



08-Mar-2018

Bruce Smith
Western Water & Land, Inc.
743 Horizon Court
Suite 330
Grand Junction, CO 81506

Re: **TEP Starkey Gulch Pit BWQ**

Work Order: **18021605**

Dear Bruce,

ALS Environmental received 3 samples on 28-Feb-2018 09:30 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 28.

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,

A handwritten signature in black ink, appearing to read "Chad Whelton", is written over a light blue horizontal line.

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Report of Laboratory Analysis

Certificate No: MN 998501

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Client: Western Water & Land, Inc.
Project: TEP Starkey Gulch Pit BWQ
Work Order: 18021605

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
18021605-01	752711	Groundwater		2/27/2018 11:30	2/28/2018 09:30	<input type="checkbox"/>
18021605-02	752722	Groundwater		2/27/2018 14:45	2/28/2018 09:30	<input type="checkbox"/>
18021605-03	Trip Blank	Water		2/27/2018	2/28/2018 09:30	<input type="checkbox"/>

Client: Western Water & Land, Inc.
Project: TEP Starkey Gulch Pit BWQ
Work Order: 18021605

Case Narrative

Batch 114886, Method ICP_6020_WD, Sample 18021605-02G MS: The MS recovery was outside of the control limit for Strontium; however, the result in the parent sample is greater than 4x the spike amount. No qualification is required.

Batch 114886, Method ICP_6020_WD, Sample 18021605-02G MSD: The MSD recovery was outside of the control limit for Calcium; however, the result in the parent sample is greater than 4x the spike amount. No qualification is required.

Batch R231258, Method BART_W, Sample 18021605-01C: Sample contains anaerobic, heterotrophic, IRB, tight slime, and slime forming bacteria.

Batch R231258, Method BART_W, Sample 18021605-02C: Sample contains anaerobic, heterotrophic, IRB, tight slime, slime forming, and dense slime, and dense anaerobic SRB bacteria.

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

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

Units Reported	Description
µg/L	Micrograms per Liter
µmhos/cm	Micromhos per Centimeter
cfu/1mL	Colony Forming Units per 1 Milliliter
mg/L	Milligrams per Liter
s.u.	Standard Units

ALS Group, USA

Date: 08-Mar-18

Client: Western Water & Land, Inc.
Project: TEP Starkey Gulch Pit BWQ
Sample ID: 752711
Collection Date: 2/27/2018 11:30 AM

Work Order: 18021605
Lab ID: 18021605-01
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID							
				Method: SW8015C		Prep: SW3511 / 3/1/18	Analyst: MEB
DRO (C10-C28)	U		0.040	0.10	mg/L	1	3/2/2018 02:07
Surr: 4-Terphenyl-d14	82.7			35-161	%REC	1	3/2/2018 02:07
GASES IN WATER							
				Method: RSK-175			Analyst: MEB
Ethane	U		0.21	5.0	µg/L	1	3/2/2018 12:47
Methane	U		0.64	5.0	µg/L	1	3/2/2018 12:47
Propane	U		0.24	5.0	µg/L	1	3/2/2018 12:47
GASOLINE RANGE ORGANICS BY GC-FID							
				Method: SW8015D			Analyst: MEB
GRO (C6-C10)	U		76	200	µg/L	1	3/2/2018 16:17
Surr: Toluene-d8	100			76-120	%REC	1	3/2/2018 16:17
METALS BY ICP-MS (DISSOLVED)							
				Method: SW6020A		Prep: FILTER / 3/1/18	Analyst: JF
Barium	0.041		0.0022	0.0050	mg/L	1	3/1/2018 13:40
Boron	0.17		0.0018	0.020	mg/L	1	3/2/2018 12:59
Calcium	100		0.086	0.50	mg/L	1	3/1/2018 13:40
Iron	U		0.0046	0.080	mg/L	1	3/1/2018 13:40
Magnesium	51		0.0068	0.20	mg/L	1	3/1/2018 13:40
Manganese	0.060		0.00051	0.0050	mg/L	1	3/1/2018 13:40
Potassium	6.5		0.017	0.20	mg/L	1	3/1/2018 13:40
Selenium	0.0032	J	0.00090	0.0050	mg/L	1	3/1/2018 13:40
Sodium	91		0.034	0.20	mg/L	1	3/1/2018 13:40
Strontium	1.5		0.000060	0.0050	mg/L	1	3/1/2018 13:40
VOLATILE ORGANIC COMPOUNDS							
				Method: SW8260B			Analyst: WH
Benzene	U		0.42	1.0	µg/L	1	3/1/2018 01:34
Ethylbenzene	U		0.29	1.0	µg/L	1	3/1/2018 01:34
m,p-Xylene	U		0.53	2.0	µg/L	1	3/1/2018 01:34
o-Xylene	U		0.19	1.0	µg/L	1	3/1/2018 01:34
Toluene	U		0.32	1.0	µg/L	1	3/1/2018 01:34
Xylenes, Total	U		0.74	3.0	µg/L	1	3/1/2018 01:34
Surr: 1,2-Dichloroethane-d4	101			75-120	%REC	1	3/1/2018 01:34
Surr: 4-Bromofluorobenzene	94.8			80-110	%REC	1	3/1/2018 01:34
Surr: Dibromofluoromethane	101			85-115	%REC	1	3/1/2018 01:34
Surr: Toluene-d8	100			85-110	%REC	1	3/1/2018 01:34
ALKALINITY							
				Method: A2320 B-11			Analyst: ED
Alkalinity, Bicarbonate (as CaCO3)	470		8.4	10	mg/L	1	2/28/2018 13:30
Alkalinity, Carbonate (as CaCO3)	U		8.4	10	mg/L	1	2/28/2018 13:30
BIOLOGICAL ACTIVITY REACTION TEST (BART)							
				Method: HACH METHOD			Analyst: JB

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

ALS Group, USA

Date: 08-Mar-18

Client: Western Water & Land, Inc.
Project: TEP Starkey Gulch Pit BWQ
Sample ID: 752711
Collection Date: 2/27/2018 11:30 AM

Work Order: 18021605
Lab ID: 18021605-01
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Iron Related Bacteria	2,200		0		cfu/1mL	1	2/28/2018 12:45
Slime Forming Bacteria	67,000		0		cfu/1mL	1	2/28/2018 12:45
Sulfate Reducing Bacteria	120,000		0		cfu/1mL	1	2/28/2018 12:45
ANIONS BY ION CHROMATOGRAPHY			Method: E300.0				Analyst: EE
Bromide	0.097	J	0.067	0.20	mg/L	1	3/1/2018 14:30
Chloride	28		6.2	20	mg/L	20	3/1/2018 14:49
Fluoride	1.6		0.067	0.10	mg/L	1	3/1/2018 14:30
Sulfate	170		6.9	20	mg/L	20	3/1/2018 14:49
NITROGEN, NITRITE			Method: A4500-NO2 B-11				Analyst: STP
Nitrogen, Nitrite	0.076		0.00090	0.020	mg/L	1	2/28/2018 13:30
NITROGEN, NITRATE			Method: E353.2 R2.0				Analyst: JJG
Nitrogen, Nitrate	0.19		0.0034	0.020	mg/L	1	3/1/2018 09:49
PHOSPHORUS, TOTAL			Method: E365.1 R2.0				Analyst: JJG
Phosphorus, Total	0.059		0.017	0.050	mg/L	1	2/28/2018 16:09
PH (LABORATORY)			Method: SW9040C				Analyst: ED
pH (laboratory)	7.7		0.10	0.10	s.u.	1	2/28/2018 13:30
SPECIFIC CONDUCTANCE @ 25°C			Method: A2510 B-11				Analyst: ED
Specific Conductance	1,200		0.97	5.0	µmhos/cm	1	2/28/2018 13:30
TOTAL DISSOLVED SOLIDS			Method: A2540 C-11		Prep: FILTER / 3/1/18		Analyst: MT
Total Dissolved Solids	750		6.1	10	mg/L	1	3/1/2018 14:46

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

ALS Group, USA

Date: 08-Mar-18

Client: Western Water & Land, Inc.
Project: TEP Starkey Gulch Pit BWQ
Sample ID: 752722
Collection Date: 2/27/2018 02:45 PM

Work Order: 18021605
Lab ID: 18021605-02
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID							
			Method: SW8015C		Prep: SW3511 / 3/1/18		Analyst: MEB
DRO (C10-C28)	U		0.040	0.10	mg/L	1	3/2/2018 02:36
<i>Surr: 4-Terphenyl-d14</i>	79.5			35-161	%REC	1	3/2/2018 02:36
GASES IN WATER							
			Method: RSK-175				Analyst: MEB
Ethane	U		0.21	5.0	µg/L	1	3/2/2018 12:49
Methane	U		0.64	5.0	µg/L	1	3/2/2018 12:49
Propane	U		0.24	5.0	µg/L	1	3/2/2018 12:49
GASOLINE RANGE ORGANICS BY GC-FID							
			Method: SW8015D				Analyst: MEB
GRO (C6-C10)	U		76	200	µg/L	1	3/2/2018 17:16
<i>Surr: Toluene-d8</i>	112			76-120	%REC	1	3/2/2018 17:16
METALS BY ICP-MS (DISSOLVED)							
			Method: SW6020A		Prep: FILTER / 3/1/18		Analyst: JF
Barium	0.029		0.0022	0.0050	mg/L	1	3/1/2018 13:41
Boron	0.18		0.0018	0.020	mg/L	1	3/2/2018 13:01
Calcium	110		0.086	0.50	mg/L	1	3/1/2018 13:41
Iron	U		0.0046	0.080	mg/L	1	3/1/2018 13:41
Magnesium	48		0.0068	0.20	mg/L	1	3/1/2018 13:41
Manganese	0.097		0.00051	0.0050	mg/L	1	3/1/2018 13:41
Potassium	5.4		0.017	0.20	mg/L	1	3/1/2018 13:41
Selenium	0.0042	J	0.00090	0.0050	mg/L	1	3/1/2018 13:41
Sodium	95		0.034	0.20	mg/L	1	3/1/2018 13:41
Strontium	1.6		0.000060	0.0050	mg/L	1	3/1/2018 13:41
VOLATILE ORGANIC COMPOUNDS							
			Method: SW8260B				Analyst: WH
Benzene	U		0.42	1.0	µg/L	1	3/1/2018 01:55
Ethylbenzene	U		0.29	1.0	µg/L	1	3/1/2018 01:55
m,p-Xylene	U		0.53	2.0	µg/L	1	3/1/2018 01:55
o-Xylene	U		0.19	1.0	µg/L	1	3/1/2018 01:55
Toluene	U		0.32	1.0	µg/L	1	3/1/2018 01:55
Xylenes, Total	U		0.74	3.0	µg/L	1	3/1/2018 01:55
<i>Surr: 1,2-Dichloroethane-d4</i>	101			75-120	%REC	1	3/1/2018 01:55
<i>Surr: 4-Bromofluorobenzene</i>	95.1			80-110	%REC	1	3/1/2018 01:55
<i>Surr: Dibromofluoromethane</i>	102			85-115	%REC	1	3/1/2018 01:55
<i>Surr: Toluene-d8</i>	98.4			85-110	%REC	1	3/1/2018 01:55
ALKALINITY							
			Method: A2320 B-11				Analyst: ED
Alkalinity, Bicarbonate (as CaCO3)	440		8.4	10	mg/L	1	2/28/2018 13:30
Alkalinity, Carbonate (as CaCO3)	U		8.4	10	mg/L	1	2/28/2018 13:30
BIOLOGICAL ACTIVITY REACTION TEST (BART)							
			Method: HACH METHOD				Analyst: JB

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

ALS Group, USA

Date: 08-Mar-18

Client: Western Water & Land, Inc.
Project: TEP Starkey Gulch Pit BWQ
Sample ID: 752722
Collection Date: 2/27/2018 02:45 PM

Work Order: 18021605
Lab ID: 18021605-02
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Iron Related Bacteria	2,200		0		cfu/1mL	1	2/28/2018 12:45
Slime Forming Bacteria	67,000		0		cfu/1mL	1	2/28/2018 12:45
Sulfate Reducing Bacteria	120,000		0		cfu/1mL	1	2/28/2018 12:45
ANIONS BY ION CHROMATOGRAPHY			Method: E300.0				Analyst: EE
Bromide	0.13	J	0.067	0.20	mg/L	1	3/1/2018 15:08
Chloride	34		6.2	20	mg/L	20	3/1/2018 15:27
Fluoride	1.7		0.067	0.10	mg/L	1	3/1/2018 15:08
Sulfate	210		6.9	20	mg/L	20	3/1/2018 15:27
NITROGEN, NITRITE			Method: A4500-NO2 B-11				Analyst: STP
Nitrogen, Nitrite	0.021		0.00090	0.020	mg/L	1	2/28/2018 13:30
NITROGEN, NITRATE			Method: E353.2 R2.0				Analyst: JJG
Nitrogen, Nitrate	0.64		0.0034	0.020	mg/L	1	3/1/2018 09:49
PHOSPHORUS, TOTAL			Method: E365.1 R2.0				Analyst: JJG
Phosphorus, Total	0.053		0.017	0.050	mg/L	1	2/28/2018 16:09
PH (LABORATORY)			Method: SW9040C				Analyst: ED
pH (laboratory)	7.8		0.10	0.10	s.u.	1	2/28/2018 13:30
SPECIFIC CONDUCTANCE @ 25°C			Method: A2510 B-11				Analyst: ED
Specific Conductance	1,200		0.97	5.0	µmhos/cm	1	2/28/2018 13:30
TOTAL DISSOLVED SOLIDS			Method: A2540 C-11		Prep: FILTER / 3/1/18		Analyst: MT
Total Dissolved Solids	800		6.1	10	mg/L	1	3/1/2018 14:46

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

ALS Group, USA

Date: 08-Mar-18

Client: Western Water & Land, Inc.
Project: TEP Starkey Gulch Pit BWQ
Sample ID: Trip Blank
Collection Date: 2/27/2018

Work Order: 18021605
Lab ID: 18021605-03
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILE ORGANIC COMPOUNDS			Method: SW8260B			Analyst: WH	
Benzene	U		0.42	1.0	µg/L	1	3/1/2018 01:13
Ethylbenzene	U		0.29	1.0	µg/L	1	3/1/2018 01:13
m,p-Xylene	U		0.53	2.0	µg/L	1	3/1/2018 01:13
o-Xylene	U		0.19	1.0	µg/L	1	3/1/2018 01:13
Toluene	U		0.32	1.0	µg/L	1	3/1/2018 01:13
Xylenes, Total	U		0.74	3.0	µg/L	1	3/1/2018 01:13
Surr: 1,2-Dichloroethane-d4	99.2			75-120	%REC	1	3/1/2018 01:13
Surr: 4-Bromofluorobenzene	95.0			80-110	%REC	1	3/1/2018 01:13
Surr: Dibromofluoromethane	99.8			85-115	%REC	1	3/1/2018 01:13
Surr: Toluene-d8	98.8			85-110	%REC	1	3/1/2018 01:13

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

Client: Western Water & Land, Inc.
Work Order: 18021605
Project: TEP Starkey Gulch Pit BWQ

QC BATCH REPORT

Batch ID: **114899** Instrument ID **GC8** Method: **SW8015C**

MBLK		Sample ID: DBLKW1-114899-114899				Units: mg/L		Analysis Date: 3/1/2018 10:44 PM		
Client ID:		Run ID: GC8_180301A				SeqNo: 4916684		Prep Date: 3/1/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	U	0.10								
<i>Surr: 4-Terphenyl-d14</i>	0.04333	0	0.0417	0	104	35-161	0			

LCS		Sample ID: DLCSW1-114899-114899				Units: mg/L		Analysis Date: 3/1/2018 11:13 PM		
Client ID:		Run ID: GC8_180301A				SeqNo: 4916685		Prep Date: 3/1/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	3.912	0.10	4.17	0	93.8	60-150	0			
<i>Surr: 4-Terphenyl-d14</i>	0.037	0	0.0417	0	88.7	35-161	0			

LCSD		Sample ID: DLCSDW1-114899-114899				Units: mg/L		Analysis Date: 3/1/2018 11:42 PM		
Client ID:		Run ID: GC8_180301A				SeqNo: 4916686		Prep Date: 3/1/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	3.823	0.10	4.17	0	91.7	60-150	3.912	2.28	30	
<i>Surr: 4-Terphenyl-d14</i>	0.03417	0	0.0417	0	81.9	35-161	0.037	7.96	30	

The following samples were analyzed in this batch:

18021605-01D	18021605-02D
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Client: Western Water & Land, Inc.
 Work Order: 18021605
 Project: TEP Starkey Gulch Pit BWQ

QC BATCH REPORT

Batch ID: **R230949** Instrument ID **GC10** Method: **RSK-175**

MBLK		Sample ID: RBLK-180302-R230949				Units: µg/L		Analysis Date: 3/2/2018 12:42 PM		
Client ID:		Run ID: GC10_180302A				SeqNo: 4917328		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	U	5.0								
Methane	U	5.0								
Propane	U	5.0								

LCS		Sample ID: RLCS-180302-R230949				Units: µg/L		Analysis Date: 3/2/2018 12:45 PM		
Client ID:		Run ID: GC10_180302A				SeqNo: 4917329		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	31.58	5.0	36.1	0	87.5	75-125	0			
Methane	17.95	5.0	19.2	0	93.5	75-125	0			
Propane	48.09	5.0	52.8	0	91.1	75-125	0			

MS		Sample ID: 18021607-01C MS				Units: µg/L		Analysis Date: 3/2/2018 01:17 PM		
Client ID:		Run ID: GC10_180302A				SeqNo: 4917339		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	35.41	5.0	36.1	0	98.1	70-130	0			
Methane	20.48	5.0	19.2	0	107	70-130	0			
Propane	54.58	5.0	52.8	0	103	70-130	0			

MSD		Sample ID: 18021607-01C MSD				Units: µg/L		Analysis Date: 3/2/2018 01:19 PM		
Client ID:		Run ID: GC10_180302A				SeqNo: 4917340		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane	32.89	5.0	36.1	0	91.1	70-130	35.41	7.38	30	
Methane	19.13	5.0	19.2	0	99.6	70-130	20.48	6.82	30	
Propane	51.89	5.0	52.8	0	98.3	70-130	54.58	5.05	30	

The following samples were analyzed in this batch:

18021605-01B	18021605-02B
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Western Water & Land, Inc.
 Work Order: 18021605
 Project: TEP Starkey Gulch Pit BWQ

QC BATCH REPORT

Batch ID: **R231013** Instrument ID **GC9** Method: **SW8015**

MBLK		Sample ID: GBLKW1-180302-R231013				Units: µg/L		Analysis Date: 3/2/2018 06:45 PM		
Client ID:		Run ID: GC9_180302A				SeqNo: 4918420		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	U	200								
<i>Surr: Toluene-d8</i>	94.03	0	100	0	94	70-130	0			

MBLK		Sample ID: GBLKW1-180302-R231013				Units: µg/L		Analysis Date: 3/2/2018 06:45 PM		
Client ID:		Run ID: GC9_180302A				SeqNo: 4918438		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	U	200								
<i>Surr: Toluene-d8</i>	94.03	0	100	0	94	76-120	0			

LCS		Sample ID: GLCSW1-180302-R231013				Units: µg/L		Analysis Date: 3/2/2018 05:46 PM		
Client ID:		Run ID: GC9_180302A				SeqNo: 4918419		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	9476	200	10000	0	94.8	70-130	0			
<i>Surr: Toluene-d8</i>	103.2	0	100	0	103	70-130	0			

LCS		Sample ID: GLCSW1-180302-R231013				Units: µg/L		Analysis Date: 3/2/2018 05:46 PM		
Client ID:		Run ID: GC9_180302A				SeqNo: 4918437		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	9476	200	10000	0	94.8	76-126	0			
<i>Surr: Toluene-d8</i>	103.2	0	100	0	103	76-120	0			

MS		Sample ID: 18021357-03B MS				Units: µg/L		Analysis Date: 3/2/2018 10:11 PM		
Client ID:		Run ID: GC9_180302A				SeqNo: 4918449		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	17050	200	10000	6150	109	76-126	0			
<i>Surr: Toluene-d8</i>	92.31	0	100	0	92.3	76-120	0			

MSD		Sample ID: 18021357-03B MSD				Units: µg/L		Analysis Date: 3/2/2018 10:41 PM		
Client ID:		Run ID: GC9_180302A				SeqNo: 4918450		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	17260	200	10000	6150	111	76-126	17050	1.23	30	
<i>Surr: Toluene-d8</i>	92.72	0	100	0	92.7	76-120	92.31	0.443	30	

The following samples were analyzed in this batch:

18021605-01A	18021605-02A
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Western Water & Land, Inc.
 Work Order: 18021605
 Project: TEP Starkey Gulch Pit BWQ

QC BATCH REPORT

Batch ID: 114886 Instrument ID ICPMS3 Method: SW6020A (Dissolve)

MBLK		Sample ID: MBLK-114886-114886				Units: mg/L		Analysis Date: 3/1/2018 01:32 PM		
Client ID:		Run ID: ICPMS3_180301A			SeqNo: 4916236		Prep Date: 3/1/2018		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	U	0.0050								
Boron	0.002863	0.020								J
Calcium	U	0.50								
Iron	U	0.080								
Magnesium	U	0.20								
Manganese	U	0.0050								
Potassium	0.02165	0.20								J
Selenium	U	0.0050								
Sodium	0.04457	0.20								J
Strontium	0.000076	0.0050								J

LCS		Sample ID: LCS-114886-114886				Units: mg/L		Analysis Date: 3/1/2018 01:38 PM		
Client ID:		Run ID: ICPMS3_180301A			SeqNo: 4916240		Prep Date: 3/1/2018		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	0.09341	0.0050	0.1	0	93.4	80-120	0			
Calcium	9.129	0.50	10	0	91.3	80-120	0			
Iron	9.33	0.080	10	0	93.3	80-120	0			
Magnesium	9.58	0.20	10	0	95.8	80-120	0			
Manganese	0.09506	0.0050	0.1	0	95.1	80-120	0			
Potassium	9.507	0.20	10	0	95.1	80-120	0			
Selenium	0.09144	0.0050	0.1	0	91.4	80-120	0			
Sodium	9.575	0.20	10	0	95.7	80-120	0			
Strontium	0.09497	0.0050	0.1	0	95	80-120	0			

LCS		Sample ID: LCS-114886-114886				Units: mg/L		Analysis Date: 3/2/2018 12:58 PM		
Client ID:		Run ID: ICPMS3_180302A			SeqNo: 4917389		Prep Date: 3/1/2018		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	0.4548	0.020	0.5	0	91	80-120	0			

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

Client: Western Water & Land, Inc.
 Work Order: 18021605
 Project: TEP Starkey Gulch Pit BWQ

QC BATCH REPORT

Batch ID: 114886 Instrument ID ICPMS3 Method: SW6020A (Dissolve)

MS		Sample ID: 18021605-02GMS				Units: mg/L		Analysis Date: 3/1/2018 01:43 PM		
Client ID: 752722		Run ID: ICPMS3_180301A			SeqNo: 4916243		Prep Date: 3/1/2018		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	0.124	0.0050	0.1	0.02855	95.4	75-125	0			
Calcium	122.9	0.50	10	113.6	93.6	75-125	0			O
Iron	9.44	0.080	10	-0.004269	94.4	75-125	0			
Magnesium	57.3	0.20	10	47.9	94	75-125	0			O
Manganese	0.1899	0.0050	0.1	0.09746	92.5	75-125	0			
Potassium	14.95	0.20	10	5.418	95.3	75-125	0			
Selenium	0.106	0.0050	0.1	0.004223	102	75-125	0			
Sodium	105.3	0.20	10	95.25	100	75-125	0			O
Strontium	1.653	0.0050	0.1	1.586	67.5	75-125	0			SO

MS		Sample ID: 18021605-02GMS				Units: mg/L		Analysis Date: 3/2/2018 01:02 PM		
Client ID: 752722		Run ID: ICPMS3_180302A			SeqNo: 4917392		Prep Date: 3/1/2018		DF: 5	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	2.497	0.10	2.5	0.1824	92.6	75-125	0			

MSD		Sample ID: 18021605-02GMSD				Units: mg/L		Analysis Date: 3/1/2018 01:44 PM		
Client ID: 752722		Run ID: ICPMS3_180301A			SeqNo: 4916244		Prep Date: 3/1/2018		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	0.1221	0.0050	0.1	0.02855	93.5	75-125	0.124	1.55	20	
Calcium	120.8	0.50	10	113.6	72.8	75-125	122.9	1.7	20	SO
Iron	9.328	0.080	10	-0.004269	93.3	75-125	9.44	1.19	20	
Magnesium	56.48	0.20	10	47.9	85.8	75-125	57.3	1.45	20	O
Manganese	0.1914	0.0050	0.1	0.09746	94	75-125	0.1899	0.78	20	
Potassium	14.6	0.20	10	5.418	91.8	75-125	14.95	2.35	20	
Selenium	0.1088	0.0050	0.1	0.004223	105	75-125	0.106	2.61	20	
Sodium	103	0.20	10	95.25	77.1	75-125	105.3	2.21	20	O
Strontium	1.67	0.0050	0.1	1.586	84	75-125	1.653	0.994	20	O

MSD		Sample ID: 18021605-02GMSD				Units: mg/L		Analysis Date: 3/2/2018 01:04 PM		
Client ID: 752722		Run ID: ICPMS3_180302A			SeqNo: 4917393		Prep Date: 3/1/2018		DF: 5	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron	2.593	0.10	2.5	0.1824	96.4	75-125	2.497	3.77	20	

The following samples were analyzed in this batch:

18021605-01G	18021605-02G
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Western Water & Land, Inc.
 Work Order: 18021605
 Project: TEP Starkey Gulch Pit BWQ

QC BATCH REPORT

Batch ID: **R230843a** Instrument ID **VMS7** Method: **SW8260B**

MBLK		Sample ID: VBLKW2-180228-R230843a				Units: µg/L		Analysis Date: 3/1/2018 12:30 PM		
Client ID:		Run ID: VMS7_180228B				SeqNo: 4914714		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	U	1.0								
Ethylbenzene	U	1.0								
m,p-Xylene	U	2.0								
o-Xylene	U	1.0								
Toluene	U	1.0								
Xylenes, Total	U	3.0								
<i>Surr: 1,2-Dichloroethane-d4</i>	20.17	0	20	0	101	75-120	0			
<i>Surr: 4-Bromofluorobenzene</i>	19.25	0	20	0	96.2	80-110	0			
<i>Surr: Dibromofluoromethane</i>	20.16	0	20	0	101	85-115	0			
<i>Surr: Toluene-d8</i>	19.92	0	20	0	99.6	85-110	0			

LCS		Sample ID: VLCW2-180228-R230843a				Units: µg/L		Analysis Date: 2/28/2018 11:26 PM		
Client ID:		Run ID: VMS7_180228B				SeqNo: 4914696		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	18.69	1.0	20	0	93.4	85-125	0			
Ethylbenzene	18.98	1.0	20	0	94.9	78-113	0			
m,p-Xylene	39.27	2.0	40	0	98.2	75-130	0			
o-Xylene	19.68	1.0	20	0	98.4	80-125	0			
Toluene	19.04	1.0	20	0	95.2	85-125	0			
Xylenes, Total	58.95	3.0	60	0	98.2	80-126	0			
<i>Surr: 1,2-Dichloroethane-d4</i>	19.93	0	20	0	99.6	75-120	0			
<i>Surr: 4-Bromofluorobenzene</i>	19.46	0	20	0	97.3	80-110	0			
<i>Surr: Dibromofluoromethane</i>	20.95	0	20	0	105	85-115	0			
<i>Surr: Toluene-d8</i>	20.13	0	20	0	101	85-110	0			

MS		Sample ID: 18021381-02A MS				Units: µg/L		Analysis Date: 3/1/2018 08:15 AM		
Client ID:		Run ID: VMS7_180228B				SeqNo: 4914712		Prep Date:		DF: 100
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1853	100	2000	0	92.6	85-125	0			
Ethylbenzene	1833	100	2000	0	91.6	78-113	0			
m,p-Xylene	3624	200	4000	0	90.6	75-130	0			
o-Xylene	1827	100	2000	0	91.4	80-125	0			
Toluene	1852	100	2000	0	92.6	85-125	0			
Xylenes, Total	5451	300	6000	0	90.8	80-126	0			
<i>Surr: 1,2-Dichloroethane-d4</i>	2005	0	2000	0	100	75-120	0			
<i>Surr: 4-Bromofluorobenzene</i>	1902	0	2000	0	95.1	80-110	0			
<i>Surr: Dibromofluoromethane</i>	2019	0	2000	0	101	85-115	0			
<i>Surr: Toluene-d8</i>	1948	0	2000	0	97.4	85-110	0			

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

Client: Western Water & Land, Inc.
Work Order: 18021605
Project: TEP Starkey Gulch Pit BWQ

QC BATCH REPORT

Batch ID: **R230843a** Instrument ID **VMS7** Method: **SW8260B**

MSD		Sample ID: 18021381-02A MSD				Units: µg/L		Analysis Date: 3/1/2018 08:36 AM		
Client ID:		Run ID: VMS7_180228B			SeqNo: 4914713		Prep Date:		DF: 100	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1915	100	2000	0	95.8	85-125	1853	3.29	30	
Ethylbenzene	1851	100	2000	0	92.6	78-113	1833	0.977	30	
m,p-Xylene	3757	200	4000	0	93.9	75-130	3624	3.6	30	
o-Xylene	1847	100	2000	0	92.4	80-125	1827	1.09	30	
Toluene	1863	100	2000	0	93.2	85-125	1852	0.592	30	
Xylenes, Total	5604	300	6000	0	93.4	80-126	5451	2.77	30	
<i>Surr: 1,2-Dichloroethane-d4</i>	1975	0	2000	0	98.8	75-120	2005	1.51	30	
<i>Surr: 4-Bromofluorobenzene</i>	1935	0	2000	0	96.8	80-110	1902	1.72	30	
<i>Surr: Dibromofluoromethane</i>	2054	0	2000	0	103	85-115	2019	1.72	30	
<i>Surr: Toluene-d8</i>	1961	0	2000	0	98	85-110	1948	0.665	30	

The following samples were analyzed in this batch:

18021605-01A	18021605-02A	18021605-03A
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Western Water & Land, Inc.
 Work Order: 18021605
 Project: TEP Starkey Gulch Pit BWQ

QC BATCH REPORT

Batch ID: 114858 Instrument ID TDS Method: A2540 C-11

MBLK	Sample ID: MBLK-114858-114858		Units: mg/L		Analysis Date: 3/1/2018 02:46 PM					
Client ID:	Run ID: TDS_180301A		SeqNo: 4915369		Prep Date: 3/1/2018 DF: 1					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Total Dissolved Solids U 10

LCS	Sample ID: LCS-114858-114858		Units: mg/L		Analysis Date: 3/1/2018 02:46 PM					
Client ID:	Run ID: TDS_180301A		SeqNo: 4915368		Prep Date: 3/1/2018 DF: 1					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Total Dissolved Solids 481 10 495 0 97.2 80-120 0

DUP	Sample ID: 18021605-01E DUP		Units: mg/L		Analysis Date: 3/1/2018 02:46 PM					
Client ID: 752711	Run ID: TDS_180301A		SeqNo: 4915363		Prep Date: 3/1/2018 DF: 1					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Total Dissolved Solids 743 10 0 0 0 0-0 746 0.403 10

DUP	Sample ID: 18021605-02E DUP		Units: mg/L		Analysis Date: 3/1/2018 02:46 PM					
Client ID: 752722	Run ID: TDS_180301A		SeqNo: 4915366		Prep Date: 3/1/2018 DF: 1					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Total Dissolved Solids 781 10 0 0 0 0-0 797 2.03 10

The following samples were analyzed in this batch:

18021605-01E	18021605-02E
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Western Water & Land, Inc.
 Work Order: 18021605
 Project: TEP Starkey Gulch Pit BWQ

QC BATCH REPORT

Batch ID: **R230790** Instrument ID **WETCHEM** Method: **A4500-NO2 B-11**

MBLK	Sample ID: MB-R230790-R230790		Units: mg/L		Analysis Date: 2/28/2018 01:30 PM					
Client ID:	Run ID: WETCHEM_180228M		SeqNo: 4913129		Prep Date: DF: 1					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Nitrogen, Nitrite U 0.020

LCS	Sample ID: LCS-R230790-R230790		Units: mg/L		Analysis Date: 2/28/2018 01:30 PM					
Client ID:	Run ID: WETCHEM_180228M		SeqNo: 4913130		Prep Date: DF: 1					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Nitrogen, Nitrite 0.2048 0.020 0.2 0 102 80-120 0

MS	Sample ID: 18021562-07A MS		Units: mg/L		Analysis Date: 2/28/2018 01:30 PM					
Client ID:	Run ID: WETCHEM_180228M		SeqNo: 4913135		Prep Date: DF: 1					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Nitrogen, Nitrite 0.1964 0.020 0.2 -0.0005 98.4 75-125 0

MSD	Sample ID: 18021562-07A MSD		Units: mg/L		Analysis Date: 2/28/2018 01:30 PM					
Client ID:	Run ID: WETCHEM_180228M		SeqNo: 4913136		Prep Date: DF: 1					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Nitrogen, Nitrite 0.1933 0.020 0.2 -0.0005 96.9 75-125 0.1964 1.59 20

The following samples were analyzed in this batch:

18021605-01E	18021605-02E
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Western Water & Land, Inc.
Work Order: 18021605
Project: TEP Starkey Gulch Pit BWQ

QC BATCH REPORT

Batch ID: **R230798b** Instrument ID **Titrator 1** Method: **SW9040C**

LCS		Sample ID: WLCSW1-180228-R230798b				Units: s.u.		Analysis Date: 2/28/2018 01:30 PM		
Client ID:		Run ID: TITRATOR 1_180228A			SeqNo: 4913339		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH (laboratory)	4.54	0.10	4.4	0	103	90-110	0			

DUP		Sample ID: 18021605-02E DUP				Units: s.u.		Analysis Date: 2/28/2018 01:30 PM		
Client ID: 752722		Run ID: TITRATOR 1_180228A			SeqNo: 4913343		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH (laboratory)	7.83	0.10	0	0	0		7.8	0.384	20	

The following samples were analyzed in this batch:

18021605-01E	18021605-02E
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Client: Western Water & Land, Inc.
 Work Order: 18021605
 Project: TEP Starkey Gulch Pit BWQ

QC BATCH REPORT

Batch ID: **R230800a** Instrument ID **Titrator 1** Method: **A2510 B-11**

MBLK	Sample ID: WBLKW1-180228-R230800a				Units: µmhos/cm			Analysis Date: 2/28/2018 01:30 PM		
Client ID:	Run ID: TITRATOR 1_180228B				SeqNo: 4913357		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: 18021605-02E DUP				Units: µmhos/cm			Analysis Date: 2/28/2018 01:30 PM		
Client ID: 752722	Run ID: TITRATOR 1_180228B				SeqNo: 4913363		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Specific Conductance 1247 5.0 0 0 0 0-0 1244 0.24 5

LCS1	Sample ID: WLCS1W1-180228-R230800a				Units: µmhos/cm			Analysis Date: 2/28/2018 01:30 PM		
Client ID:	Run ID: TITRATOR 1_180228B				SeqNo: 4913358		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Specific Conductance 14.71 5.0 14.9 0 98.7 85-107 0

LCS2	Sample ID: WLCS2W1-180228-R230800a				Units: µmhos/cm			Analysis Date: 2/28/2018 01:30 PM		
Client ID:	Run ID: TITRATOR 1_180228B				SeqNo: 4913359		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Specific Conductance 587.2 5.0 592 0 99.2 85-107 0

The following samples were analyzed in this batch:

18021605-01E	18021605-02E
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Western Water & Land, Inc.
 Work Order: 18021605
 Project: TEP Starkey Gulch Pit BWQ

QC BATCH REPORT

Batch ID: **R230805** Instrument ID **Titrator 1** Method: **A2320 B-11**

MBLK	Sample ID: WBLKW1-180228-R230805					Units: mg/L	Analysis Date: 2/28/2018 01:30 PM			
Client ID:	Run ID: TITRATOR 1_180228C			SeqNo: 4913487		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Alkalinity, Bicarbonate (as CaCO3)	U	10								
Alkalinity, Carbonate (as CaCO3)	U	10								

LCS	Sample ID: WLCSW1-180228-R230805					Units: mg/L	Analysis Date: 2/28/2018 01:30 PM			
Client ID:	Run ID: TITRATOR 1_180228C			SeqNo: 4913488		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Alkalinity, Carbonate (as CaCO3)	908.9	10	925	0	98.3	85-110	0			
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DUP	Sample ID: 18021546-03A DUP					Units: mg/L	Analysis Date: 2/28/2018 01:30 PM			
Client ID:	Run ID: TITRATOR 1_180228C			SeqNo: 4913492		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Alkalinity, Bicarbonate (as CaCO3)	49.88	10	0	0	0		47.98	3.88	20	
Alkalinity, Carbonate (as CaCO3)	U	10	0	0	0		0	0	20	

DUP	Sample ID: 18021605-02E DUP					Units: mg/L	Analysis Date: 2/28/2018 01:30 PM			
Client ID: 752722	Run ID: TITRATOR 1_180228C			SeqNo: 4913499		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Alkalinity, Bicarbonate (as CaCO3)	436.4	10	0	0	0		443.2	1.53	20	
Alkalinity, Carbonate (as CaCO3)	U	10	0	0	0		0	0	20	

The following samples were analyzed in this batch:

18021605-01E	18021605-02E
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Western Water & Land, Inc.
 Work Order: 18021605
 Project: TEP Starkey Gulch Pit BWQ

QC BATCH REPORT

Batch ID: **R230816** Instrument ID **LACHAT2** Method: **E365.1 R2.0**

MBLK	Sample ID: MBLK-R230816		Units: mg/L		Analysis Date: 2/28/2018 04:09 PM					
Client ID:	Run ID: LACHAT2_180228D		SeqNo: 4913711		Prep Date:			DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Phosphorus, Total U 0.050

LCS	Sample ID: LCS-R230816		Units: mg/L		Analysis Date: 2/28/2018 04:09 PM					
Client ID:	Run ID: LACHAT2_180228D		SeqNo: 4913784		Prep Date:			DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Phosphorus, Total 1.053 0.050 1 0 105 90-110 0

MS	Sample ID: 1802136-07A MS		Units: mg/L		Analysis Date: 2/28/2018 04:09 PM					
Client ID:	Run ID: LACHAT2_180228D		SeqNo: 4913715		Prep Date:			DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Phosphorus, Total 1.106 0.050 1 0.05371 105 90-110 0

MS	Sample ID: 18021578-10A MS		Units: mg/L		Analysis Date: 2/28/2018 04:09 PM					
Client ID:	Run ID: LACHAT2_180228D		SeqNo: 4913779		Prep Date:			DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Phosphorus, Total 1.169 0.050 1 0.05465 111 90-110 0 S

MSD	Sample ID: 1802136-07A MSD		Units: mg/L		Analysis Date: 2/28/2018 04:09 PM					
Client ID:	Run ID: LACHAT2_180228D		SeqNo: 4913716		Prep Date:			DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Phosphorus, Total 1.136 0.050 1 0.05371 108 90-110 1.106 2.68 20

MSD	Sample ID: 18021578-10A MSD		Units: mg/L		Analysis Date: 2/28/2018 04:09 PM					
Client ID:	Run ID: LACHAT2_180228D		SeqNo: 4913780		Prep Date:			DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Phosphorus, Total 1.166 0.050 1 0.05465 111 90-110 1.169 0.257 20 S

LCS2	Sample ID: LCS2-R230816		Units: mg/L		Analysis Date: 2/28/2018 04:09 PM					
Client ID:	Run ID: LACHAT2_180228D		SeqNo: 4913713		Prep Date:			DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Phosphorus, Total 1.035 0.050 1 0 104 90-110 0

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

Client: Western Water & Land, Inc.
Work Order: 18021605
Project: TEP Starkey Gulch Pit BWQ

QC BATCH REPORT

Batch ID: **R230816** Instrument ID **LCHAT2** Method: **E365.1 R2.0**

The following samples were analyzed in this batch:

18021605- 01F	18021605- 02F
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Western Water & Land, Inc.
 Work Order: 18021605
 Project: TEP Starkey Gulch Pit BWQ

QC BATCH REPORT

Batch ID: **R230864** Instrument ID **LACHAT2** Method: **E353.2 R2.0**

MBLK	Sample ID: MBLK-R230864		Units: mg/L		Analysis Date: 3/1/2018 09:49 AM					
Client ID:	Run ID: LACHAT2_180301B		SeqNo: 4915375		Prep Date: DF: 1					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Nitrogen, Nitrate U 0.020

LCS	Sample ID: LCS-R230864		Units: mg/L		Analysis Date: 3/1/2018 09:49 AM					
Client ID:	Run ID: LACHAT2_180301B		SeqNo: 4915376		Prep Date: DF: 1					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Nitrogen, Nitrate 5.36 0.020 5 0 107 90-110 0

MS	Sample ID: 18021605-01F MS		Units: mg/L		Analysis Date: 3/1/2018 09:49 AM					
Client ID: 752711	Run ID: LACHAT2_180301B		SeqNo: 4915378		Prep Date: DF: 1					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Nitrogen, Nitrate 5.281 0.020 5 0.1873 102 90-110 0

MSD	Sample ID: 18021605-01F MSD		Units: mg/L		Analysis Date: 3/1/2018 09:49 AM					
Client ID: 752711	Run ID: LACHAT2_180301B		SeqNo: 4915379		Prep Date: DF: 1					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Nitrogen, Nitrate 5.282 0.020 5 0.1873 102 90-110 5.281 0.0189 20

The following samples were analyzed in this batch:

18021605-01F	18021605-02F
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Western Water & Land, Inc.
 Work Order: 18021605
 Project: TEP Starkey Gulch Pit BWQ

QC BATCH REPORT

Batch ID: **R230890** Instrument ID **IC3** Method: **E300.0**

MBLK		Sample ID: CCB/MBLK-R230890				Units: mg/L		Analysis Date: 3/1/2018 07:43 AM		
Client ID:		Run ID: IC3_180301A			SeqNo: 4915812		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								
Fluoride	U	0.10								
Sulfate	U	1.0								

LCS		Sample ID: LCS-R230890				Units: mg/L		Analysis Date: 3/1/2018 08:03 AM		
Client ID:		Run ID: IC3_180301A			SeqNo: 4915813		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	1.985	0.20	2	0	99.2	90-110	0			
Chloride	9.418	1.0	10	0	94.2	90-110	0			
Fluoride	2.048	0.10	2	0	102	90-110	0			
Sulfate	9.752	1.0	10	0	97.5	90-110	0			

MS		Sample ID: 18021180-01B MS				Units: mg/L		Analysis Date: 3/1/2018 11:18 AM		
Client ID:		Run ID: IC3_180301A			SeqNo: 4915819		Prep Date:		DF: 100	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	206.8	20	200	0	103	80-120	0			
Chloride	1079	100	1000	115.7	96.4	80-120	0			
Fluoride	210.5	10	200	0	105	80-120	0			
Sulfate	1353	100	1000	346.9	101	80-120	0			

MSD		Sample ID: 18021180-01B MSD				Units: mg/L		Analysis Date: 3/1/2018 11:37 AM		
Client ID:		Run ID: IC3_180301A			SeqNo: 4915820		Prep Date:		DF: 100	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	205.6	20	200	0	103	80-120	206.8	0.621	20	
Chloride	1078	100	1000	115.7	96.3	80-120	1079	0.0955	20	
Fluoride	211.5	10	200	0	106	80-120	210.5	0.488	20	
Sulfate	1350	100	1000	346.9	100	80-120	1353	0.197	20	

The following samples were analyzed in this batch:

18021605-01E	18021605-02E
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Western Water & Land, Inc.
Work Order: 18021605
Project: TEP Starkey Gulch Pit BWQ

QC BATCH REPORT

Batch ID: **R231258** Instrument ID **WETCHEM** Method: **HACH METHOD**

MBLK	Sample ID: WBLKW1-1802828-R231258			Units: cfu/1mL	Analysis Date: 2/28/2018 12:45 PM					
Client ID:	Run ID: WETCHEM_180228Z			SeqNo: 4924365	Prep Date:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Iron Related Bacteria	U	0								
Slime Forming Bacteria	U	0								
Sulfate Reducing Bacteria	U	0								

The following samples were analyzed in this batch:

18021605-01C	18021605-02C
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.



ALS Laboratory Group

3352 128th Ave, Holland, MI 49424
 PH: (616) 399-6070

Chain-of-Custody

Form 202r8

WORKORDER #	18021605
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PROJECT NAME	TEP Starkey Gulch	PROJECT NO.	NWSS	DATE	2-27-18	PAGE	1 of 1
FACILITY NAME	Pit BWQ	EDD FORMAT		TURNAROUND	2-day Standard	DISPOSAL	By Lab or Return to Client
FACILITY ID (API)		PURCHASE ORDER		NG1			
COMPANY NAME	Western Water & Land, Inc.	BILL TO COMPANY	TEP Rocky Mtn LLC	BART			
SEND REPORT TO	Bruce Smith	INVOICE ATTN TO	Tammy Gose	BTEX			
ADDRESS	743 Horizon Ct, Ste 330	ADDRESS	1058 CR 215	GRO			
CITY / STATE / ZIP	Grand Junction, CO 81506	CITY / STATE / ZIP	Parachute, CO 81635	DRO			
PHONE	(970) 242-0170	PHONE	(970) 712-6049	Disolved Metals, lab filtered			
FAX		FAX		Anions, Alk, TDS, pH, SpC, nitrates			
E-MAIL	bsmith@westernwaterandland.com	E-MAIL	tgose@terraep.com	Total Phosphorus			
				Disolved gases - HCl preserved			
				Disolved gases - unpreserved			
				PAHs			


Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC	NG1	BART	BTEX	GRO	DRO	Disolved Metals, lab filtered	Anions, Alk, TDS, pH, SpC, nitrates	Total Phosphorus	Disolved gases - HCl preserved	Disolved gases - unpreserved	PAHs
1	752711	GW	2-27-18	1130	12	1,3	IV		1	2	2	2	1	1	1		2	
2	752722	GW	2-27-18	1445	12	1,3	IV		1	2	2	2	1	1	1		2	
3	Trip Blank									2								




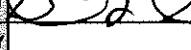
Field Parameters

Field ID	Temp (°C)	DO (%)	DO (mg/L)	SpC (uS/cm)	Turb (NTUs)	pH (s.u.)	ORP (mv)	Disch (gpm)
752711	13.09	2.6	0.27	1246	0.84	7.116	158.8	
752722	11.89	2.1	0.22	690	0.86	6.88	578	

*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: 2-day rush  SR2 3.4c	QC PACKAGE (check below)
	<input type="checkbox"/> LEVEL II (Standard QC)
	<input type="checkbox"/> LEVEL III (Std QC + forms)
	<input checked="" type="checkbox"/> 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		Shelby Goodwin	2-27-18	1530
RECEIVED BY			2-27-18	1600
RELINQUISHED BY			2-27-18	1700
RECEIVED BY		Diane F. Shea	2/28/18	0930
RELINQUISHED BY				
RECEIVED BY				

Sample Receipt Checklist

Client Name: **WESTERNW&L**

Date/Time Received: **28-Feb-18 09:30**

Work Order: **18021605**

Received by: **DS**

Checklist completed by Diane Shaw 28-Feb-18
eSignature Date

Reviewed by: Chad Whilton 01-Mar-18
eSignature Date

Matrices: **Groundwater**

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):

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage:

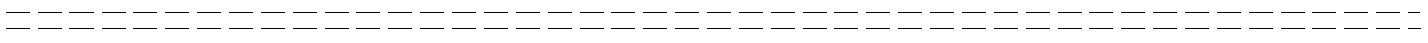
Water - VOA vials have zero headspace? Yes No No VOA vials submitted

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: