Celcius
µg/L	Micrograms per Liter
µmhos/cm	Micromhos per Centimeter
mg/L	Milligrams per Liter
mg/L CaCO3	Milligrams per Liter as Calcium Carbonate
s.u.	Standard Units

ALS Group, USA

Date: *19-Dec-19*

Client: Terra Energy Partners, LLC
Project: Starkey Watershare
Sample ID: Starkey Production Pit
Collection Date: 12/10/2019 01:00 PM

Work Order: 19120837
Lab ID: 19120837-01
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS ANALYSIS BY ICP		Method: **E200.7**			Prep: CEM-NPDES / 12/12/19		Analyst: **ABL**
Barium	**140**		**0.043**	**0.050**	**mg/L**	10	12/16/2019 15:04
Beryllium	U		0.00022	0.0020	mg/L	1	12/12/2019 15:07
Calcium	**310**		**3.9**	**5.0**	**mg/L**	10	12/16/2019 15:04
Lithium	**5.0**		**0.0047**	**0.010**	**mg/L**	1	12/12/2019 15:07
Magnesium	**43**		**0.090**	**0.20**	**mg/L**	1	12/12/2019 15:07
Potassium	**88**		**0.16**	**0.20**	**mg/L**	1	12/18/2019 16:00
Sodium	**7,000**		**26**	**50**	**mg/L**	100	12/16/2019 15:23
Strontium	**68**		**0.012**	**0.050**	**mg/L**	10	12/16/2019 15:04
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **E625.1**			Prep: E625.1 / 12/17/19		Analyst: **EE**
1,2,4,5-Tetrachlorobenzene	U		3.4	100	µg/L	1	12/18/2019 18:55
1,2,4-Trichlorobenzene	U		4.1	50.0	µg/L	1	12/18/2019 18:55
1,2-Dichlorobenzene	U		3.9	50.0	µg/L	1	12/18/2019 18:55
1,2-Diphenylhydrazine	U		1.4	50.0	µg/L	1	12/18/2019 18:55
1,3-Dichlorobenzene	U		6.5	50.0	µg/L	1	12/18/2019 18:55
1,4-Dichlorobenzene	U		3.2	50.0	µg/L	1	12/18/2019 18:55
2,2`-Oxybis(1-chloropropane)	U		2.3	50.0	µg/L	1	12/18/2019 18:55
2,4,5-Trichlorophenol	U		1.7	50.0	µg/L	1	12/18/2019 18:55
2,4,6-Trichlorophenol	U		2.5	50.0	µg/L	1	12/18/2019 18:55
2,4-Dichlorophenol	U		3.5	50.0	µg/L	1	12/18/2019 18:55
2,4-Dimethylphenol	U		3.6	50.0	µg/L	1	12/18/2019 18:55
2,4-Dinitrophenol	U		26	50.0	µg/L	1	12/18/2019 18:55
2,4-Dinitrotoluene	U		4.2	50.0	µg/L	1	12/18/2019 18:55
2,6-Dichlorophenol	U		2.7	50.0	µg/L	1	12/18/2019 18:55
2,6-Dinitrotoluene	U		1.1	50.0	µg/L	1	12/18/2019 18:55
2-Chloronaphthalene	U		0.75	1.00	µg/L	1	12/18/2019 18:55
2-Chlorophenol	U		2.3	50.0	µg/L	1	12/18/2019 18:55
2-Methylnaphthalene	**29.5**		**0.65**	**1.00**	**µg/L**	1	12/18/2019 18:55
2-Nitrophenol	U		3.4	50.0	µg/L	1	12/18/2019 18:55
3,3´-Dichlorobenzidine	U		4.6	50.0	µg/L	1	12/18/2019 18:55
4,6-Dinitro-2-methylphenol	U		2.7	50.0	µg/L	1	12/18/2019 18:55
4-Bromophenyl phenyl ether	U		3.3	50.0	µg/L	1	12/18/2019 18:55
4-Chloro-3-methylphenol	U		2.6	50.0	µg/L	1	12/18/2019 18:55
4-Chloroaniline	U		3.4	50.0	µg/L	1	12/18/2019 18:55
4-Chlorophenol	U		**0**	**50.0**	**µg/L**	1	12/18/2019 18:55
4-Chlorophenyl phenyl ether	U		3.1	50.0	µg/L	1	12/18/2019 18:55
4-Nitrophenol	U		2.4	50.0	µg/L	1	12/18/2019 18:55
Acenaphthene	U		0.81	1.00	µg/L	1	12/18/2019 18:55
Acenaphthylene	U		0.75	1.00	µg/L	1	12/18/2019 18:55

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

Client: Terra Energy Partners, LLC
Project: Starkey Watershare
Sample ID: Starkey Production Pit
Collection Date: 12/10/2019 01:00 PM

Work Order: 19120837
Lab ID: 19120837-01
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Acetophenone	U		3.7	10.0	µg/L	1	12/18/2019 18:55
Aniline	U		4.9	50.0	µg/L	1	12/18/2019 18:55
Anthracene	U		0.28	1.00	µg/L	1	12/18/2019 18:55
Benzidine	U		20	100	µg/L	1	12/18/2019 18:55
Benzo(a)anthracene	U		0.99	1.00	µg/L	1	12/18/2019 18:55
Benzo(a)pyrene	U		0.44	1.00	µg/L	1	12/18/2019 18:55
Benzo(b)fluoranthene	U		0.51	1.00	µg/L	1	12/18/2019 18:55
Benzo(g,h,i)perylene	U		0.30	1.00	µg/L	1	12/18/2019 18:55
Benzo(k)fluoranthene	U		0.48	1.00	µg/L	1	12/18/2019 18:55
Benzoic acid	U		62	200	µg/L	1	12/18/2019 18:55
Bis(2-chloroethoxy)methane	U		2.9	50.0	µg/L	1	12/18/2019 18:55
Bis(2-chloroethyl)ether	U		3.7	50.0	µg/L	1	12/18/2019 18:55
Bis(2-ethylhexyl)phthalate	U		4.0	50.0	µg/L	1	12/18/2019 18:55
Butyl benzyl phthalate	U		3.0	50.0	µg/L	1	12/18/2019 18:55
Carbazole	U		2.4	50.0	µg/L	1	12/18/2019 18:55
Chrysene	U		0.48	1.00	µg/L	1	12/18/2019 18:55
Dibenzo(a,h)anthracene	U		0.73	1.00	µg/L	1	12/18/2019 18:55
Dibenzofuran	U		2.3	50.0	µg/L	1	12/18/2019 18:55
Diethyl phthalate	U		1.7	50.0	µg/L	1	12/18/2019 18:55
Dimethyl phthalate	U		1.8	50.0	µg/L	1	12/18/2019 18:55
Di-n-butyl phthalate	U		2.1	50.0	µg/L	1	12/18/2019 18:55
Di-n-octyl phthalate	U		5.3	50.0	µg/L	1	12/18/2019 18:55
Fluoranthene	U		0.38	1.00	µg/L	1	12/18/2019 18:55
Fluorene	**1.50**		**0.51**	**1.00**	**µg/L**	1	12/18/2019 18:55
Hexachlorobenzene	U		4.4	50.0	µg/L	1	12/18/2019 18:55
Hexachlorobutadiene	U		2.8	50.0	µg/L	1	12/18/2019 18:55
Hexachlorocyclopentadiene	U		11	50.0	µg/L	1	12/18/2019 18:55
Hexachloroethane	U		2.1	50.0	µg/L	1	12/18/2019 18:55
Indeno(1,2,3-cd)pyrene	U		0.67	1.00	µg/L	1	12/18/2019 18:55
Isophorone	U		3.4	50.0	µg/L	1	12/18/2019 18:55
m,p-Cresol	**16.8**	J	**2.1**	**50.0**	**µg/L**	1	12/18/2019 18:55
Naphthalene	**20.8**		**0.67**	**1.00**	**µg/L**	1	12/18/2019 18:55
Nitrobenzene	U		2.6	50.0	µg/L	1	12/18/2019 18:55
N-Nitrosodimethylamine	U		4.8	50.0	µg/L	1	12/18/2019 18:55
N-Nitrosodi-n-propylamine	U		3.5	50.0	µg/L	1	12/18/2019 18:55
N-Nitrosodiphenylamine	U		4.9	50.0	µg/L	1	12/18/2019 18:55
o-Cresol	U		2.5	50.0	µg/L	1	12/18/2019 18:55
Pentachlorobenzene	U		2.6	200	µg/L	1	12/18/2019 18:55
Pentachloronitrobenzene	U		2.5	100	µg/L	1	12/18/2019 18:55
Pentachlorophenol	U		9.7	50.0	µg/L	1	12/18/2019 18:55

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

Client: Terra Energy Partners, LLC
Project: Starkey Watershare
Sample ID: Starkey Production Pit
Collection Date: 12/10/2019 01:00 PM

Work Order: 19120837
Lab ID: 19120837-01
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Phenanthrene	U		0.81	1.00	µg/L	1	12/18/2019 18:55
Phenol	U		2.1	50.0	µg/L	1	12/18/2019 18:55
Pyrene	U		0.36	1.00	µg/L	1	12/18/2019 18:55
Pyridine	U		1.0	100	µg/L	1	12/18/2019 18:55
Cresols	**16.8**	J	**4.6**	**100**	**µg/L**	1	12/18/2019 18:55
Surr: 2,4,6-Tribromophenol	*71.4*			*27-83*	*%REC*	1	12/18/2019 18:55
Surr: 2-Fluorobiphenyl	*69.9*			*26-79*	*%REC*	1	12/18/2019 18:55
Surr: 2-Fluorophenol	*34.7*			*13-56*	*%REC*	1	12/18/2019 18:55
Surr: 4-Terphenyl-d14	*68.4*			*43-106*	*%REC*	1	12/18/2019 18:55
Surr: Nitrobenzene-d5	*77.8*			*29-80*	*%REC*	1	12/18/2019 18:55
Surr: Phenol-d6	*21.5*			*10-35*	*%REC*	1	12/18/2019 18:55
VOLATILE ORGANIC COMPOUNDS		Method: **E624.1**					Analyst: **JNS**
1,1,1,2-Tetrachloroethane	U		3.8	10.0	µg/L	10	12/18/2019 23:13
1,1,1-Trichloroethane	U		4.6	10.0	µg/L	10	12/18/2019 23:13
1,1,2,2-Tetrachloroethane	U		4.0	10.0	µg/L	10	12/18/2019 23:13
1,1,2-Trichloroethane	U		4.6	10.0	µg/L	10	12/18/2019 23:13
1,1-Dichloroethane	U		4.4	10.0	µg/L	10	12/18/2019 23:13
1,1-Dichloroethene	U		4.0	10.0	µg/L	10	12/18/2019 23:13
1,1-Dichloropropene	U		3.7	10.0	µg/L	10	12/18/2019 23:13
1,2,3-Trichlorobenzene	U		4.2	10.0	µg/L	10	12/18/2019 23:13
1,2,3-Trichloropropane	U		4.0	10.0	µg/L	10	12/18/2019 23:13
1,2,4-Trichlorobenzene	U		4.5	10.0	µg/L	10	12/18/2019 23:13
1,2,4-Trimethylbenzene	**179**		**4.5**	**10.0**	**µg/L**	10	12/18/2019 23:13
1,2-Dibromo-3-chloropropane	U		4.3	10.0	µg/L	10	12/18/2019 23:13
1,2-Dibromoethane	U		4.1	10.0	µg/L	10	12/18/2019 23:13
1,2-Dichlorobenzene	U		3.2	10.0	µg/L	10	12/18/2019 23:13
1,2-Dichloroethane	U		4.4	10.0	µg/L	10	12/18/2019 23:13
1,2-Dichloropropane	U		4.8	10.0	µg/L	10	12/18/2019 23:13
1,3,5-Trimethylbenzene	**171**		**6.5**	**10.0**	**µg/L**	10	12/18/2019 23:13
1,3-Dichlorobenzene	U		3.3	10.0	µg/L	10	12/18/2019 23:13
1,3-Dichloropropane	U		4.0	10.0	µg/L	10	12/18/2019 23:13
1,4-Dichlorobenzene	U		3.5	10.0	µg/L	10	12/18/2019 23:13
1,4-Dioxane	U		780	1,200	µg/L	10	12/18/2019 23:13
2,2-Dichloropropane	U		5.2	10.0	µg/L	10	12/18/2019 23:13
2-Butanone	U		5.2	50.0	µg/L	10	12/18/2019 23:13
2-Chloroethyl vinyl ether	U		8.2	10.0	µg/L	10	12/18/2019 23:13
2-Chlorotoluene	U		3.6	10.0	µg/L	10	12/18/2019 23:13
2-Hexanone	U		5.9	50.0	µg/L	10	12/18/2019 23:13
2-Methylnaphthalene	**34.5**	J	**6.6**	**50.0**	**µg/L**	10	12/18/2019 23:13

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

Client: Terra Energy Partners, LLC
Project: Starkey Watershare
Sample ID: Starkey Production Pit
Collection Date: 12/10/2019 01:00 PM

Work Order: 19120837
Lab ID: 19120837-01
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
4-Chlorotoluene	U		3.1	10.0	µg/L	10	12/18/2019 23:13
4-Methyl-2-pentanone	U		5.2	10.0	µg/L	10	12/18/2019 23:13
Acetone	**652**		**62**	**100**	**µg/L**	10	12/18/2019 23:13
Acrolein	U		73	200	µg/L	10	12/18/2019 23:13
Acrylonitrile	U		5.0	10.0	µg/L	10	12/18/2019 23:13
Benzene	**596**		**4.6**	**10.0**	**µg/L**	10	12/18/2019 23:13
Bromobenzene	U		3.8	10.0	µg/L	10	12/18/2019 23:13
Bromochloromethane	U		4.5	10.0	µg/L	10	12/18/2019 23:13
Bromodichloromethane	U		4.9	10.0	µg/L	10	12/18/2019 23:13
Bromoform	U		5.6	10.0	µg/L	10	12/18/2019 23:13
Bromomethane	U		15	20.0	µg/L	10	12/18/2019 23:13
Butyl acetate	U		4.2	10.0	µg/L	10	12/18/2019 23:13
Carbon disulfide	U		4.9	10.0	µg/L	10	12/18/2019 23:13
Carbon tetrachloride	U		4.0	10.0	µg/L	10	12/18/2019 23:13
Chlorobenzene	U		4.0	10.0	µg/L	10	12/18/2019 23:13
Chloroethane	U		6.8	20.0	µg/L	10	12/18/2019 23:13
Chloroform	U		4.6	10.0	µg/L	10	12/18/2019 23:13
Chloromethane	U		8.3	10.0	µg/L	10	12/18/2019 23:13
cis-1,2-Dichloroethene	U		4.2	10.0	µg/L	10	12/18/2019 23:13
cis-1,3-Dichloropropene	U		5.7	10.0	µg/L	10	12/18/2019 23:13
Dibromochloromethane	U		4.0	10.0	µg/L	10	12/18/2019 23:13
Dibromomethane	U		6.5	10.0	µg/L	10	12/18/2019 23:13
Dichlorodifluoromethane	U		6.8	10.0	µg/L	10	12/18/2019 23:13
Diethyl ether	U		5.1	10.0	µg/L	10	12/18/2019 23:13
Diisopropyl ether	U		4.1	50.0	µg/L	10	12/18/2019 23:13
Ethylbenzene	**72.1**		**3.4**	**10.0**	**µg/L**	10	12/18/2019 23:13
Hexachlorobutadiene	U		5.6	10.0	µg/L	10	12/18/2019 23:13
Hexachloroethane	U		4.5	10.0	µg/L	10	12/18/2019 23:13
Hexane	**32.8**		**4.0**	**10.0**	**µg/L**	10	12/18/2019 23:13
Isopropylbenzene	**12.7**		**3.5**	**10.0**	**µg/L**	10	12/18/2019 23:13
m,p-Xylene	**1,070**		**8.1**	**20.0**	**µg/L**	10	12/18/2019 23:13
Methyl tert-butyl ether	U		4.5	10.0	µg/L	10	12/18/2019 23:13
Methylene chloride	U		8.6	50.0	µg/L	10	12/18/2019 23:13
Naphthalene	**27.7**	J	**7.7**	**50.0**	**µg/L**	10	12/18/2019 23:13
n-Butylbenzene	U		3.4	10.0	µg/L	10	12/18/2019 23:13
n-Propylbenzene	**15.5**		**4.8**	**10.0**	**µg/L**	10	12/18/2019 23:13
o-Xylene	**219**		**3.1**	**10.0**	**µg/L**	10	12/18/2019 23:13
p-Isopropyltoluene	**7.40**	J	**2.6**	**10.0**	**µg/L**	10	12/18/2019 23:13
sec-Butylbenzene	**5.50**	J	**3.0**	**10.0**	**µg/L**	10	12/18/2019 23:13
Styrene	U		3.3	10.0	µg/L	10	12/18/2019 23:13

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

Client: Terra Energy Partners, LLC
Project: Starkey Watershare
Sample ID: Starkey Production Pit
Collection Date: 12/10/2019 01:00 PM

Work Order: 19120837
Lab ID: 19120837-01
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
tert-Butyl alcohol	U		24	200	µg/L	10	12/18/2019 23:13
tert-Butylbenzene	U		3.9	10.0	µg/L	10	12/18/2019 23:13
Tetrachloroethene	U		3.9	10.0	µg/L	10	12/18/2019 23:13
Tetrahydrofuran	U		7.3	10.0	µg/L	10	12/18/2019 23:13
Toluene	**2,020**		**45**	**100**	**µg/L**	100	12/16/2019 20:18
trans-1,2-Dichloroethene	U		4.8	10.0	µg/L	10	12/18/2019 23:13
trans-1,3-Dichloropropene	U		3.8	10.0	µg/L	10	12/18/2019 23:13
Trichloroethene	U		4.3	10.0	µg/L	10	12/18/2019 23:13
Trichlorofluoromethane	U		5.2	10.0	µg/L	10	12/18/2019 23:13
Vinyl acetate	U		8.3	50.0	µg/L	10	12/18/2019 23:13
Vinyl chloride	U		5.3	10.0	µg/L	10	12/18/2019 23:13
1,2-Dichloroethene, Total	U		4.8	20.0	µg/L	10	12/18/2019 23:13
1,3-Dichloropropene, Total	U		5.7	20.0	µg/L	10	12/18/2019 23:13
Xylenes, Total	**1,290**		**8.1**	**30.0**	**µg/L**	10	12/18/2019 23:13
BTEX, Total	**3,340**		**4.2**	**60.0**	**µg/L**	10	12/18/2019 23:13
Surr: 1,2-Dichloroethane-d4	*89.3*			*49-155*	*%REC*	100	12/16/2019 20:18
Surr: 1,2-Dichloroethane-d4	*99.3*			*49-155*	*%REC*	10	12/18/2019 23:13
Surr: 4-Bromofluorobenzene	*99.2*			*60-140*	*%REC*	100	12/16/2019 20:18
Surr: 4-Bromofluorobenzene	*96.0*			*60-140*	*%REC*	10	12/18/2019 23:13
Surr: Dibromofluoromethane	*100*			*60-140*	*%REC*	100	12/16/2019 20:18
Surr: Dibromofluoromethane	*95.1*			*60-140*	*%REC*	10	12/18/2019 23:13
Surr: Toluene-d8	*92.2*			*47-150*	*%REC*	100	12/16/2019 20:18
Surr: Toluene-d8	*103*			*47-150*	*%REC*	10	12/18/2019 23:13
HARDNESS		Method: **A2340 C-11**					Analyst: **DVD**
Hardness	**1,100**		**2.2**	**5.0**	**mg/L CaCO3**	1	12/15/2019 14:00
ANIONS BY ION CHROMATOGRAPHY		Method: **E300.0**					Analyst: **JDR**
Bromide	**82**		**1.3**	**8.0**	**mg/L**	40	12/11/2019 22:05
Chloride	**11,000**		**620**	**2,000**	**mg/L**	2000	12/11/2019 22:24
Fluoride	**30**		**2.7**	**4.0**	**mg/L**	40	12/12/2019 11:45
Nitrogen, Nitrate	U		1.8	4.0	mg/L	40	12/11/2019 22:05
Nitrogen, Nitrite	U		0.66	4.0	mg/L	40	12/11/2019 22:05
Sulfate	**8.1**	J	**2.3**	**40**	**mg/L**	40	12/11/2019 22:05
Nitrogen, Nitrate-Nitrite	U		0.66	4.0	mg/L	40	12/11/2019 22:05
PH (LABORATORY)		Method: **E150.1**					Analyst: **QTN**
pH (laboratory)	**7.81**	H	**0.10**	**0.100**	**s.u.**	1	12/13/2019 11:32
Temperature	**2.20**	H	**0.10**	**0.100**	**°C**	1	12/13/2019 11:32
SPECIFIC CONDUCTANCE @ 25°C		Method: **E120.1**					Analyst: **DVD**
Specific Conductance	**35,000**		**0.97**	**5.0**	**µmhos/cm**	1	12/15/2019 09:30

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

ALS Group, USA

Date: *19-Dec-19*

Client: Terra Energy Partners, LLC
Project: Starkey Watershare
Sample ID: Starkey Production Pit
Collection Date: 12/10/2019 01:00 PM

Work Order: 19120837
Lab ID: 19120837-01
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
TOTAL DISSOLVED SOLIDS		Method: **E160.1**			Prep: FILTER / 12/16/19		Analyst: **ERW**
Total Dissolved Solids	**21,000**		**220**	**300**	**mg/L**	1	12/17/2019 15:23

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

Batch ID: **146987** Instrument ID **ICP2** Method: **E200.7**

MBLK Sample ID: **MBLK-146987-146987** Units: **mg/L** Analysis Date: **12/12/2019 02:48 P**

Client ID: Run ID: **ICP2_191212A** SeqNo: **6124831** Prep Date: **12/12/2019** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	U	0.0050								
Beryllium	U	0.0020								
Calcium	U	0.50								
Lithium	U	0.010								
Magnesium	U	0.20								
Strontium	U	0.0050								

MBLK Sample ID: **MBLK-146987-146987** Units: **mg/L** Analysis Date: **12/16/2019 02:45 P**

Client ID: Run ID: **ICP2_191216A** SeqNo: **6130864** Prep Date: **12/12/2019** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium	U	0.50								

LCS Sample ID: **LCS-146987-146987** Units: **mg/L** Analysis Date: **12/12/2019 02:55 P**

Client ID: Run ID: **ICP2_191212A** SeqNo: **6124832** Prep Date: **12/12/2019** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	0.1042	0.0050	0.1	0	104	85-115	0			
Beryllium	0.09966	0.0020	0.1	0	99.7	85-115	0			
Calcium	9.832	0.50	10	0	98.3	85-115	0			
Lithium	0.09988	0.010	0.1	0	99.9	85-115	0			
Magnesium	10.47	0.20	10	0	105	85-115	0			
Strontium	0.1019	0.0050	0.1	0	102	85-115	0			

LCS Sample ID: **LCS-146987-146987** Units: **mg/L** Analysis Date: **12/16/2019 02:51 P**

Client ID: Run ID: **ICP2_191216A** SeqNo: **6130865** Prep Date: **12/12/2019** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium	9.687	0.50	10	0	96.9	85-115	0			

MS Sample ID: **19120837-01CMS** Units: **mg/L** Analysis Date: **12/12/2019 03:14 P**

Client ID: **Starkey Production Pit** Run ID: **ICP2_191212A** SeqNo: **6124835** Prep Date: **12/12/2019** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Beryllium	0.1019	0.0020	0.1	0	102	70-130	0			
Lithium	4.823	0.010	0.1	5.004	-182	70-130	0			SO
Magnesium	50.07	0.20	10	42.87	72	70-130	0			O

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

Client: Terra Energy Partners, LLC
Work Order: 19120837
Project: Starkey Watershare

QC BATCH REPORT

Batch ID: **146987** Instrument ID **ICP2** Method: **E200.7**

MS Sample ID: **19120837-01CMS** Units: **mg/L** Analysis Date: **12/16/2019 03:10 P**
Client ID: **Starkey Production Pit** Run ID: **ICP2_191216A** SeqNo: **6130868** Prep Date: **12/12/2019** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	133	0.050	0.1	120.3	12700	70-130	0			SO
Calcium	304.7	5.0	10	269.5	352	70-130	0			SO
Strontium	65.5	0.050	0.1	58.24	7260	70-130	0			SO

MS Sample ID: **19120837-01CMS** Units: **mg/L** Analysis Date: **12/16/2019 03:29 P**
Client ID: **Starkey Production Pit** Run ID: **ICP2_191216A** SeqNo: **6130871** Prep Date: **12/12/2019** DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium	8792	50	10	6989	18000	70-130	0			SO

MSD Sample ID: **19120837-01CMSD** Units: **mg/L** Analysis Date: **12/12/2019 03:20 P**
Client ID: **Starkey Production Pit** Run ID: **ICP2_191212A** SeqNo: **6124836** Prep Date: **12/12/2019** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Beryllium	0.1026	0.0020	0.1	0	103	70-130	0.1019	0.753	20	
Lithium	4.955	0.010	0.1	5.004	-49.9	70-130	4.823	2.69	20	SO
Magnesium	49.9	0.20	10	42.87	70.3	70-130	50.07	0.35	20	O

MSD Sample ID: **19120837-01CMSD** Units: **mg/L** Analysis Date: **12/16/2019 03:17 P**
Client ID: **Starkey Production Pit** Run ID: **ICP2_191216A** SeqNo: **6130869** Prep Date: **12/12/2019** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	135	0.050	0.1	120.3	14700	70-130	147.4	8.78	20	SO
Calcium	308.7	5.0	10	269.5	392	70-130	337.8	9.01	20	SO
Strontium	66.45	0.050	0.1	58.24	8210	70-130	72.21	8.31	20	SO

MSD Sample ID: **19120837-01CMSD** Units: **mg/L** Analysis Date: **12/16/2019 03:36 P**
Client ID: **Starkey Production Pit** Run ID: **ICP2_191216A** SeqNo: **6130872** Prep Date: **12/12/2019** DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium	7093	50	10	6989	1040	70-130	8792	21.4	20	SRO

The following samples were analyzed in this batch: 19120837-01C

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

Client: Terra Energy Partners, LLC
Work Order: 19120837
Project: Starkey Watershare

QC BATCH REPORT

Batch ID: **147215** Instrument ID **ICP2** Method: **E200.7**

MBLK	Sample ID: **MBLK-147215-147215**			Units: **mg/L**			Analysis Date: **12/18/2019 03:48 P**			
Client ID:	Run ID: **ICP2_191218A**			SeqNo: **6139516**			Prep Date: **12/17/2019**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Potassium	U	0.20								

LCS	Sample ID: **LCS-147215-147215**			Units: **mg/L**			Analysis Date: **12/18/2019 03:54 P**			
Client ID:	Run ID: **ICP2_191218A**			SeqNo: **6139517**			Prep Date: **12/17/2019**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Potassium	9.634	0.20	10	0	96.3	85-115	0			

MS	Sample ID: **19120837-01CMS**			Units: **mg/L**			Analysis Date: **12/18/2019 04:07 P**			
Client ID: **Starkey Production Pit**	Run ID: **ICP2_191218A**			SeqNo: **6139519**			Prep Date: **12/17/2019**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Potassium	96.39	0.20	10	88.4	79.9	70-130	0			O

MSD	Sample ID: **19120837-01CMSD**			Units: **mg/L**			Analysis Date: **12/18/2019 04:14 P**			
Client ID: **Starkey Production Pit**	Run ID: **ICP2_191218A**			SeqNo: **6139520**			Prep Date: **12/17/2019**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Potassium	98.33	0.20	10	88.4	99.3	70-130	96.39	1.99	20	O

The following samples were analyzed in this batch: 19120837-01C

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

Batch ID: **147220** Instrument ID **SVMS8** Method: **E625.1**

MBLK Sample ID: **SBLKW1-147220-147220** Units: **µg/L** Analysis Date: **12/18/2019 01:54 P**

Client ID: Run ID: **SVMS8_191218A** SeqNo: **6141672** Prep Date: **12/17/2019** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4,5-Tetrachlorobenzene	U	10								
1,2,4-Trichlorobenzene	U	5.0								
1,2-Dichlorobenzene	U	5.0								
1,2-Diphenylhydrazine	U	5.0								
1,3-Dichlorobenzene	U	5.0								
1,4-Dichlorobenzene	U	5.0								
2,2`-Oxybis(1-chloropropane)	U	5.0								
2,4,5-Trichlorophenol	U	5.0								
2,4,6-Trichlorophenol	U	5.0								
2,4-Dichlorophenol	U	5.0								
2,4-Dimethylphenol	U	5.0								
2,4-Dinitrophenol	U	5.0								
2,4-Dinitrotoluene	U	5.0								
2,6-Dichlorophenol	U	5.0								
2,6-Dinitrotoluene	U	5.0								
2-Chloronaphthalene	U	0.10								
2-Chlorophenol	U	5.0								
2-Methylnaphthalene	U	0.10								
2-Nitrophenol	U	5.0								
3,3´-Dichlorobenzidine	U	5.0								
4,6-Dinitro-2-methylphenol	U	5.0								
4-Bromophenyl phenyl ether	U	5.0								
4-Chloro-3-methylphenol	U	5.0								
4-Chloroaniline	U	5.0								
4-Chlorophenol	U	5.0								
4-Chlorophenyl phenyl ether	U	5.0								
4-Nitrophenol	U	5.0								
Acenaphthene	U	0.10								
Acenaphthylene	U	0.10								
Acetophenone	U	1.0								
Aniline	U	5.0								
Anthracene	U	0.10								
Benzidine	U	10								
Benzo(a)anthracene	U	0.10								
Benzo(a)pyrene	U	0.10								
Benzo(b)fluoranthene	U	0.10								
Benzo(g,h,i)perylene	U	0.10								
Benzo(k)fluoranthene	U	0.10								
Benzoic acid	U	20								
Bis(2-chloroethoxy)methane	U	5.0								
Bis(2-chloroethyl)ether	U	5.0								
Bis(2-ethylhexyl)phthalate	U	5.0								

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

Batch ID: **147220** Instrument ID **SVMS8** Method: **E625.1**

Butyl benzyl phthalate	U	5.0					
Carbazole	U	5.0					
Chrysene	U	0.10					
Dibenzo(a,h)anthracene	U	0.10					
Dibenzofuran	U	5.0					
Diethyl phthalate	U	5.0					
Dimethyl phthalate	U	5.0					
Di-n-butyl phthalate	U	5.0					
Di-n-octyl phthalate	U	5.0					
Fluoranthene	U	0.10					
Fluorene	U	0.10					
Hexachlorobenzene	U	5.0					
Hexachlorobutadiene	U	5.0					
Hexachlorocyclopentadiene	U	5.0					
Hexachloroethane	U	5.0					
Indeno(1,2,3-cd)pyrene	U	0.10					
Isophorone	U	5.0					
m,p-Cresol	U	5.0					
Naphthalene	U	0.10					
Nitrobenzene	U	5.0					
N-Nitrosodimethylamine	U	5.0					
N-Nitrosodi-n-propylamine	U	5.0					
N-Nitrosodiphenylamine	U	5.0					
o-Cresol	U	5.0					
Pentachlorobenzene	U	20					
Pentachloronitrobenzene	U	10					
Pentachlorophenol	U	5.0					
Phenanthrene	U	0.10					
Phenol	U	5.0					
Pyrene	U	0.10					
Pyridine	U	10					
Cresols	U	10					
Surr: 2,4,6-Tribromophenol	*33.52*	0	*50*	0	*67*	*27-83*	0
Surr: 2-Fluorobiphenyl	*36.43*	0	*50*	0	*72.9*	*26-79*	0
Surr: 2-Fluorophenol	*15.03*	0	*50*	0	*30.1*	*13-56*	0
Surr: 4-Terphenyl-d14	*34.42*	0	*50*	0	*68.8*	*43-106*	0
Surr: Nitrobenzene-d5	*35.15*	0	*50*	0	*70.3*	*29-80*	0
Surr: Phenol-d6	*6.25*	0	*50*	0	*12.5*	*10-35*	0

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

Client: Terra Energy Partners, LLC
Work Order: 19120837
Project: Starkey Watershare

QC BATCH REPORT

Batch ID: **147220** Instrument ID **SVMS8** Method: **E625.1**

LCS	Sample ID: **SLCSW1-147220-147220**				Units: **µg/L**			Analysis Date: **12/18/2019 02:15 P**		
Client ID:		Run ID: **SVMS8_191218A**			SeqNo: **6141673**		Prep Date: **12/17/2019**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4,5-Tetrachlorobenzene	15.21	10	20	0	76	30-120	0			
1,2,4-Trichlorobenzene	14.75	5.0	20	0	73.8	44-142	0			
1,2-Dichlorobenzene	13.99	5.0	20	0	70	35-100	0			
1,2-Diphenylhydrazine	16.57	5.0	20	0	82.8	55-115	0			
1,3-Dichlorobenzene	14.6	5.0	20	0	73	30-100	0			
1,4-Dichlorobenzene	13.8	5.0	20	0	69	30-100	0			
2,2`-Oxybis(1-chloropropane)	15.38	5.0	20	0	76.9	36-166	0			
2,4,5-Trichlorophenol	14.75	5.0	20	0	73.8	50-110	0			
2,4,6-Trichlorophenol	14.51	5.0	20	0	72.6	37-144	0			
2,4-Dichlorophenol	14.19	5.0	20	0	71	39-135	0			
2,4-Dimethylphenol	13.12	5.0	20	0	65.6	32-120	0			
2,4-Dinitrophenol	10.01	5.0	20	0	50	10-191	0			
2,4-Dinitrotoluene	15.75	5.0	20	0	78.8	39-139	0			
2,6-Dichlorophenol	15.16	5.0	20	0	75.8	50-105	0			
2,6-Dinitrotoluene	15.7	5.0	20	0	78.5	50-158	0			
2-Chloronaphthalene	15.36	0.10	20	0	76.8	60-120	0			
2-Chlorophenol	13.19	5.0	20	0	66	23-134	0			
2-Methylnaphthalene	15.16	0.10	20	0	75.8	45-105	0			
2-Nitrophenol	15.22	5.0	20	0	76.1	29-182	0			
3,3´-Dichlorobenzidine	13.5	5.0	20	0	67.5	10-262	0			
4,6-Dinitro-2-methylphenol	13.75	5.0	20	0	68.8	10-181	0			
4-Bromophenyl phenyl ether	16.84	5.0	20	0	84.2	53-127	0			
4-Chloro-3-methylphenol	14.17	5.0	20	0	70.8	22-147	0			
4-Chloroaniline	13.57	5.0	20	0	67.8	15-110	0			
4-Chlorophenyl phenyl ether	16.66	5.0	20	0	83.3	25-158	0			
4-Nitrophenol	5.22	5.0	20	0	26.1	10-132	0			
Acenaphthene	15.4	0.10	20	0	77	47-145	0			
Acenaphthylene	15.57	0.10	20	0	77.8	33-145	0			
Acetophenone	15.33	1.0	20	0	76.6	30-120	0			
Aniline	11.73	5.0	20	0	58.6	45-135	0			
Anthracene	15.56	0.10	20	0	77.8	27-133	0			
Benzo(a)anthracene	16.06	0.10	20	0	80.3	33-143	0			
Benzo(a)pyrene	15.53	0.10	20	0	77.6	17-163	0			
Benzo(b)fluoranthene	15.97	0.10	20	0	79.8	24-159	0			
Benzo(g,h,i)perylene	15.19	0.10	20	0	76	10-219	0			
Benzo(k)fluoranthene	15.91	0.10	20	0	79.6	11-162	0			
Bis(2-chloroethoxy)methane	16.22	5.0	20	0	81.1	33-184	0			
Bis(2-chloroethyl)ether	14.65	5.0	20	0	73.2	12-158	0			
Bis(2-ethylhexyl)phthalate	16.57	5.0	20	0	82.8	10-158	0			
Butyl benzyl phthalate	15.97	5.0	20	0	79.8	10-152	0			
Carbazole	15.15	5.0	20	0	75.8	50-130	0			
Chrysene	15.61	0.10	20	0	78	17-168	0			

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

Batch ID: **147220**	Instrument ID **SVMS8**		Method: **E625.1**					
Dibenzo(a,h)anthracene	15.41	0.10	20	0	77	10-227	0	
Dibenzofuran	15.42	5.0	20	0	77.1	10-120	0	
Diethyl phthalate	17.08	5.0	20	0	85.4	10-120	0	
Dimethyl phthalate	16.64	5.0	20	0	83.2	10-120	0	
Di-n-butyl phthalate	16.17	5.0	20	0	80.8	10-120	0	
Di-n-octyl phthalate	17.58	5.0	20	0	87.9	10-146	0	
Fluoranthene	15.89	0.10	20	0	79.4	26-137	0	
Fluorene	15.47	0.10	20	0	77.4	59-121	0	
Hexachlorobenzene	16.07	5.0	20	0	80.4	10-152	0	
Hexachlorobutadiene	14.81	5.0	20	0	74	24-120	0	
Hexachlorocyclopentadiene	9.06	5.0	20	0	45.3	25-105	0	
Hexachloroethane	13.58	5.0	20	0	67.9	40-120	0	
Indeno(1,2,3-cd)pyrene	16.16	0.10	20	0	80.8	10-171	0	
Isophorone	16.03	5.0	20	0	80.2	21-196	0	
m,p-Cresol	9.76	5.0	20	0	48.8	30-110	0	
Naphthalene	14.9	0.10	20	0	74.5	21-133	0	
Nitrobenzene	14.51	5.0	20	0	72.6	35-180	0	
N-Nitrosodimethylamine	8.99	5.0	20	0	45	25-110	0	
N-Nitrosodi-n-propylamine	15.69	5.0	20	0	78.4	10-230	0	
N-Nitrosodiphenylamine	15.05	5.0	20	0	75.2	50-110	0	
o-Cresol	11.52	5.0	20	0	57.6	30-110	0	
Pentachlorophenol	10.07	5.0	20	0	50.4	14-176	0	
Phenanthrene	15.4	0.10	20	0	77	54-120	0	
Phenol	5.4	5.0	20	0	27	10-120	0	
Pyrene	15.78	0.10	20	0	78.9	52-120	0	
Pyridine	7.4	10	20	0	37	10-71	0	J
Cresols	21.28	10	40	0	53.2	30-110	0	
Surr: 2,4,6-Tribromophenol	*38.47*	0	*50*	0	*76.9*	*27-83*	0	
Surr: 2-Fluorobiphenyl	*38.52*	0	*50*	0	*77*	*26-79*	0	
Surr: 2-Fluorophenol	*19.35*	0	*50*	0	*38.7*	*13-56*	0	
Surr: 4-Terphenyl-d14	*34.04*	0	*50*	0	*68.1*	*43-106*	0	
Surr: Nitrobenzene-d5	*39.03*	0	*50*	0	*78.1*	*29-80*	0	
Surr: Phenol-d6	*11.43*	0	*50*	0	*22.9*	*10-35*	0	

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

Client: Terra Energy Partners, LLC
Work Order: 19120837
Project: Starkey Watershare

QC BATCH REPORT

Batch ID: **147220** Instrument ID **SVMS8** Method: **E625.1**

MS Sample ID: **19120735-17A MS** Units: **µg/L** Analysis Date: **12/18/2019 04:01 P**

Client ID: Run ID: **SVMS8_191218A** SeqNo: **6141699** Prep Date: **12/17/2019** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4,5-Tetrachlorobenzene	278.8	200	400	0	69.7	30-120	0			
1,2,4-Trichlorobenzene	269.6	100	400	0	67.4	44-142	0			
1,2-Dichlorobenzene	235.8	100	400	0	59	35-100	0			
1,2-Diphenylhydrazine	309.4	100	400	0	77.4	55-115	0			
1,3-Dichlorobenzene	246	100	400	0	61.5	30-100	0			
1,4-Dichlorobenzene	236.8	100	400	0	59.2	30-100	0			
2,2`-Oxybis(1-chloropropane)	273.4	100	400	0	68.4	36-166	0			
2,4,5-Trichlorophenol	283.2	100	400	0	70.8	50-110	0			
2,4,6-Trichlorophenol	280.6	100	400	0	70.2	37-144	0			
2,4-Dichlorophenol	268.4	100	400	0	67.1	39-135	0			
2,4-Dimethylphenol	229.4	100	400	0	57.4	32-120	0			
2,4-Dinitrophenol	269.8	100	400	0	67.4	10-191	0			
2,4-Dinitrotoluene	299	100	400	0	74.8	39-139	0			
2,6-Dichlorophenol	273	100	400	0	68.2	50-105	0			
2,6-Dinitrotoluene	281.4	100	400	0	70.4	50-158	0			
2-Chloronaphthalene	281.8	2.0	400	0	70.4	60-120	0			
2-Chlorophenol	227.8	100	400	0	57	23-134	0			
2-Methylnaphthalene	441.6	2.0	400	125.2	79.1	45-105	0			
2-Nitrophenol	268.8	100	400	0	67.2	29-182	0			
3,3´-Dichlorobenzidine	278.6	100	400	0	69.6	10-262	0			
4,6-Dinitro-2-methylphenol	293.8	100	400	0	73.4	10-181	0			
4-Bromophenyl phenyl ether	312	100	400	0	78	53-127	0			
4-Chloro-3-methylphenol	252.8	100	400	0	63.2	22-147	0			
4-Chloroaniline	242	100	400	0	60.5	15-110	0			
4-Chlorophenyl phenyl ether	308.4	100	400	0	77.1	25-158	0			
4-Nitrophenol	106.2	100	400	0	26.6	10-132	0			
Acenaphthene	279.8	2.0	400	0	70	47-145	0			
Acenaphthylene	284.2	2.0	400	0	71	33-145	0			
Acetophenone	280	20	400	0	70	30-120	0			
Aniline	203.6	100	400	0	50.9	45-135	0			
Anthracene	303.6	2.0	400	0	75.9	27-133	0			
Benzo(a)anthracene	307.6	2.0	400	0	76.9	33-143	0			
Benzo(a)pyrene	306.6	2.0	400	0	76.6	17-163	0			
Benzo(b)fluoranthene	306.2	2.0	400	0	76.6	24-159	0			
Benzo(g,h,i)perylene	299	2.0	400	0	74.8	10-219	0			
Benzo(k)fluoranthene	306.6	2.0	400	0	76.6	11-162	0			
Bis(2-chloroethoxy)methane	294.6	100	400	0	73.6	33-184	0			
Bis(2-chloroethyl)ether	254.8	100	400	0	63.7	12-158	0			
Bis(2-ethylhexyl)phthalate	321.4	100	400	0	80.4	10-158	0			
Butyl benzyl phthalate	320.8	100	400	0	80.2	10-152	0			
Carbazole	294.8	100	400	0	73.7	50-130	0			
Chrysene	301.8	2.0	400	0	75.4	17-168	0			

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

Batch ID: **147220** Instrument ID **SVMS8** Method: **E625.1**

Dibenzo(a,h)anthracene	303	2.0	400	0	75.8	10-227	0	
Dibenzofuran	289.8	100	400	0	72.4	10-120	0	
Diethyl phthalate	312	100	400	0	78	10-120	0	
Dimethyl phthalate	300.6	100	400	0	75.2	10-120	0	
Di-n-butyl phthalate	312.6	100	400	0	78.2	10-120	0	
Di-n-octyl phthalate	341.8	100	400	0	85.4	10-146	0	
Fluoranthene	304.2	2.0	400	0	76	26-137	0	
Fluorene	288.2	2.0	400	3.2	71.2	59-121	0	
Hexachlorobenzene	299	100	400	0	74.8	10-152	0	
Hexachlorobutadiene	252	100	400	0	63	24-120	0	
Hexachlorocyclopentadiene	188.2	100	400	0	47	25-105	0	
Hexachloroethane	240.4	100	400	0	60.1	40-120	0	
Indeno(1,2,3-cd)pyrene	314.8	2.0	400	0	78.7	10-171	0	
Isophorone	289.4	100	400	0	72.4	21-196	0	
m,p-Cresol	159	100	400	0	39.8	30-110	0	
Naphthalene	372.6	2.0	400	83.4	72.3	21-133	0	
Nitrobenzene	266.8	100	400	0	66.7	35-180	0	
N-Nitrosodimethylamine	149.6	100	400	0	37.4	25-110	0	
N-Nitrosodi-n-propylamine	283.4	100	400	0	70.8	10-230	0	
N-Nitrosodiphenylamine	291.8	100	400	0	73	50-110	0	
o-Cresol	192.6	100	400	0	48.2	30-110	0	
Pentachlorophenol	267.4	100	400	0	66.8	14-176	0	
Phenanthrene	300.8	2.0	400	4.2	74.2	54-120	0	
Phenol	85	100	400	0	21.2	10-120	0	J
Pyrene	310.4	2.0	400	0	77.6	52-120	0	
Pyridine	107.2	200	400	0	26.8	10-71	0	J
Cresols	351.6	200	800	0	44	30-110	0	
Surr: 2,4,6-Tribromophenol	*748.8*	0	*1000*	0	*74.9*	*27-83*	0	
Surr: 2-Fluorobiphenyl	*714*	0	*1000*	0	*71.4*	*26-79*	0	
Surr: 2-Fluorophenol	*301.4*	0	*1000*	0	*30.1*	*13-56*	0	
Surr: 4-Terphenyl-d14	*656.8*	0	*1000*	0	*65.7*	*43-106*	0	
Surr: Nitrobenzene-d5	*725.8*	0	*1000*	0	*72.6*	*29-80*	0	
Surr: Phenol-d6	*168.6*	0	*1000*	0	*16.9*	*10-35*	0	

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

Client: Terra Energy Partners, LLC
Work Order: 19120837
Project: Starkey Watershare

QC BATCH REPORT

Batch ID: **147220** Instrument ID **SVMS8** Method: **E625.1**

MSD Sample ID: **19120735-17A MSD** Units: **µg/L** Analysis Date: **12/18/2019 04:22 P**

Client ID: Run ID: **SVMS8_191218A** SeqNo: **6141700** Prep Date: **12/17/2019** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2,4,5-Tetrachlorobenzene	273.6	200	400	0	68.4	30-120	278.8	1.88	40	
1,2,4-Trichlorobenzene	274.6	100	400	0	68.6	44-142	269.6	1.84	50	
1,2-Dichlorobenzene	257.4	100	400	0	64.4	35-100	235.8	8.76	40	
1,2-Diphenylhydrazine	302.4	100	400	0	75.6	55-115	309.4	2.29	40	
1,3-Dichlorobenzene	263	100	400	0	65.8	30-100	246	6.68	40	
1,4-Dichlorobenzene	251.6	100	400	0	62.9	30-100	236.8	6.06	40	
2,2`-Oxybis(1-chloropropane)	261.8	100	400	0	65.4	36-166	273.4	4.33	76	
2,4,5-Trichlorophenol	281.4	100	400	0	70.4	50-110	283.2	0.638	40	
2,4,6-Trichlorophenol	278.2	100	400	0	69.6	37-144	280.6	0.859	58	
2,4-Dichlorophenol	255.4	100	400	0	63.8	39-135	268.4	4.96	50	
2,4-Dimethylphenol	233	100	400	0	58.2	32-120	229.4	1.56	58	
2,4-Dinitrophenol	268.2	100	400	0	67	10-191	269.8	0.595	132	
2,4-Dinitrotoluene	284.8	100	400	0	71.2	39-139	299	4.86	42	
2,6-Dichlorophenol	276.4	100	400	0	69.1	50-105	273	1.24	40	
2,6-Dinitrotoluene	286.4	100	400	0	71.6	50-158	281.4	1.76	48	
2-Chloronaphthalene	279.2	2.0	400	0	69.8	60-120	281.8	0.927	24	
2-Chlorophenol	235.6	100	400	0	58.9	23-134	227.8	3.37	61	
2-Methylnaphthalene	415	2.0	400	125.2	72.4	45-105	441.6	6.21	40	
2-Nitrophenol	276.6	100	400	0	69.2	29-182	268.8	2.86	55	
3,3´-Dichlorobenzidine	259.6	100	400	0	64.9	10-262	278.6	7.06	108	
4,6-Dinitro-2-methylphenol	276.2	100	400	0	69	10-181	293.8	6.18	203	
4-Bromophenyl phenyl ether	305.8	100	400	0	76.4	53-127	312	2.01	43	
4-Chloro-3-methylphenol	248.2	100	400	0	62	22-147	252.8	1.84	73	
4-Chloroaniline	224	100	400	0	56	15-110	242	7.73	40	
4-Chlorophenyl phenyl ether	297.8	100	400	0	74.4	25-158	308.4	3.5	61	
4-Nitrophenol	102.4	100	400	0	25.6	10-132	106.2	3.64	131	
Acenaphthene	278.6	2.0	400	0	69.6	47-145	279.8	0.43	48	
Acenaphthylene	279.4	2.0	400	0	69.8	33-145	284.2	1.7	74	
Acetophenone	263.8	20	400	0	66	30-120	280	5.96	40	
Aniline	209.8	100	400	0	52.4	45-135	203.6	3	40	
Anthracene	295.8	2.0	400	0	74	27-133	303.6	2.6	66	
Benzo(a)anthracene	295.6	2.0	400	0	73.9	33-143	307.6	3.98	53	
Benzo(a)pyrene	292.8	2.0	400	0	73.2	17-163	306.6	4.6	72	
Benzo(b)fluoranthene	290.2	2.0	400	0	72.6	24-159	306.2	5.37	71	
Benzo(g,h,i)perylene	282.2	2.0	400	0	70.6	10-219	299	5.78	97	
Benzo(k)fluoranthene	292.4	2.0	400	0	73.1	11-162	306.6	4.74	63	
Bis(2-chloroethoxy)methane	288.4	100	400	0	72.1	33-184	294.6	2.13	54	
Bis(2-chloroethyl)ether	252.2	100	400	0	63	12-158	254.8	1.03	108	
Bis(2-ethylhexyl)phthalate	299.6	100	400	0	74.9	10-158	321.4	7.02	82	
Butyl benzyl phthalate	298.4	100	400	0	74.6	10-152	320.8	7.24	60	
Carbazole	289.2	100	400	0	72.3	50-130	294.8	1.92	40	
Chrysene	288.8	2.0	400	0	72.2	17-168	301.8	4.4	87	

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

Client: Terra Energy Partners, LLC
Work Order: 19120837
Project: Starkey Watershare

QC BATCH REPORT

Batch ID: **147220**	Instrument ID **SVMS8**		Method: **E625.1**							
Dibenzo(a,h)anthracene	287.8	2.0	400	0	72	10-227	303	5.15	126	
Dibenzofuran	280.8	100	400	0	70.2	10-120	289.8	3.15	40	
Diethyl phthalate	305.6	100	400	0	76.4	10-120	312	2.07	100	
Dimethyl phthalate	297.8	100	400	0	74.4	10-120	300.6	0.936	183	
Di-n-butyl phthalate	299.6	100	400	0	74.9	10-120	312.6	4.25	47	
Di-n-octyl phthalate	311.8	100	400	0	78	10-146	341.8	9.18	69	
Fluoranthene	294.2	2.0	400	0	73.6	26-137	304.2	3.34	66	
Fluorene	283.8	2.0	400	3.2	70.2	59-121	288.2	1.54	38	
Hexachlorobenzene	293.8	100	400	0	73.4	10-152	299	1.75	55	
Hexachlorobutadiene	283.6	100	400	0	70.9	24-120	252	11.8	62	
Hexachlorocyclopentadiene	204.6	100	400	0	51.2	25-105	188.2	8.35	40	
Hexachloroethane	257	100	400	0	64.2	40-120	240.4	6.67	52	
Indeno(1,2,3-cd)pyrene	296.6	2.0	400	0	74.2	10-171	314.8	5.95	99	
Isophorone	280.2	100	400	0	70	21-196	289.4	3.23	93	
m,p-Cresol	174.6	100	400	0	43.6	30-110	159	9.35	40	
Naphthalene	366	2.0	400	83.4	70.6	21-133	372.6	1.79	65	
Nitrobenzene	266	100	400	0	66.5	35-180	266.8	0.3	62	
N-Nitrosodimethylamine	176.8	100	400	0	44.2	25-110	149.6	16.7	40	
N-Nitrosodi-n-propylamine	275	100	400	0	68.8	10-230	283.4	3.01	87	
N-Nitrosodiphenylamine	287.8	100	400	0	72	50-110	291.8	1.38	40	
o-Cresol	199.8	100	400	0	50	30-110	192.6	3.67	40	
Pentachlorophenol	257.6	100	400	0	64.4	14-176	267.4	3.73	86	
Phenanthrene	291.6	2.0	400	4.2	71.8	54-120	300.8	3.11	39	
Phenol	95.6	100	400	0	23.9	10-120	85	0	64	J
Pyrene	296.2	2.0	400	0	74	52-120	310.4	4.68	49	
Pyridine	115.2	200	400	0	28.8	10-71	107.2	0	40	J
Cresols	374.4	200	800	0	46.8	30-110	351.6	6.28	40	
Surr: 2,4,6-Tribromophenol	*733.8*	0	*1000*	0	*73.4*	*27-83*	748.8	*2.02*	*40*	
Surr: 2-Fluorobiphenyl	*715.6*	0	*1000*	0	*71.6*	*26-79*	714	*0.224*	*40*	
Surr: 2-Fluorophenol	*347*	0	*1000*	0	*34.7*	*13-56*	301.4	*14.1*	*40*	
Surr: 4-Terphenyl-d14	*634.2*	0	*1000*	0	*63.4*	*43-106*	656.8	*3.5*	*40*	
Surr: Nitrobenzene-d5	*714.4*	0	*1000*	0	*71.4*	*29-80*	725.8	*1.58*	*40*	
Surr: Phenol-d6	*200.2*	0	*1000*	0	*20*	*10-35*	168.6	*17.1*	*40*	

The following samples were analyzed in this batch: 19120837-01B

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

Client: Terra Energy Partners, LLC
Work Order: 19120837
Project: Starkey Watershare

QC BATCH REPORT

Batch ID: **R277663C** Instrument ID **VMS6** Method: **E624.1**

MBLK Sample ID: **VBLKW1-191216-R277663C** Units: **µg/L** Analysis Date: **12/16/2019 12:13 P**
Client ID: Run ID: **VMS6_191216A** SeqNo: **6131980** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Toluene	U	1.0								
Surr: 1,2-Dichloroethane-d4	*18.38*	0	*20*	0	*91.9*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*18.68*	0	*20*	0	*93.4*	*60-140*	0			
Surr: Dibromofluoromethane	*18.88*	0	*20*	0	*94.4*	*60-140*	0			
Surr: Toluene-d8	*19.29*	0	*20*	0	*96.4*	*70-130*	0			

LCS Sample ID: **VLCSW1-191216-R277663C** Units: **µg/L** Analysis Date: **12/16/2019 11:25 A**
Client ID: Run ID: **VMS6_191216A** SeqNo: **6131979** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Toluene	20.14	1.0	20	0	101	70-130	0			
Surr: 1,2-Dichloroethane-d4	*17.97*	0	*20*	0	*89.8*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*20.01*	0	*20*	0	*100*	*60-140*	0			
Surr: Dibromofluoromethane	*19.83*	0	*20*	0	*99.2*	*60-140*	0			
Surr: Toluene-d8	*19.18*	0	*20*	0	*95.9*	*70-130*	0			

MS Sample ID: **19120815-03A MS** Units: **µg/L** Analysis Date: **12/16/2019 08:42 P**
Client ID: Run ID: **VMS6_191216A** SeqNo: **6131983** Prep Date: DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Toluene	111.2	5.0	100	0	111	47-150	0			
Surr: 1,2-Dichloroethane-d4	*90*	0	*100*	0	*90*	*49-155*	0			
Surr: 4-Bromofluorobenzene	*99.4*	0	*100*	0	*99.4*	*60-140*	0			
Surr: Dibromofluoromethane	*101.8*	0	*100*	0	*102*	*60-140*	0			
Surr: Toluene-d8	*93.4*	0	*100*	0	*93.4*	*47-150*	0			

MSD Sample ID: **19120815-03A MSD** Units: **µg/L** Analysis Date: **12/16/2019 09:06 P**
Client ID: Run ID: **VMS6_191216A** SeqNo: **6131984** Prep Date: DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Toluene	107.7	5.0	100	0	108	47-150	111.2	3.24	41	
Surr: 1,2-Dichloroethane-d4	*89.65*	0	*100*	0	*89.6*	*49-155*	90	*0.39*	*49*	
Surr: 4-Bromofluorobenzene	*101.1*	0	*100*	0	*101*	*60-140*	99.4	*1.7*	*30*	
Surr: Dibromofluoromethane	*102.5*	0	*100*	0	*102*	*60-140*	101.8	*0.734*	*30*	
Surr: Toluene-d8	*90*	0	*100*	0	*90*	*47-150*	93.4	*3.71*	*41*	

The following samples were analyzed in this batch: 19120837-01A

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

QC BATCH REPORT

Batch ID: **R278047A** Instrument ID **VMS11** Method: **E624.1**

MBLK Sample ID: **VBLKW2-191218-R278047A** Units: **µg/L** Analysis Date: **12/18/2019 10:28 P**

Client ID: Run ID: **VMS11_191218A** SeqNo: **6141048** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	U	1.0								
1,1,1-Trichloroethane	U	1.0								
1,1,2,2-Tetrachloroethane	U	1.0								
1,1,2-Trichloroethane	U	1.0								
1,1-Dichloroethane	U	1.0								
1,1-Dichloroethene	U	1.0								
1,1-Dichloropropene	U	1.0								
1,2,3-Trichlorobenzene	U	1.0								
1,2,3-Trichloropropane	U	1.0								
1,2,4-Trichlorobenzene	U	1.0								
1,2,4-Trimethylbenzene	U	1.0								
1,2-Dibromo-3-chloropropane	U	1.0								
1,2-Dibromoethane	U	1.0								
1,2-Dichlorobenzene	U	1.0								
1,2-Dichloroethane	U	1.0								
1,2-Dichloropropane	U	1.0								
1,3,5-Trimethylbenzene	U	1.0								
1,3-Dichlorobenzene	U	1.0								
1,3-Dichloropropane	U	1.0								
1,4-Dichlorobenzene	U	1.0								
1,4-Dioxane	U	120								
2,2-Dichloropropane	U	1.0								
2-Butanone	U	5.0								
2-Chloroethyl vinyl ether	U	1.0								
2-Chlorotoluene	U	1.0								
2-Hexanone	U	5.0								
2-Methylnaphthalene	0.85	5.0								J
4-Chlorotoluene	U	1.0								
4-Methyl-2-pentanone	U	1.0								
Acetone	U	10								
Acrolein	U	20								
Acrylonitrile	U	1.0								
Benzene	U	1.0								
Bromobenzene	U	1.0								
Bromochloromethane	U	1.0								
Bromodichloromethane	U	1.0								
Bromoform	U	1.0								
Bromomethane	U	1.0								
Butyl acetate	U	1.0								
Carbon disulfide	U	1.0								
Carbon tetrachloride	U	1.0								
Chlorobenzene	U	1.0								

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

Batch ID: **R278047A** Instrument ID **VMS11** Method: **E624.1**

Chloroethane	U	1.0						
Chloroform	U	1.0						
Chloromethane	U	1.0						
cis-1,2-Dichloroethene	U	1.0						
cis-1,3-Dichloropropene	U	1.0						
Dibromochloromethane	U	1.0						
Dibromomethane	U	1.0						
Dichlorodifluoromethane	U	1.0						
Diethyl ether	U	1.0						
Diisopropyl ether	U	5.0						
Ethylbenzene	U	1.0						
Hexachlorobutadiene	U	1.0						
Hexachloroethane	U	1.0						
Hexane	U	1.0						
Isopropylbenzene	U	1.0						
m,p-Xylene	U	2.0						
Methyl tert-butyl ether	U	1.0						
Methylene chloride	U	5.0						
Naphthalene	U	5.0						
n-Butylbenzene	U	1.0						
n-Propylbenzene	U	1.0						
o-Xylene	U	1.0						
p-Isopropyltoluene	0.26	1.0						J
sec-Butylbenzene	0.3	1.0						J
Styrene	U	1.0						
tert-Butyl alcohol	U	20						
tert-Butylbenzene	U	1.0						
Tetrachloroethene	U	1.0						
Tetrahydrofuran	U	1.0						
trans-1,2-Dichloroethene	U	1.0						
trans-1,3-Dichloropropene	U	1.0						
Trichloroethene	U	1.0						
Trichlorofluoromethane	U	1.0						
Vinyl acetate	U	5.0						
Vinyl chloride	U	1.0						
1,2-Dichloroethene, Total	U	2.0						
1,3-Dichloropropene, Total	U	2.0						
Xylenes, Total	U	3.0						
BTEX, Total	U	6.0						
Surr: 1,2-Dichloroethane-d4	*20.71*	0	*20*	0	*104*	*70-130*	0	
Surr: 4-Bromofluorobenzene	*19.41*	0	*20*	0	*97*	*60-140*	0	
Surr: Dibromofluoromethane	*19.26*	0	*20*	0	*96.3*	*60-140*	0	
Surr: Toluene-d8	*20.58*	0	*20*	0	*103*	*70-130*	0	

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

Client: Terra Energy Partners, LLC
Work Order: 19120837
Project: Starkey Watershare

QC BATCH REPORT

Batch ID: **R278047A** Instrument ID **VMS11** Method: **E624.1**

LCS	Sample ID: **VLCSW1-191218-R278047A**				Units: **µg/L**			Analysis Date: **12/18/2019 09:20 P**			
Client ID:		Run ID: **VMS11_191218A**			SeqNo: **6141047**		Prep Date:		DF: **1**		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	24.02	1.0	20	0	120	80-130	0			
1,1,1-Trichloroethane	20.84	1.0	20	0	104	70-130	0			
1,1,2,2-Tetrachloroethane	25	1.0	20	0	125	60-140	0			
1,1,2-Trichloroethane	23.69	1.0	20	0	118	70-130	0			
1,1-Dichloroethane	23.12	1.0	20	0	116	70-130	0			
1,1-Dichloroethene	23.06	1.0	20	0	115	50-150	0			
1,1-Dichloropropene	19.44	1.0	20	0	97.2	75-135	0			
1,2,3-Trichlorobenzene	25.88	1.0	20	0	129	70-140	0			
1,2,3-Trichloropropane	23.68	1.0	20	0	118	75-125	0			
1,2,4-Trichlorobenzene	22.06	1.0	20	0	110	70-135	0			
1,2,4-Trimethylbenzene	22.68	1.0	20	0	113	75-130	0			
1,2-Dibromo-3-chloropropane	23.53	1.0	20	0	118	60-130	0			
1,2-Dibromoethane	25.81	1.0	20	0	129	90-195	0			
1,2-Dichlorobenzene	24.42	1.0	20	0	122	65-135	0			
1,2-Dichloroethane	23.03	1.0	20	0	115	70-130	0			
1,2-Dichloropropane	24.19	1.0	20	0	121	35-165	0			
1,3,5-Trimethylbenzene	23.38	1.0	20	0	117	75-130	0			
1,3-Dichlorobenzene	23.86	1.0	20	0	119	70-130	0			
1,3-Dichloropropane	24.82	1.0	20	0	124	75-125	0			
1,4-Dichlorobenzene	24.96	1.0	20	0	125	65-135	0			
2,2-Dichloropropane	21.36	1.0	20	0	107	43-150	0			
2-Butanone	24.92	5.0	20	0	125	55-150	0			
2-Chlorotoluene	25.29	1.0	20	0	126	76-117	0			S
2-Hexanone	24.19	5.0	20	0	121	60-135	0			
4-Chlorotoluene	23.73	1.0	20	0	119	80-125	0			
4-Methyl-2-pentanone	34.41	1.0	20	0	172	77-178	0			
Acetone	24.26	10	20	0	121	60-160	0			
Acrylonitrile	21.38	1.0	20	0	107	60-140	0			
Benzene	22.67	1.0	20	0	113	65-135	0			
Bromobenzene	24.6	1.0	20	0	123	80-125	0			
Bromochloromethane	23.34	1.0	20	0	117	72-141	0			
Bromodichloromethane	24.21	1.0	20	0	121	70-135	0			
Bromoform	21.61	1.0	20	0	108	70-130	0			
Bromomethane	36.23	1.0	20	0	181	15-185	0			
Butyl acetate	18.29	1.0	20	0	91.4	70-130	0			
Carbon disulfide	22.9	1.0	20	0	114	60-165	0			
Carbon tetrachloride	20.36	1.0	20	0	102	70-130	0			
Chlorobenzene	24.97	1.0	20	0	125	65-135	0			
Chloroethane	22.93	1.0	20	0	115	40-160	0			
Chloroform	22.61	1.0	20	0	113	70-135	0			
Chloromethane	22.83	1.0	20	0	114	10-200	0			
cis-1,2-Dichloroethene	20.71	1.0	20	0	104	75-134	0			

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

Batch ID: **R278047A** Instrument ID **VMS11** Method: **E624.1**

cis-1,3-Dichloropropene	23.17	1.0	20	0	116	25-175	0	
Dibromochloromethane	21.34	1.0	20	0	107	70-135	0	
Dibromomethane	21.22	1.0	20	0	106	85-125	0	
Dichlorodifluoromethane	26.67	1.0	20	0	133	20-120	0	S
Diethyl ether	23.47	1.0	20	0	117	70-130	0	
Diisopropyl ether	23.41	5.0	20	0	117	70-130	0	
Ethylbenzene	21.42	1.0	20	0	107	76-123	0	
Hexachlorobutadiene	22.42	1.0	20	0	112	70-155	0	
Hexachloroethane	21.03	1.0	20	0	105	50-124	0	
Isopropylbenzene	22.8	1.0	20	0	114	80-127	0	
m,p-Xylene	46.79	2.0	40	0	117	75-130	0	
Methyl tert-butyl ether	22.51	1.0	20	0	113	68-129	0	
Methylene chloride	22.18	5.0	20	0	111	60-140	0	
Naphthalene	26.35	5.0	20	0	132	55-160	0	
n-Butylbenzene	23.35	1.0	20	0	117	75-145	0	
n-Propylbenzene	22.75	1.0	20	0	114	76-116	0	
o-Xylene	24.54	1.0	20	0	123	76-127	0	
p-Isopropyltoluene	23.11	1.0	20	0	116	61-164	0	
sec-Butylbenzene	22.55	1.0	20	0	113	80-134	0	
Styrene	24.12	1.0	20	0	121	83-137	0	
tert-Butylbenzene	23.7	1.0	20	0	118	70-130	0	
Tetrachloroethene	24.09	1.0	20	0	120	70-130	0	
Tetrahydrofuran	23.98	1.0	20	0	120	54-139	0	
trans-1,2-Dichloroethene	23.61	1.0	20	0	118	70-130	0	
trans-1,3-Dichloropropene	22.56	1.0	20	0	113	50-150	0	
Trichloroethene	20.36	1.0	20	0	102	65-135	0	
Trichlorofluoromethane	17.94	1.0	20	0	89.7	50-150	0	
Vinyl chloride	22.35	1.0	20	0	112	10-195	0	
1,2-Dichloroethene, Total	44.32	2.0	40	0	111	75-134	0	
1,3-Dichloropropene, Total	45.73	2.0	40	0	114	25-175	0	
Xylenes, Total	71.33	3.0	60	0	119	76-127	0	
Surr: 1,2-Dichloroethane-d4	*20.52*	0	*20*	0	*103*	*70-130*	0	
Surr: 4-Bromofluorobenzene	*19.99*	0	*20*	0	*100*	*60-140*	0	
Surr: Dibromofluoromethane	*20.66*	0	*20*	0	*103*	*60-140*	0	
Surr: Toluene-d8	*21.13*	0	*20*	0	*106*	*70-130*	0	

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

Client: Terra Energy Partners, LLC
Work Order: 19120837
Project: Starkey Watershare

QC BATCH REPORT

Batch ID: **R278047A** Instrument ID **VMS11** Method: **E624.1**

MS Sample ID: **19120837-01A MS** Units: **µg/L** Analysis Date: **12/19/2019 06:46 A**

Client ID: **Starkey Production Pit** Run ID: **VMS11_191218A** SeqNo: **6141054** Prep Date: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	219.7	10	200	0	110	80-130	0			
1,1,1-Trichloroethane	210.8	10	200	0	105	52-162	0			
1,1,2,2-Tetrachloroethane	251.9	10	200	0	126	46-157	0			
1,1,2-Trichloroethane	227.6	10	200	0	114	52-150	0			
1,1-Dichloroethane	234.1	10	200	0	117	59-155	0			
1,1-Dichloroethene	263.5	10	200	0	132	10-234	0			
1,1-Dichloropropene	205.3	10	200	0	103	75-135	0			
1,2,3-Trichlorobenzene	242.7	10	200	0	121	70-140	0			
1,2,3-Trichloropropane	241.5	10	200	0	121	75-125	0			
1,2,4-Trichlorobenzene	209.3	10	200	0	105	70-135	0			
1,2,4-Trimethylbenzene	489.6	10	200	179.1	155	75-130	0			S
1,2-Dibromo-3-chloropropane	221.3	10	200	0	111	60-130	0			
1,2-Dibromoethane	244.1	10	200	0	122	90-195	0			
1,2-Dichlorobenzene	237.7	10	200	0	119	18-190	0			
1,2-Dichloroethane	221.2	10	200	0	111	49-155	0			
1,2-Dichloropropane	231.8	10	200	0	116	10-210	0			
1,3,5-Trimethylbenzene	485.2	10	200	170.7	157	75-130	0			S
1,3-Dichlorobenzene	240.2	10	200	0	120	59-156	0			
1,3-Dichloropropane	240.4	10	200	0	120	75-125	0			
1,4-Dichlorobenzene	244.9	10	200	0	122	18-190	0			
2,2-Dichloropropane	152.8	10	200	0	76.4	43-150	0			
2-Butanone	260.2	50	200	0	130	55-150	0			
2-Chlorotoluene	270	10	200	0	135	84-133	0			S
2-Hexanone	209	50	200	0	104	60-135	0			
4-Chlorotoluene	258.5	10	200	0	129	80-125	0			S
4-Methyl-2-pentanone	333.9	10	200	0	167	77-178	0			
Acetone	1120	100	200	652.4	234	60-160	0			SE
Acrylonitrile	219.1	10	200	0	110	40-160	0			
Benzene	1048	10	200	595.6	226	37-151	0			SE
Bromobenzene	237.6	10	200	0	119	80-125	0			
Bromochloromethane	225.6	10	200	0	113	72-141	0			
Bromodichloromethane	228.3	10	200	0	114	35-155	0			
Bromoform	193.4	10	200	0	96.7	45-169	0			
Bromomethane	83.6	10	200	14.2	34.7	10-242	0			
Butyl acetate	198	10	200	0	99	70-130	0			
Carbon disulfide	252.7	10	200	0	126	60-165	0			
Carbon tetrachloride	208.9	10	200	0	104	70-140	0			
Chlorobenzene	242.4	10	200	0	121	37-160	0			
Chloroethane	299.2	10	200	0	150	14-230	0			
Chloroform	228.2	10	200	0	114	51-138	0			
Chloromethane	253.2	10	200	0	127	10-273	0			
cis-1,2-Dichloroethene	201.3	10	200	0	101	75-134	0			

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

Batch ID: **R278047A**	Instrument ID **VMS11**		Method: **E624.1**					
cis-1,3-Dichloropropene	206.1	10	200	0	103	10-227	0	
Dibromochloromethane	198.4	10	200	0	99.2	53-149	0	
Dibromomethane	205.9	10	200	0	103	85-125	0	
Dichlorodifluoromethane	349.8	10	200	0	175	20-120	0	S
Diethyl ether	235.4	10	200	0	118	70-130	0	
Diisopropyl ether	229.7	50	200	0	115	70-130	0	
Ethylbenzene	322.4	10	200	72.1	125	37-162	0	
Hexachlorobutadiene	234.2	10	200	0	117	70-155	0	
Hexachloroethane	217.4	10	200	0	109	50-124	0	
Isopropylbenzene	247.7	10	200	12.7	118	80-127	0	
m,p-Xylene	1898	20	400	1075	206	75-130	0	S
Methyl tert-butyl ether	220.5	10	200	0	110	68-129	0	
Methylene chloride	218.8	50	200	0	109	10-221	0	
Naphthalene	287.4	50	200	27.7	130	55-160	0	
n-Butylbenzene	257.8	10	200	0	129	75-145	0	
n-Propylbenzene	250	10	200	15.5	117	83-135	0	
o-Xylene	563.6	10	200	218.7	172	76-127	0	S
p-Isopropyltoluene	244.6	10	200	7.4	119	61-164	0	
sec-Butylbenzene	234.9	10	200	5.5	115	80-134	0	
Styrene	234.1	10	200	0	117	83-137	0	
tert-Butylbenzene	243.4	10	200	0	122	70-130	0	
Tetrachloroethene	252.4	10	200	0	126	64-148	0	
Tetrahydrofuran	205	10	200	0	102	54-139	0	
trans-1,2-Dichloroethene	248.7	10	200	0	124	54-156	0	
trans-1,3-Dichloropropene	198.8	10	200	0	99.4	17-183	0	
Trichloroethene	207	10	200	0	104	70-157	0	
Trichlorofluoromethane	205.7	10	200	0	103	17-181	0	
Vinyl chloride	243.4	10	200	0	122	10-251	0	
1,2-Dichloroethene, Total	450	20	400	0	112	54-156	0	
1,3-Dichloropropene, Total	404.9	20	400	0	101	10-227	0	
Xylenes, Total	2462	30	600	1294	195	76-127	0	S
Surr: 1,2-Dichloroethane-d4	*201.7*	0	*200*	0	*101*	*49-155*	0	
Surr: 4-Bromofluorobenzene	*199.5*	0	*200*	0	*99.8*	*60-140*	0	
Surr: Dibromofluoromethane	*201.3*	0	*200*	0	*101*	*60-140*	0	
Surr: Toluene-d8	*218.6*	0	*200*	0	*109*	*47-150*	0	

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

Client: Terra Energy Partners, LLC
Work Order: 19120837
Project: Starkey Watershare

QC BATCH REPORT

Batch ID: **R278047A** Instrument ID **VMS11** Method: **E624.1**

MSD Sample ID: **19120837-01A MSD** Units: **µg/L** Analysis Date: **12/19/2019 07:08 A**

Client ID: **Starkey Production Pit** Run ID: **VMS11_191218A** SeqNo: **6141055** Prep Date: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	217	10	200	0	108	80-130	219.7	1.24	30	
1,1,1-Trichloroethane	211.6	10	200	0	106	52-162	210.8	0.379	36	
1,1,2,2-Tetrachloroethane	248.8	10	200	0	124	46-157	251.9	1.24	61	
1,1,2-Trichloroethane	231.6	10	200	0	116	52-150	227.6	1.74	45	
1,1-Dichloroethane	237.6	10	200	0	119	59-155	234.1	1.48	40	
1,1-Dichloroethene	260.1	10	200	0	130	10-234	263.5	1.3	32	
1,1-Dichloropropene	209.6	10	200	0	105	75-135	205.3	2.07	30	
1,2,3-Trichlorobenzene	250.7	10	200	0	125	70-140	242.7	3.24	30	
1,2,3-Trichloropropane	246	10	200	0	123	75-125	241.5	1.85	30	
1,2,4-Trichlorobenzene	226	10	200	0	113	70-135	209.3	7.67	30	
1,2,4-Trimethylbenzene	483.9	10	200	179.1	152	75-130	489.6	1.17	30	S
1,2-Dibromo-3-chloropropane	240.2	10	200	0	120	60-130	221.3	8.19	30	
1,2-Dibromoethane	236.9	10	200	0	118	90-195	244.1	2.99	30	
1,2-Dichlorobenzene	245.9	10	200	0	123	18-190	237.7	3.39	57	
1,2-Dichloroethane	221.2	10	200	0	111	49-155	221.2	0	49	
1,2-Dichloropropane	235.9	10	200	0	118	10-210	231.8	1.75	55	
1,3,5-Trimethylbenzene	479	10	200	170.7	154	75-130	485.2	1.29	30	S
1,3-Dichlorobenzene	245.6	10	200	0	123	59-156	240.2	2.22	43	
1,3-Dichloropropane	242.1	10	200	0	121	75-125	240.4	0.705	30	
1,4-Dichlorobenzene	248.6	10	200	0	124	18-190	244.9	1.5	57	
2,2-Dichloropropane	149	10	200	0	74.5	43-150	152.8	2.52	30	
2-Butanone	279.6	50	200	0	140	55-150	260.2	7.19	30	
2-Chlorotoluene	269.6	10	200	0	135	84-133	270	0.148	30	S
2-Hexanone	217.2	50	200	0	109	60-135	209	3.85	30	
4-Chlorotoluene	252	10	200	0	126	80-125	258.5	2.55	30	S
4-Methyl-2-pentanone	347.2	10	200	0	174	77-178	333.9	3.91	30	
Acetone	1167	100	200	652.4	257	60-160	1120	4.18	30	SE
Acrylonitrile	218.9	10	200	0	109	40-160	219.1	0.0913	60	
Benzene	1062	10	200	595.6	233	37-151	1048	1.38	61	SE
Bromobenzene	235	10	200	0	118	80-125	237.6	1.1	30	
Bromochloromethane	231.7	10	200	0	116	72-141	225.6	2.67	30	
Bromodichloromethane	231.9	10	200	0	116	35-155	228.3	1.56	56	
Bromoform	203.6	10	200	0	102	45-169	193.4	5.14	42	
Bromomethane	148.8	10	200	14.2	67.3	10-242	83.6	56.1	61	
Butyl acetate	204.4	10	200	0	102	70-130	198	3.18	30	
Carbon disulfide	255.6	10	200	0	128	60-165	252.7	1.14	30	
Carbon tetrachloride	214.9	10	200	0	107	70-140	208.9	2.83	41	
Chlorobenzene	240.8	10	200	0	120	37-160	242.4	0.662	53	
Chloroethane	295.4	10	200	0	148	14-230	299.2	1.28	78	
Chloroform	231	10	200	0	116	51-138	228.2	1.22	54	
Chloromethane	248.3	10	200	0	124	10-273	253.2	1.95	60	
cis-1,2-Dichloroethene	197.8	10	200	0	98.9	75-134	201.3	1.75	30	

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

QC BATCH REPORT

Batch ID: **R278047A** Instrument ID **VMS11** Method: **E624.1**

cis-1,3-Dichloropropene	207.7	10	200	0	104	10-227	206.1	0.773	58	
Dibromochloromethane	199.3	10	200	0	99.6	53-149	198.4	0.453	50	
Dibromomethane	207.8	10	200	0	104	85-125	205.9	0.919	30	
Dichlorodifluoromethane	341.2	10	200	0	171	20-120	349.8	2.49	30	S
Diethyl ether	230.7	10	200	0	115	70-130	235.4	2.02	30	
Diisopropyl ether	239.7	50	200	0	120	70-130	229.7	4.26	30	
Ethylbenzene	318	10	200	72.1	123	37-162	322.4	1.37	63	
Hexachlorobutadiene	250.8	10	200	0	125	70-155	234.2	6.85	30	
Hexachloroethane	219.7	10	200	0	110	50-124	217.4	1.05	30	
Isopropylbenzene	246	10	200	12.7	117	80-127	247.7	0.689	30	
m,p-Xylene	1887	20	400	1075	203	75-130	1898	0.592	30	S
Methyl tert-butyl ether	219.9	10	200	0	110	68-129	220.5	0.272	30	
Methylene chloride	220.7	50	200	0	110	10-221	218.8	0.865	28	
Naphthalene	313.8	50	200	27.7	143	55-160	287.4	8.78	30	
n-Butylbenzene	270	10	200	0	135	75-145	257.8	4.62	30	
n-Propylbenzene	247.6	10	200	15.5	116	83-135	250	0.965	30	
o-Xylene	562	10	200	218.7	172	76-127	563.6	0.284	30	S
p-Isopropyltoluene	250	10	200	7.4	121	61-164	244.6	2.18	30	
sec-Butylbenzene	234	10	200	5.5	114	80-134	234.9	0.384	30	
Styrene	231.6	10	200	0	116	83-137	234.1	1.07	30	
tert-Butylbenzene	240	10	200	0	120	70-130	243.4	1.41	30	
Tetrachloroethene	252.9	10	200	0	126	64-148	252.4	0.198	39	
Tetrahydrofuran	235.9	10	200	0	118	54-139	205	14	30	
trans-1,2-Dichloroethene	242.1	10	200	0	121	54-156	248.7	2.69	45	
trans-1,3-Dichloropropene	196.4	10	200	0	98.2	17-183	198.8	1.21	86	
Trichloroethene	206.7	10	200	0	103	70-157	207	0.145	48	
Trichlorofluoromethane	204.5	10	200	0	102	17-181	205.7	0.585	84	
Vinyl chloride	248.5	10	200	0	124	10-251	243.4	2.07	66	
1,2-Dichloroethene, Total	439.9	20	400	0	110	54-156	450	2.27	30	
1,3-Dichloropropene, Total	404.1	20	400	0	101	10-227	404.9	0.198	30	
Xylenes, Total	2449	30	600	1294	193	76-127	2462	0.521	30	S
Surr: 1,2-Dichloroethane-d4	*201.1*	0	*200*	0	*101*	*49-155*	201.7	*0.298*	*49*	
Surr: 4-Bromofluorobenzene	*197.7*	0	*200*	0	*98.8*	*60-140*	199.5	*0.906*	*30*	
Surr: Dibromofluoromethane	*205.1*	0	*200*	0	*103*	*60-140*	201.3	*1.87*	*30*	
Surr: Toluene-d8	*216*	0	*200*	0	*108*	*47-150*	218.6	*1.2*	*41*	

The following samples were analyzed in this batch: 19120837-01A

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

Client: Terra Energy Partners, LLC
Work Order: 19120837
Project: Starkey Watershare

QC BATCH REPORT

Batch ID: **147174** Instrument ID **TDS** Method: **E160.1**

MBLK	Sample ID: **MBLK-147174-147174**				Units: **mg/L**			Analysis Date: **12/17/2019 03:23 P**			
Client ID:	Run ID: **TDS_191217B**				SeqNo: **6135241**			Prep Date: **12/16/2019**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids	U	30								

LCS	Sample ID: **LCS-147174-147174**				Units: **mg/L**			Analysis Date: **12/17/2019 03:23 P**			
Client ID:	Run ID: **TDS_191217B**				SeqNo: **6135242**			Prep Date: **12/16/2019**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids	498	30	495	0	101	85-109	0			

DUP	Sample ID: **19120837-01E DUP**				Units: **mg/L**			Analysis Date: **12/17/2019 03:23 P**			
Client ID: **Starkey Production Pit**	Run ID: **TDS_191217B**				SeqNo: **6135244**			Prep Date: **12/16/2019**		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids	20780	300	0	0	0	0-0	21440	3.13	10	

The following samples were analyzed in this batch: 19120837-01E

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

Client: Terra Energy Partners, LLC
Work Order: 19120837
Project: Starkey Watershare

QC BATCH REPORT

Batch ID: **R277386** Instrument ID **IC3** Method: **E300.0**

MBLK Sample ID: **CCB/MBLK-R277386** Units: **mg/L** Analysis Date: **12/11/2019 12:10 P**
Client ID: Run ID: **IC3_191211A** SeqNo: **6120923** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	U	0.20								
Chloride	U	1.0								
Nitrogen, Nitrate	U	0.10								
Nitrogen, Nitrite	U	0.10								
Sulfate	U	1.0								
Nitrogen, Nitrate-Nitrite	U	0.10								

LCS Sample ID: **LCS-R277386** Units: **mg/L** Analysis Date: **12/11/2019 12:30 P**
Client ID: Run ID: **IC3_191211A** SeqNo: **6120925** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	2.081	0.20	2	0	104	90-110	0			
Chloride	9.946	1.0	10	0	99.5	90-110	0			
Nitrogen, Nitrate	1.936	0.10	2	0	96.8	90-110	0			
Nitrogen, Nitrite	1.953	0.10	2	0	97.7	90-110	0			
Sulfate	10.21	1.0	10	0	102	90-110	0			
Nitrogen, Nitrate-Nitrite	3.889	0.10	4	0	97.2	90-110	0			

MS Sample ID: **19120638-07G MS** Units: **mg/L** Analysis Date: **12/11/2019 03:03 P**
Client ID: Run ID: **IC3_191211A** SeqNo: **6120932** Prep Date: DF: **200**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	431.9	40	400	12.21	105	80-120	0			
Nitrogen, Nitrite	387.8	20	400	1.146	96.7	80-120	0			
Nitrogen, Nitrate-Nitrite	776.9	20	800	1.934	96.9	80-120	0			

MS Sample ID: **19120596-18D MS** Units: **mg/L** Analysis Date: **12/11/2019 09:26 P**
Client ID: Run ID: **IC3_191211A** SeqNo: **6120954** Prep Date: DF: **20**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	214.6	20	200	28.03	93.3	80-120	0			
Nitrogen, Nitrate	38.09	2.0	40	0	95.2	80-120	0			
Sulfate	253	20	200	61.24	95.9	80-120	0			

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

Client: Terra Energy Partners, LLC
Work Order: 19120837
Project: Starkey Watershare

QC BATCH REPORT

Batch ID: **R277386** Instrument ID **IC3** Method: **E300.0**

MSD	Sample ID: **19120638-07G MSD**			Units: **mg/L**			Analysis Date: **12/11/2019 03:22 P**			
Client ID:	Run ID: **IC3_191211A**			SeqNo: **6120934**		Prep Date:		DF: **200**		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	430	40	400	12.21	104	80-120	431.9	0.455	20	
Nitrogen, Nitrite	387.5	20	400	1.146	96.6	80-120	387.8	0.0722	20	
Nitrogen, Nitrate-Nitrite	773.8	20	800	1.934	96.5	80-120	776.9	0.4	20	

MSD	Sample ID: **19120596-18D MSD**			Units: **mg/L**			Analysis Date: **12/11/2019 09:46 P**			
Client ID:	Run ID: **IC3_191211A**			SeqNo: **6120955**		Prep Date:		DF: **20**		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	214.9	20	200	28.03	93.5	80-120	214.6	0.138	20	
Nitrogen, Nitrate	38.33	2.0	40	0	95.8	80-120	38.09	0.607	20	
Sulfate	254.3	20	200	61.24	96.5	80-120	253	0.54	20	

The following samples were analyzed in this batch: 19120837-01D

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

Client: Terra Energy Partners, LLC
Work Order: 19120837
Project: Starkey Watershare

QC BATCH REPORT

Batch ID: **R277493** Instrument ID **IC3** Method: **E300.0**

MBLK	Sample ID: **CCB/MBLK-R277493**				Units: **mg/L**			Analysis Date: **12/12/2019 11:06 A**		
Client ID:	Run ID: **IC3_191212A**				SeqNo: **6124256**		Prep Date:		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluoride	U	0.10								

LCS	Sample ID: **LCS-R277493**				Units: **mg/L**			Analysis Date: **12/12/2019 11:25 A**		
Client ID:	Run ID: **IC3_191212A**				SeqNo: **6124257**		Prep Date:		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluoride	1.926	0.10	2	0	96.3	90-110	0			

MS	Sample ID: **19120604-01K MS**				Units: **mg/L**			Analysis Date: **12/12/2019 01:59 P**		
Client ID:	Run ID: **IC3_191212A**				SeqNo: **6124265**		Prep Date:		DF: **10**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluoride	20.81	1.0	20	0	104	80-120	0			

MSD	Sample ID: **19120604-01K MSD**				Units: **mg/L**			Analysis Date: **12/12/2019 02:18 P**		
Client ID:	Run ID: **IC3_191212A**				SeqNo: **6124266**		Prep Date:		DF: **10**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fluoride	20.78	1.0	20	0	104	80-120	20.81	0.125	20	

The following samples were analyzed in this batch: 19120837-01D

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

Client: Terra Energy Partners, LLC
Work Order: 19120837
Project: Starkey Watershare

QC BATCH REPORT

Batch ID: **R277529** Instrument ID **WETCHEM** Method: **E150.1**

LCS Sample ID: **LCS-R277529-R277529** Units: **s.u.** Analysis Date: **12/13/2019 11:32 A**
Client ID: Run ID: **WETCHEM_191213J** SeqNo: **6125416** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH (laboratory)	4.01	0.10	4	0	100	92-108	0			

LCS Sample ID: **LCS-R277529-R277529** Units: **s.u.** Analysis Date: **12/13/2019 11:32 A**
Client ID: Run ID: **WETCHEM_191213J** SeqNo: **6125423** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH (laboratory)	4.01	0.10	4	0	100	92-108	0			

LCS Sample ID: **LCS-R277529-R277529** Units: **s.u.** Analysis Date: **12/13/2019 11:32 A**
Client ID: Run ID: **WETCHEM_191213J** SeqNo: **6125430** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH (laboratory)	4.01	0.10	4	0	100	92-108	0			

DUP Sample ID: **19120837-01D DUP** Units: **s.u.** Analysis Date: **12/13/2019 11:32 A**
Client ID: **Starkey Production Pit** Run ID: **WETCHEM_191213J** SeqNo: **6125418** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH (laboratory)	7.81	0.10	0	0	0	0-0	7.81	0	5	H
Temperature	2.2	0.10	0	0	0		2.2	0		H

DUP Sample ID: **19120750-04F DUP** Units: **s.u.** Analysis Date: **12/13/2019 11:32 A**
Client ID: Run ID: **WETCHEM_191213J** SeqNo: **6125435** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH (laboratory)	7.29	0.10	0	0	0	0-0	7.28	0.137	5	H
Temperature	7.5	0.10	0	0	0		7.4	1.34		H

The following samples were analyzed in this batch: 19120837-01D

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

Client: Terra Energy Partners, LLC
Work Order: 19120837
Project: Starkey Watershare

QC BATCH REPORT

Batch ID: **R277612** Instrument ID **WETCHEM** Method: **E120.1**

MBLK Sample ID: **MB-R277612-R277612** Units: **µmhos/cm** Analysis Date: **12/15/2019 09:30 A**
Client ID: Run ID: **WETCHEM_191215C** SeqNo: **6127951** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductance	U	5.0								

MBLK Sample ID: **MB-R277612-R277612** Units: **µmhos/cm** Analysis Date: **12/15/2019 09:30 A**
Client ID: Run ID: **WETCHEM_191215C** SeqNo: **6127955** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductance	U	5.0								

DUP Sample ID: **19120999-01A DUP** Units: **µmhos/cm** Analysis Date: **12/15/2019 09:30 A**
Client ID: Run ID: **WETCHEM_191215C** SeqNo: **6127958** Prep Date: DF: **20**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductance	496000	100	0	0	0	0-0	488000	1.63	5	

DUP Sample ID: **19121079-01A DUP** Units: **µmhos/cm** Analysis Date: **12/15/2019 09:30 A**
Client ID: Run ID: **WETCHEM_191215C** SeqNo: **6127968** Prep Date: DF: **20**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductance	100800	100	0	0	0	0-0	100800	0	5	

LCS1 Sample ID: **LCS 1-R277612** Units: **µmhos/cm** Analysis Date: **12/15/2019 09:30 A**
Client ID: Run ID: **WETCHEM_191215C** SeqNo: **6127952** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductance	15.01	5.0	14.9	0	101	92-110	0			

LCS1 Sample ID: **LCS 1-R277612** Units: **µmhos/cm** Analysis Date: **12/15/2019 09:30 A**
Client ID: Run ID: **WETCHEM_191215C** SeqNo: **6127956** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductance	15.01	5.0	14.9	0	101	92-110	0			

LCS2 Sample ID: **LCS 2-R277612** Units: **µmhos/cm** Analysis Date: **12/15/2019 09:30 A**
Client ID: Run ID: **WETCHEM_191215C** SeqNo: **6127954** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductance	603	5.0	592	0	102	87-112	0			

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

Client: Terra Energy Partners, LLC
Work Order: 19120837
Project: Starkey Watershare

QC BATCH REPORT

Batch ID: **R277612** Instrument ID **WETCHEM** Method: **E120.1**

LCS2	Sample ID: **LCS 2-R277612**				Units: **µmhos/cm**			Analysis Date: **12/15/2019 09:30 A**		
Client ID:		Run ID: **WETCHEM_191215C**			SeqNo: **6127970**		Prep Date:		DF: **1**	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Specific Conductance	603	5.0	592	0	102	87-112	0			

The following samples were analyzed in this batch: 19120837-01D

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

Client: Terra Energy Partners, LLC
Work Order: 19120837
Project: Starkey Watershare

QC BATCH REPORT

Batch ID: **R277614** Instrument ID **WETCHEM** Method: **A2340 C-11**

MBLK Sample ID: **MB-R277614-R277614** Units: **mg/L CaCO3** Analysis Date: **12/15/2019 02:00 P**
Client ID: Run ID: **WETCHEM_191215E** SeqNo: **6127993** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Hardness	U	5.0								

LCS Sample ID: **LCS-R277614-R277614** Units: **mg/L CaCO3** Analysis Date: **12/15/2019 02:00 P**
Client ID: Run ID: **WETCHEM_191215E** SeqNo: **6127994** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Hardness	98	5.0	100	0	98	95-105	0			

DUP Sample ID: **19120698-03C DUP** Units: **mg/L CaCO3** Analysis Date: **12/15/2019 02:00 P**
Client ID: Run ID: **WETCHEM_191215E** SeqNo: **6127996** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Hardness	70	5.0	0	0	0	0-0	70	0	10	

The following samples were analyzed in this batch: 19120837-01E

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

ALS Laboratory Group

3352 128th AVE Holland MI 49424
616-399-6070

Chain-of-Custody

Form 202r8

WORKORDER # 1912 0837

PAGE 1 of 1

DISPOSAL By Lab or Return to Client

PROJECT NAME	Starkey Watershare	SAMPLER	Brad Kesler
PROJECT No.		SITE ID	Starkey Production Pit
		EDD FORMAT	bkesler@terraep.com
		PURCHASE ORDER	
COMPANY NAME	Terra Energy Partners LLC	BILL TO COMPANY	Terra Energy Partners LLC
SEND REPORT TO	bkesler@terraep.com	INVOICE ATTN TO	NXEEPPARACH-Brad Kesler
ADDRESS	1058 CR 215	ADDRESS	1058 CR 215
CITY / STATE / ZIP	Parachute, CO 81635	CITY / STATE / ZIP	Parachute, CO 81635
PHONE	970-216-8703	PHONE	970-216-8703
FAX		FAX	
E-MAIL	bkesler@terraep.com	E-MAIL	

DATE 12/10/2019

TURNAROUND 5 Day

Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC	VOC EPA method 624	Semi-Volatile Organics EPA method 625	Dissolved Metals EPA method 200.7 ICP	Dissovolved Inorganics (non-metals) EPA method 300.0, IC	Br, Cl, F, Nitrate/Nitrite, sulfate	(General Water) SpecificConductanceEPA 300.0 IC,Hardness EPA 130.1,TDS EPA160.1,pH EPA150.2
	Starkey Production Pit	W	12/10/2019	1:00	3	1		X					
	Starkey Production Pit	W	12/10/2019	1:00	2				X				
	Starkey Production Pit	W	12/10/2019	1:00	1	2				X			
	Starkey Production Pit	W	12/10/2019	1:00	1						X		
	Starkey Production Pit	W	12/10/2019	1:00	1	3						X	
	Starkey Production Pit	W	12/10/2019	1:00	1								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:

Anions:Nitrate,nitrite,orthophospate,sulfate,bromide,chloride

Cations-
Lithium,sodium,potassium,magnesium,calcium,barium, beryllium,strontium

2.0°C SRL PH18

QC PACKAGE (check below)	
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		Fred Kesler	12-10-19	3:30
RECEIVED BY		Will	12-10-19	4:00
RELINQUISHED BY		Will	12-10-19	1850
RECEIVED BY		M. Gaylord	12-11-19	10:00
RELINQUISHED BY				
RECEIVED BY				

ALS Group, USA

Sample Receipt Checklist

Client Name: **TERRAENERGY** Date/Time Received: **11-Dec-19 10:00**

Work Order: **19120837** Received by: **MJG**

Checklist completed by Matthew Gaylord (eSignature) 11-Dec-19 (Date) Reviewed by: Chad Whelton (eSignature) 11-Dec-19 (Date)

Matrices: Water
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):	2.0/2.0C	SR2	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	12/11/2019 4:29:33 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: