



29-Nov-2017

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

Re: **TEP RU 11-7 BWQ**

Work Order: **1711630**

Dear Bruce,

ALS Environmental received 1 sample on 09-Nov-2017 09:15 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 26.

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

Sincerely,

A handwritten signature in black ink, appearing to read "Chad Whelton", is written over a white background.

Electronically approved by: Chad Whelton

Chad Whelton  
Project Manager

Certificate No: MN 998501

### Report of Laboratory Analysis

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

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Environmental The logo icon for ALS Environmental, a blue triangle with a yellow flame-like shape inside.

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**Client:** Western Water & Land, Inc.  
**Project:** TEP RU 11-7 BWQ  
**Work Order:** 1711630

**Work Order Sample Summary**

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<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1711630-01	Beaver CR 2	Surface Wate		11/8/2017 10:50	11/9/2017 09:15	<input type="checkbox"/>

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**Client:** Western Water & Land, Inc.

**Project:** TEP RU 11-7 BWQ

**Work Order:** 1711630

**Case Narrative**

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Batch R224763, Method BART\_W, Sample 1711630-01C: Contains slime forming bacteria, fluorescing pseudomonads, anaerobic bacteria, IRB, and enteric bacteria.

<b>Qualifier</b>	<b>Description</b>
*	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.

<b>Acronym</b>	<b>Description</b>
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

<b>Units Reported</b>	<b>Description</b>
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

Client: Western Water & Land, Inc.  
 Project: TEP RU 11-7 BWQ  
 Sample ID: Beaver CR 2  
 Collection Date: 11/8/2017 10:50 AM

Work Order: 1711630  
 Lab ID: 1711630-01  
 Matrix: SURFACE WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>							
			Method: SW8015C		Prep: SW3511 / 11/10/17		Analyst: <b>KB</b>
DRO (C10-C28)	U		0.040	0.10	mg/L	1	11/11/2017 07:01
Surr: 4-Terphenyl-d14	66.7			35-161	%REC	1	11/11/2017 07:01
<b>GASES IN WATER</b>							
			Method: RSK-175				Analyst: <b>KB</b>
Ethane	0.62	J	0.21	5.0	µg/L	1	11/10/2017 15:04
Methane	3.1	J	0.64	5.0	µg/L	1	11/10/2017 15:04
Propane	U		0.24	5.0	µg/L	1	11/10/2017 15:04
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>							
			Method: SW8015D				Analyst: <b>KB</b>
GRO (C6-C10)	U		76	200	µg/L	1	11/15/2017 01:39
Surr: Toluene-d8	98.2			76-120	%REC	1	11/15/2017 01:39
<b>METALS BY ICP-MS (DISSOLVED)</b>							
			Method: SW6020A		Prep: SW3005A / 11/14/17		Analyst: <b>JF</b>
Barium	0.048		0.0022	0.0050	mg/L	1	11/14/2017 15:55
Boron	0.012	J	0.0018	0.020	mg/L	1	11/14/2017 15:55
Calcium	43		0.086	0.50	mg/L	1	11/14/2017 15:55
Iron	U		0.0046	0.080	mg/L	1	11/14/2017 15:55
Magnesium	10		0.0068	0.20	mg/L	1	11/14/2017 15:55
Manganese	0.0021	J	0.00051	0.0050	mg/L	1	11/14/2017 15:55
Potassium	0.99		0.017	0.20	mg/L	1	11/14/2017 15:55
Selenium	U		0.00090	0.0050	mg/L	1	11/14/2017 15:55
Sodium	15		0.034	0.20	mg/L	1	11/14/2017 15:55
Strontium	0.30		0.000060	0.0050	mg/L	1	11/14/2017 15:55
<b>VOLATILE ORGANIC COMPOUNDS</b>							
			Method: SW8260B				Analyst: <b>BG</b>
Benzene	U		0.42	1.0	µg/L	1	11/15/2017 05:28
Ethyl acetate	U		0.32	5.0	µg/L	1	11/15/2017 05:28
m,p-Xylene	U		0.53	2.0	µg/L	1	11/15/2017 05:28
o-Xylene	U		0.19	1.0	µg/L	1	11/15/2017 05:28
Toluene	U		0.32	1.0	µg/L	1	11/15/2017 05:28
Xylenes, Total	U		0.74	3.0	µg/L	1	11/15/2017 05:28
Surr: 1,2-Dichloroethane-d4	101			75-120	%REC	1	11/15/2017 05:28
Surr: 4-Bromofluorobenzene	96.2			80-110	%REC	1	11/15/2017 05:28
Surr: Dibromofluoromethane	102			85-115	%REC	1	11/15/2017 05:28
Surr: Toluene-d8	99.4			85-110	%REC	1	11/15/2017 05:28
<b>ALKALINITY</b>							
			Method: A2320 B-11				Analyst: <b>ED</b>
Alkalinity, Bicarbonate (as CaCO3)	160		8.4	10	mg/L	1	11/10/2017 15:15
Alkalinity, Carbonate (as CaCO3)	U		8.4	10	mg/L	1	11/10/2017 15:15
<b>BIOLOGICAL ACTIVITY REACTION TEST (BART)</b>							
			Method: HACH METHOD				Analyst: <b>KF</b>

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

# ALS Group, USA

Date: 29-Nov-17

**Client:** Western Water & Land, Inc.  
**Project:** TEP RU 11-7 BWQ  
**Sample ID:** Beaver CR 2  
**Collection Date:** 11/8/2017 10:50 AM

**Work Order:** 1711630  
**Lab ID:** 1711630-01  
**Matrix:** SURFACE WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Iron Related Bacteria	2,200		0		cfu/1mL	1	11/9/2017 11:31
Slime Forming Bacteria	67,000		0		cfu/1mL	1	11/9/2017 11:31
Sulfate Reducing Bacteria	120,000		0		cfu/1mL	1	11/9/2017 11:31
<b>ANIONS BY ION CHROMATOGRAPHY</b>			Method: E300.0				Analyst: EE
Bromide	U		0.067	0.20	mg/L	1	11/16/2017 11:59
Chloride	2.3		0.31	1.0	mg/L	1	11/16/2017 11:59
Fluoride	0.11		0.067	0.10	mg/L	1	11/16/2017 11:59
Sulfate	20		0.69	2.0	mg/L	2	11/16/2017 15:11
<b>NITROGEN, NITRITE</b>			Method: A4500-NO2 B-11				Analyst: STP
Nitrogen, Nitrite	U		0.00090	0.020	mg/L	1	11/9/2017 16:30
<b>NITROGEN, NITRATE</b>			Method: E353.2 R2.0				Analyst: JJJ
Nitrogen, Nitrate	U		0.0034	0.020	mg/L	1	11/13/2017 11:06
<b>PHOSPHORUS, TOTAL</b>			Method: E365.1 R2.0				Analyst: JJJ
Phosphorus, Total	0.059		0.017	0.050	mg/L	1	11/14/2017 08:47
<b>PH (LABORATORY)</b>			Method: SW9040C				Analyst: JB
pH (laboratory)	8.2		0.10	0.10	s.u.	1	11/10/2017 09:10
<b>SPECIFIC CONDUCTANCE @ 25°C</b>			Method: A2510 B-11				Analyst: JB
Specific Conductance	360		0.97	5.0	µmhos/cm	1	11/13/2017 09:15
<b>TOTAL DISSOLVED SOLIDS</b>			Method: A2540 C-11		Prep: FILTER / 11/11/17		Analyst: KH
Total Dissolved Solids	200		6.1	10	mg/L	1	11/13/2017 13:22

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

**Client:** Western Water & Land, Inc.  
**Work Order:** 1711630  
**Project:** TEP RU 11-7 BWQ

**QC BATCH REPORT**

Batch ID: **110317** Instrument ID **GC8** Method: **SW846 8015D**

MBLK		Sample ID: <b>DBLKW1-110317-110317</b>			Units: <b>mg/L</b>		Analysis Date: <b>11/10/2017 11:46 PM</b>			
Client ID:		Run ID: <b>GC8_171110A</b>			SeqNo: <b>4755241</b>		Prep Date: <b>11/10/2017</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	U	0.10								
<i>Surr: 4-Terphenyl-d14</i>	<i>0.04</i>	<i>0</i>	<i>0.0417</i>	<i>0</i>	<i>95.9</i>	<i>35-161</i>	<i>0</i>			

MBLK		Sample ID: <b>DBLKW1-110317-110317</b>			Units: <b>mg/L</b>		Analysis Date: <b>11/10/2017 11:46 PM</b>			
Client ID:		Run ID: <b>GC8_171110A</b>			SeqNo: <b>4755267</b>		Prep Date: <b>11/10/2017</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	U	0.10								
<i>Surr: 4-Terphenyl-d14</i>	<i>0.04</i>	<i>0</i>	<i>0.0417</i>	<i>0</i>	<i>95.9</i>	<i>35-161</i>	<i>0</i>			

LCS		Sample ID: <b>DLCSW1-110317-110317</b>			Units: <b>mg/L</b>		Analysis Date: <b>11/11/2017 12:15 PM</b>			
Client ID:		Run ID: <b>GC8_171110A</b>			SeqNo: <b>4755259</b>		Prep Date: <b>11/10/2017</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	4.728	0.10	4.17		0	113	60-150	0		
<i>Surr: 4-Terphenyl-d14</i>	<i>0.04167</i>	<i>0</i>	<i>0.0417</i>	<i>0</i>	<i>99.9</i>	<i>35-161</i>	<i>0</i>			

LCS		Sample ID: <b>DLCSW1-110317-110317</b>			Units: <b>mg/L</b>		Analysis Date: <b>11/11/2017 12:15 PM</b>			
Client ID:		Run ID: <b>GC8_171110A</b>			SeqNo: <b>4755277</b>		Prep Date: <b>11/10/2017</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	4.728	0.10	4.17		0	113	60-150	0		
<i>Surr: 4-Terphenyl-d14</i>	<i>0.04167</i>	<i>0</i>	<i>0.0417</i>	<i>0</i>	<i>99.9</i>	<i>35-161</i>	<i>0</i>			

MS		Sample ID: <b>1711565-04C MS</b>			Units: <b>mg/L</b>		Analysis Date: <b>11/11/2017 02:11 A</b>			
Client ID:		Run ID: <b>GC8_171110A</b>			SeqNo: <b>4755244</b>		Prep Date: <b>11/10/2017</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	5.14	0.10	4.17	0.03967	122	60-150	0			
<i>Surr: 4-Terphenyl-d14</i>	<i>0.044</i>	<i>0</i>	<i>0.0417</i>	<i>0</i>	<i>106</i>	<i>35-161</i>	<i>0</i>			

MS		Sample ID: <b>1711565-04C MS</b>			Units: <b>mg/L</b>		Analysis Date: <b>11/11/2017 02:11 A</b>			
Client ID:		Run ID: <b>GC8_171110A</b>			SeqNo: <b>4755270</b>		Prep Date: <b>11/10/2017</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	5.14	0.10	4.17	0.03967	122	60-150	0			
<i>Surr: 4-Terphenyl-d14</i>	<i>0.044</i>	<i>0</i>	<i>0.0417</i>	<i>0</i>	<i>106</i>	<i>35-161</i>	<i>0</i>			

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

**Client:** Western Water & Land, Inc.  
**Work Order:** 1711630  
**Project:** TEP RU 11-7 BWQ

# QC BATCH REPORT

Batch ID: **110317**      Instrument ID **GC8**      Method: **SW846 8015D**

DUP		Sample ID: 1711565-06C DUP				Units: mg/L		Analysis Date: 11/11/2017 03:09 A		
Client ID:		Run ID: GC8_171110A				SeqNo: 4755246		Prep Date: 11/10/2017		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	U	0.10	0	0	0		0	0	30	
<i>Surr: 4-Terphenyl-d14</i>	<i>0.03833</i>	<i>0</i>	<i>0.0417</i>	<i>0</i>	<i>91.9</i>	<i>44-159</i>	<i>0.04</i>	<i>4.26</i>	<i>30</i>	

DUP		Sample ID: 1711565-06C DUP				Units: mg/L		Analysis Date: 11/11/2017 03:09 A		
Client ID:		Run ID: GC8_171110A				SeqNo: 4755272		Prep Date: 11/10/2017		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	U	0.10	0	0	0		0	0	30	
<i>Surr: 4-Terphenyl-d14</i>	<i>0.03833</i>	<i>0</i>	<i>0.0417</i>	<i>0</i>	<i>91.9</i>	<i>44-159</i>	<i>0.04</i>	<i>4.26</i>	<i>30</i>	

The following samples were analyzed in this batch: | 1711630-01D |

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

Client: Western Water & Land, Inc.  
 Work Order: 1711630  
 Project: TEP RU 11-7 BWQ

# QC BATCH REPORT

Batch ID: **R224314** Instrument ID **GC10** Method: **RSK-175**

MBLK		Sample ID: <b>RBLKS1-171110-R224314</b>				Units: <b>µg/L</b>		Analysis Date: <b>11/10/2017 02:31 PM</b>			
Client ID:		Run ID: <b>GC10_171110A</b>				SeqNo: <b>4753545</b>		Prep Date:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Ethane	0.58	5.0								J	
Methane	2.01	5.0								J	
Propane	0.86	5.0								J	

LCS		Sample ID: <b>RLCS1-171110-R224314</b>				Units: <b>µg/L</b>		Analysis Date: <b>11/10/2017 02:28 PM</b>			
Client ID:		Run ID: <b>GC10_171110A</b>				SeqNo: <b>4753544</b>		Prep Date:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Ethane	32.96	5.0	36.1	0	91.3	75-125	0				
Methane	18.96	5.0	19.2	0	98.8	75-125	0				
Propane	49.44	5.0	52.8	0	93.6	75-125	0				

MS		Sample ID: <b>1711532-02C MS</b>				Units: <b>µg/L</b>		Analysis Date: <b>11/10/2017 03:23 PM</b>			
Client ID:		Run ID: <b>GC10_171110A</b>				SeqNo: <b>4753564</b>		Prep Date:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Ethane	34.75	5.0	36.1	0	96.3	70-130	0				
Methane	22.72	5.0	19.2	7.2	80.8	70-130	0				
Propane	51.67	5.0	52.8	0	97.9	70-130	0				

MSD		Sample ID: <b>1711532-02C MSD</b>				Units: <b>µg/L</b>		Analysis Date: <b>11/10/2017 03:25 PM</b>			
Client ID:		Run ID: <b>GC10_171110A</b>				SeqNo: <b>4753565</b>		Prep Date:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Ethane	35.36	5.0	36.1	0	98	70-130	34.75	1.74	30		
Methane	22.53	5.0	19.2	7.2	79.8	70-130	22.72	0.84	30		
Propane	52.71	5.0	52.8	0	99.8	70-130	51.67	1.99	30		

The following samples were analyzed in this batch:

1711630-01B

Client: Western Water & Land, Inc.  
 Work Order: 1711630  
 Project: TEP RU 11-7 BWQ

# QC BATCH REPORT

Batch ID: **R224585** Instrument ID **GC9** Method: **SW8015D**

MBLK		Sample ID: <b>GBLKW1-171114-R224585</b>				Units: <b>µg/L</b>		Analysis Date: <b>11/14/2017 09:41 PM</b>		
Client ID:		Run ID: <b>GC9_171114A</b>				SeqNo: <b>4760648</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	U	200								
<i>Surr: Toluene-d8</i>	99.95	0	100	0	100	76-120	0			

LCS		Sample ID: <b>GLCSW1-171114-R224585</b>				Units: <b>µg/L</b>		Analysis Date: <b>11/14/2017 08:41 PM</b>		
Client ID:		Run ID: <b>GC9_171114A</b>				SeqNo: <b>4760647</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	8661	200	10000	0	86.6	76-126	0			
<i>Surr: Toluene-d8</i>	102.5	0	100	0	102	76-120	0			

MS		Sample ID: <b>1711672-05A MS</b>				Units: <b>µg/L</b>		Analysis Date: <b>11/15/2017 07:12 A</b>		
Client ID:		Run ID: <b>GC9_171114A</b>				SeqNo: <b>4760663</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	8479	200	10000	0	84.8	76-126	0			
<i>Surr: Toluene-d8</i>	106.6	0	100	0	107	76-120	0			

MSD		Sample ID: <b>1711672-05A MSD</b>				Units: <b>µg/L</b>		Analysis Date: <b>11/15/2017 07:42 A</b>		
Client ID:		Run ID: <b>GC9_171114A</b>				SeqNo: <b>4760664</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	8241	200	10000	0	82.4	76-126	8479	2.85	30	
<i>Surr: Toluene-d8</i>	103.9	0	100	0	104	76-120	106.6	2.56	30	

The following samples were analyzed in this batch: 1711630-01A

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

Client: Western Water & Land, Inc.  
 Work Order: 1711630  
 Project: TEP RU 11-7 BWQ

# QC BATCH REPORT

Batch ID: 110510 Instrument ID ICPMS3 Method: SW6020A

MBLK		Sample ID: MBLK-110510-110510				Units: mg/L		Analysis Date: 11/14/2017 03:34 PM		
Client ID:		Run ID: ICPMS3_171114A		SeqNo: 4759846		Prep Date: 11/14/2017		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	0.002949	0.020								J
Calcium	U	0.50								
Iron	U	0.080								
Magnesium	0.02104	0.20								J
Manganese	U	0.0050								
Potassium	U	0.20								
Selenium	U	0.0050								
Sodium	U	0.20								
Strontium	0.000304	0.0050								J

LCS		Sample ID: LCS-110510-110510				Units: mg/L		Analysis Date: 11/14/2017 03:35 PM		
Client ID:		Run ID: ICPMS3_171114A		SeqNo: 4759847		Prep Date: 11/14/2017		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	0.105	0.0050	0.1	0	105	80-120	0			
Boron	0.4712	0.020	0.5	0	94.2	80-120	0			
Calcium	10.3	0.50	10	0	103	80-120	0			
Iron	9.814	0.080	10	0	98.1	80-120	0			
Magnesium	10.36	0.20	10	0	104	80-120	0			
Manganese	0.1003	0.0050	0.1	0	100	80-120	0			
Potassium	10.39	0.20	10	0	104	80-120	0			
Selenium	0.09633	0.0050	0.1	0	96.3	80-120	0			
Sodium	10.63	0.20	10	0	106	80-120	0			
Strontium	0.1024	0.0050	0.1	0	102	80-120	0			

MS		Sample ID: 1711606-05CMS				Units: mg/L		Analysis Date: 11/14/2017 03:43 PM		
Client ID:		Run ID: ICPMS3_171114A		SeqNo: 4759852		Prep Date: 11/14/2017		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	0.1506	0.0050	0.1	0.04568	105	75-125	0			
Boron	0.4826	0.020	0.5	0.02706	91.1	75-125	0			
Calcium	90.17	0.50	10	79.28	109	75-125	0			O
Iron	10.18	0.080	10	0.5083	96.7	75-125	0			
Magnesium	32.49	0.20	10	22.69	98	75-125	0			
Manganese	0.7636	0.0050	0.1	0.6813	82.3	75-125	0			O
Potassium	15.61	0.20	10	5.711	99	75-125	0			
Selenium	0.09575	0.0050	0.1	0.000382	95.4	75-125	0			
Sodium	21.55	0.20	10	11.35	102	75-125	0			
Strontium	0.1827	0.0050	0.1	0.08279	99.9	75-125	0			

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

**Client:** Western Water & Land, Inc.  
**Work Order:** 1711630  
**Project:** TEP RU 11-7 BWQ

## QC BATCH REPORT

Batch ID: **110510**      Instrument ID **ICPMS3**      Method: **SW6020A**

MSD		Sample ID: 1711606-05CMSD				Units: mg/L		Analysis Date: 11/14/2017 03:44 PM		
Client ID:		Run ID: ICPMS3_171114A			SeqNo: 4759853		Prep Date: 11/14/2017		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	0.1537	0.0050	0.1	0.04568	108	75-125	0.1506	2.04	20	
Boron	0.5102	0.020	0.5	0.02706	96.6	75-125	0.4826	5.57	20	
Calcium	90.42	0.50	10	79.28	111	75-125	90.17	0.28	20	O
Iron	10.47	0.080	10	0.5083	99.6	75-125	10.18	2.78	20	
Magnesium	33.08	0.20	10	22.69	104	75-125	32.49	1.82	20	
Manganese	0.7816	0.0050	0.1	0.6813	100	75-125	0.7636	2.34	20	O
Potassium	15.73	0.20	10	5.711	100	75-125	15.61	0.797	20	
Selenium	0.0981	0.0050	0.1	0.000382	97.7	75-125	0.09575	2.43	20	
Sodium	21.69	0.20	10	11.35	103	75-125	21.55	0.633	20	
Strontium	0.1841	0.0050	0.1	0.08279	101	75-125	0.1827	0.748	20	

The following samples were analyzed in this batch: 1711630-01E

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

Client: Western Water & Land, Inc.

# QC BATCH REPORT

Work Order: 1711630

Project: TEP RU 11-7 BWQ

Batch ID: R224548a

Instrument ID VMS5

Method: SW8260B

MBLK		Sample ID: VBLKW1-171114-R224548a				Units: µg/L		Analysis Date: 11/14/2017 09:47 PM		
Client ID:		Run ID: VMS5_171114A			SeqNo: 4760438		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								
Ethyl acetate	U	5.0								
m,p-Xylene	U	2.0								
o-Xylene	U	1.0								
Toluene	U	1.0								
Xylenes, Total	U	3.0								
Surr: 1,2-Dichloroethane-d4	20.13	0	20	0	101	75-120	0			
Surr: 4-Bromofluorobenzene	19.57	0	20	0	97.8	80-110	0			
Surr: Dibromofluoromethane	19.55	0	20	0	97.8	85-115	0			
Surr: Toluene-d8	19.98	0	20	0	99.9	85-110	0			

LCS		Sample ID: VLCSW1-171114-R224548a				Units: µg/L		Analysis Date: 11/14/2017 08:56 PM		
Client ID:		Run ID: VMS5_171114A			SeqNo: 4760437		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	19.33	1.0	20	0	96.6	85-125	0			
Ethyl acetate	15.58	5.0	20	0	77.9	70-130	0			
m,p-Xylene	39.91	2.0	40	0	99.8	75-130	0			
o-Xylene	20.2	1.0	20	0	101	80-125	0			
Toluene	19.11	1.0	20	0	95.6	85-125	0			
Xylenes, Total	60.11	3.0	60	0	100	80-126	0			
Surr: 1,2-Dichloroethane-d4	19.66	0	20	0	98.3	75-120	0			
Surr: 4-Bromofluorobenzene	19.71	0	20	0	98.6	80-110	0			
Surr: Dibromofluoromethane	19.69	0	20	0	98.4	85-115	0			
Surr: Toluene-d8	20.09	0	20	0	100	85-110	0			

MS		Sample ID: 1711423-35B MS				Units: µg/L		Analysis Date: 11/15/2017 05:54 A		
Client ID:		Run ID: VMS5_171114A			SeqNo: 4760454		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	21.5	1.0	20	0	108	85-125	0			
Ethyl acetate	11.03	5.0	20	0	55.2	70-130	0			
m,p-Xylene	43.22	2.0	40	0	108	75-130	0			
o-Xylene	21.67	1.0	20	0	108	80-125	0			
Toluene	20.96	1.0	20	0	105	85-125	0			
Xylenes, Total	64.89	3.0	60	0	108	80-126	0			
Surr: 1,2-Dichloroethane-d4	20.13	0	20	0	101	75-120	0			
Surr: 4-Bromofluorobenzene	20.14	0	20	0	101	80-110	0			
Surr: Dibromofluoromethane	20.23	0	20	0	101	85-115	0			
Surr: Toluene-d8	20.28	0	20	0	101	85-110	0			

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

Client: Western Water & Land, Inc.  
 Work Order: 1711630  
 Project: TEP RU 11-7 BWQ

# QC BATCH REPORT

Batch ID: R224548a Instrument ID VMS5 Method: SW8260B

MS		Sample ID: 1711660-03A MS				Units: µg/L		Analysis Date: 11/15/2017 06:45 A		
Client ID:		Run ID: VMS5_171114A			SeqNo: 4760461		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	20.58	1.0	20	0	103	85-125	0			
Ethyl acetate	13.01	5.0	20	0	65	70-130	0			
m,p-Xylene	40.55	2.0	40	0	101	75-130	0			
o-Xylene	20.31	1.0	20	0	102	80-125	0			
Toluene	19.49	1.0	20	0	97.4	85-125	0			
Xylenes, Total	60.86	3.0	60	0	101	80-126	0			
Surr: 1,2-Dichloroethane-d4	20.19	0	20	0	101	75-120	0			
Surr: 4-Bromofluorobenzene	20.07	0	20	0	100	80-110	0			
Surr: Dibromofluoromethane	20.23	0	20	0	101	85-115	0			
Surr: Toluene-d8	20.09	0	20	0	100	85-110	0			

MSD		Sample ID: 1711423-35B MSD				Units: µg/L		Analysis Date: 11/15/2017 06:20 A		
Client ID:		Run ID: VMS5_171114A			SeqNo: 4760457		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	21.92	1.0	20	0	110	85-125	21.5	0	30	
Ethyl acetate	12.08	5.0	20	0	60.4	70-130	11.03	0	30	S
m,p-Xylene	43.69	2.0	40	0	109	75-130	43.22	0	30	
o-Xylene	21.87	1.0	20	0	109	80-125	21.67	0	30	
Toluene	21.29	1.0	20	0	106	85-125	20.96	0	30	
Xylenes, Total	65.56	3.0	60	0	109	80-126	64.89	0	30	
Surr: 1,2-Dichloroethane-d4	19.87	0	20	0	99.4	75-120	20.13	0	30	
Surr: 4-Bromofluorobenzene	20.23	0	20	0	101	80-110	20.14	0	30	
Surr: Dibromofluoromethane	20.19	0	20	0	101	85-115	20.23	0	30	
Surr: Toluene-d8	20.2	0	20	0	101	85-110	20.28	0	30	

MSD		Sample ID: 1711660-03A MSD				Units: µg/L		Analysis Date: 11/15/2017 07:11 A		
Client ID:		Run ID: VMS5_171114A			SeqNo: 4760464		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	20.42	1.0	20	0	102	85-125	20.58	0.78	30	
Ethyl acetate	13.33	5.0	20	0	66.6	70-130	13.01	2.43	30	
m,p-Xylene	40.22	2.0	40	0	101	75-130	40.55	0.817	30	
o-Xylene	20.15	1.0	20	0	101	80-125	20.31	0.791	30	
Toluene	19.53	1.0	20	0	97.6	85-125	19.49	0.205	30	
Xylenes, Total	60.37	3.0	60	0	101	80-126	60.86	0.808	30	
Surr: 1,2-Dichloroethane-d4	19.96	0	20	0	99.8	75-120	20.19	1.15	30	
Surr: 4-Bromofluorobenzene	19.66	0	20	0	98.3	80-110	20.07	2.06	30	
Surr: Dibromofluoromethane	20.24	0	20	0	101	85-115	20.23	0.0494	30	
Surr: Toluene-d8	19.69	0	20	0	98.4	85-110	20.09	2.01	30	

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

**Client:** Western Water & Land, Inc.

**Work Order:** 1711630

**Project:** TEP RU 11-7 BWQ

## QC BATCH REPORT

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Batch ID: **R224548a**

Instrument ID **VMS5**

Method: **SW8260B**

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

1711630-01A
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**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Western Water & Land, Inc.  
 Work Order: 1711630  
 Project: TEP RU 11-7 BWQ

# QC BATCH REPORT

Batch ID: 110421 Instrument ID TDS Method: A2540 C-11

MBLK		Sample ID: MBLK-110421-110421				Units: mg/L		Analysis Date: 11/13/2017 01:22 PM		
Client ID:		Run ID: TDS_171113A		SeqNo: 4756390		Prep Date: 11/11/2017		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-110421-110421				Units: mg/L		Analysis Date: 11/13/2017 01:22 PM		
Client ID:		Run ID: TDS_171113A		SeqNo: 4756389		Prep Date: 11/11/2017		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids	476	10	495	0	96.2	80-120	0			

DUP		Sample ID: 1711481-01E DUP				Units: mg/L		Analysis Date: 11/13/2017 01:22 PM		
Client ID:		Run ID: TDS_171113A		SeqNo: 4756379		Prep Date: 11/11/2017		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total Dissolved Solids	1081	10	0	0	0	0-0	1093	1.1	5	

The following samples were analyzed in this batch:

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

Client: Western Water & Land, Inc.  
 Work Order: 1711630  
 Project: TEP RU 11-7 BWQ

# QC BATCH REPORT

Batch ID: **R224231** Instrument ID **WETCHEM** Method: **A4500-NO2 B-11**

<b>MBLK</b>	Sample ID: <b>MB-R224231-R224231</b>		Units: <b>mg/L</b>		Analysis Date: <b>11/9/2017 04:30 PM</b>					
Client ID:	Run ID: <b>WETCHEM_171109N</b>		SeqNo: <b>4751316</b>		Prep Date:					
					DF: <b>1</b>					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Nitrogen, Nitrite U 0.020

<b>LCS</b>	Sample ID: <b>LCS-R224231-R224231</b>		Units: <b>mg/L</b>		Analysis Date: <b>11/9/2017 04:30 PM</b>					
Client ID:	Run ID: <b>WETCHEM_171109N</b>		SeqNo: <b>4751317</b>		Prep Date:					
					DF: <b>1</b>					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Nitrogen, Nitrite 0.2063 0.020 0.2 0 103 80-120 0

<b>MS</b>	Sample ID: <b>1711605-06AMS</b>		Units: <b>mg/L</b>		Analysis Date: <b>11/9/2017 04:30 PM</b>					
Client ID:	Run ID: <b>WETCHEM_171109N</b>		SeqNo: <b>4751325</b>		Prep Date:					
					DF: <b>1</b>					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Nitrogen, Nitrite 0.0826 0.020 0.2 0.0025 40 75-125 0 S

<b>MSD</b>	Sample ID: <b>1711605-06AMSD</b>		Units: <b>mg/L</b>		Analysis Date: <b>11/9/2017 04:30 PM</b>					
Client ID:	Run ID: <b>WETCHEM_171109N</b>		SeqNo: <b>4751326</b>		Prep Date:					
					DF: <b>1</b>					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Nitrogen, Nitrite 0.0802 0.020 0.2 0.0025 38.8 75-125 0.0826 2.95 20 S

The following samples were analyzed in this batch: 1711630-01E

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

Client: Western Water & Land, Inc.  
 Work Order: 1711630  
 Project: TEP RU 11-7 BWQ

# QC BATCH REPORT

Batch ID: **R224271** Instrument ID **WETCHEM** Method: **A4500-H B-11**

LCS		Sample ID: <b>WLCSW1-171110-R224271</b>				Units: <b>s.u.</b>		Analysis Date: <b>11/10/2017 09:10 A</b>		
Client ID:		Run ID: <b>WETCHEM_171110C</b>				SeqNo: <b>4752629</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH (laboratory)	3.9	0.10	4	0	97.5	90-110	0			

LCS		Sample ID: <b>WLCSW1-171110-R224271</b>				Units: <b>s.u.</b>		Analysis Date: <b>11/10/2017 09:10 A</b>		
Client ID:		Run ID: <b>WETCHEM_171110C</b>				SeqNo: <b>4752663</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH (laboratory)	3.9	0.10	4	0	97.5	90-110	0			

DUP		Sample ID: <b>17101880-01A DUP</b>				Units: <b>s.u.</b>		Analysis Date: <b>11/10/2017 09:10 A</b>		
Client ID:		Run ID: <b>WETCHEM_171110C</b>				SeqNo: <b>4752632</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH (laboratory)	4.48	0.10	0	0	0	0-0	4.48	0	20	HH

DUP		Sample ID: <b>1711510-01A DUP</b>				Units: <b>s.u.</b>		Analysis Date: <b>11/10/2017 09:10 A</b>		
Client ID:		Run ID: <b>WETCHEM_171110C</b>				SeqNo: <b>4752637</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH (laboratory)	6.06	0.10	0	0	0	0-0	6.06	0	20	

DUP		Sample ID: <b>1711498-01A DUP</b>				Units: <b>s.u.</b>		Analysis Date: <b>11/10/2017 09:10 A</b>		
Client ID:		Run ID: <b>WETCHEM_171110C</b>				SeqNo: <b>4752665</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH (laboratory)	8.43	0.10	0	0	0		8.43	0	20	

The following samples were analyzed in this batch:

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

Client: Western Water & Land, Inc.  
 Work Order: 1711630  
 Project: TEP RU 11-7 BWQ

# QC BATCH REPORT

Batch ID: **R224320** Instrument ID **Titrator 1** Method: **A2320 B-11**

MBLK		Sample ID: <b>WBLKW1-171110-R224320</b>				Units: <b>mg/L</b>		Analysis Date: <b>11/10/2017 03:15 PM</b>		
Client ID:		Run ID: <b>TITRATOR 1_171110A</b>				SeqNo: <b>4753661</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Bicarbonate (as CaCO3)	U	10								
Alkalinity, Carbonate (as CaCO3)	U	10								

LCS		Sample ID: <b>WLCSW1-171110-R224320</b>				Units: <b>mg/L</b>		Analysis Date: <b>11/10/2017 03:15 PM</b>		
Client ID:		Run ID: <b>TITRATOR 1_171110A</b>				SeqNo: <b>4753662</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Carbonate (as CaCO3)	902.6	10	925	0	97.6	85-110	0			

DUP		Sample ID: <b>1711538-02A DUP</b>				Units: <b>mg/L</b>		Analysis Date: <b>11/10/2017 03:15 PM</b>		
Client ID:		Run ID: <b>TITRATOR 1_171110A</b>				SeqNo: <b>4753671</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Bicarbonate (as CaCO3)	484.5	10	0	0	0		486.6	0.43	20	
Alkalinity, Carbonate (as CaCO3)	U	10	0	0	0		0	0	20	

DUP		Sample ID: <b>1711605-06A DUP</b>				Units: <b>mg/L</b>		Analysis Date: <b>11/10/2017 03:15 PM</b>		
Client ID:		Run ID: <b>TITRATOR 1_171110A</b>				SeqNo: <b>4753681</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Alkalinity, Bicarbonate (as CaCO3)	758.4	10	0	0	0		747.8	1.41	20	
Alkalinity, Carbonate (as CaCO3)	U	10	0	0	0		0	0	20	

The following samples were analyzed in this batch:

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

Client: Western Water & Land, Inc.

# QC BATCH REPORT

Work Order: 1711630

Project: TEP RU 11-7 BWQ

Batch ID: **R224378** Instrument ID **WETCHEM** Method: **A2510 B-11**

<b>MBLK</b>	Sample ID: <b>WBLKW1-171113-R224378</b>				Units: <b>µmhos/cm</b>			Analysis Date: <b>11/13/2017 09:15 A</b>		
Client ID:	Run ID: <b>WETCHEM_171113C</b>				SeqNo: <b>4755144</b>		Prep Date:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Specific Conductance U 5.0

<b>MBLK</b>	Sample ID: <b>WBLKW1-171113-R224378</b>				Units: <b>µmhos/cm @ 25°</b>			Analysis Date: <b>11/13/2017 09:15 A</b>		
Client ID:	Run ID: <b>WETCHEM_171113C</b>				SeqNo: <b>4755155</b>		Prep Date:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Specific Conductance U 5.0

<b>DUP</b>	Sample ID: <b>1711344-01B DUP</b>				Units: <b>µmhos/cm</b>			Analysis Date: <b>11/13/2017 09:15 A</b>		
Client ID:	Run ID: <b>WETCHEM_171113C</b>				SeqNo: <b>4755147</b>		Prep Date:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Specific Conductance 1393 5.0 0 0 0 0-0 1393 0 5

<b>LCS1</b>	Sample ID: <b>WLCS1W1-171113-R224378</b>				Units: <b>µmhos/cm</b>			Analysis Date: <b>11/13/2017 09:15 A</b>		
Client ID:	Run ID: <b>WETCHEM_171113C</b>				SeqNo: <b>4755145</b>		Prep Date:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Specific Conductance 15.55 5.0 14.9 0 104 85-107 0

<b>LCS1</b>	Sample ID: <b>WLCS1W-171113-R224378</b>				Units: <b>µmhos/cm @ 25°</b>			Analysis Date: <b>11/13/2017 09:15 A</b>		
Client ID:	Run ID: <b>WETCHEM_171113C</b>				SeqNo: <b>4755156</b>		Prep Date:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Specific Conductance 15.55 5.0 14.9 0 104 85-107 0

<b>LCS2</b>	Sample ID: <b>WLCS2W1-171113-R224378</b>				Units: <b>µmhos/cm</b>			Analysis Date: <b>11/13/2017 09:15 A</b>		
Client ID:	Run ID: <b>WETCHEM_171113C</b>				SeqNo: <b>4755154</b>		Prep Date:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Specific Conductance 604 5.0 592 0 102 85-107 0

<b>LCS2</b>	Sample ID: <b>WLCS2W1-171113-R224378</b>				Units: <b>µmhos/cm @ 25°</b>			Analysis Date: <b>11/13/2017 09:15 A</b>		
Client ID:	Run ID: <b>WETCHEM_171113C</b>				SeqNo: <b>4755160</b>		Prep Date:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Specific Conductance 604 5.0 592 0 102 85-107 0

The following samples were analyzed in this batch:

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

Client: Western Water & Land, Inc.  
 Work Order: 1711630  
 Project: TEP RU 11-7 BWQ

# QC BATCH REPORT

Batch ID: **R224497** Instrument ID **LACHAT2** Method: **E365.1 R2.0**

<b>MBLK</b>	Sample ID: <b>MBLK-R224497</b>		Units: <b>mg/L</b>		Analysis Date: <b>11/14/2017 08:47 A</b>					
Client ID:	Run ID: <b>LACHAT2_171114B</b>		SeqNo: <b>4757799</b>		Prep Date:		DF: <b>1</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Phosphorus, Total U 0.050

<b>LCS</b>	Sample ID: <b>LCS-R224497</b>		Units: <b>mg/L</b>		Analysis Date: <b>11/14/2017 08:47 A</b>					
Client ID:	Run ID: <b>LACHAT2_171114B</b>		SeqNo: <b>4757802</b>		Prep Date:		DF: <b>1</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Phosphorus, Total 1.089 0.050 1 0 109 90-110 0

<b>MS</b>	Sample ID: <b>1711154-10A MS</b>		Units: <b>mg/L</b>		Analysis Date: <b>11/14/2017 08:47 A</b>					
Client ID:	Run ID: <b>LACHAT2_171114B</b>		SeqNo: <b>4757810</b>		Prep Date:		DF: <b>1</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Phosphorus, Total 1.576 0.050 1 0.4589 112 90-110 0 S

<b>MS</b>	Sample ID: <b>1711606-03B MS</b>		Units: <b>mg/L</b>		Analysis Date: <b>11/14/2017 08:47 A</b>					
Client ID:	Run ID: <b>LACHAT2_171114B</b>		SeqNo: <b>4757825</b>		Prep Date:		DF: <b>1</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Phosphorus, Total 1.124 0.050 1 0.01268 111 90-110 0 S

<b>MSD</b>	Sample ID: <b>1711154-10A MSD</b>		Units: <b>mg/L</b>		Analysis Date: <b>11/14/2017 08:47 A</b>					
Client ID:	Run ID: <b>LACHAT2_171114B</b>		SeqNo: <b>4757811</b>		Prep Date:		DF: <b>1</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Phosphorus, Total 1.573 0.050 1 0.4589 111 90-110 1.576 0.191 20 S

<b>MSD</b>	Sample ID: <b>1711606-03B MSD</b>		Units: <b>mg/L</b>		Analysis Date: <b>11/14/2017 08:47 A</b>					
Client ID:	Run ID: <b>LACHAT2_171114B</b>		SeqNo: <b>4757826</b>		Prep Date:		DF: <b>1</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Phosphorus, Total 1.142 0.050 1 0.01268 113 90-110 1.124 1.59 20 S

<b>LCS2</b>	Sample ID: <b>LCS2-R224497</b>		Units: <b>mg/L</b>		Analysis Date: <b>11/14/2017 08:47 A</b>					
Client ID:	Run ID: <b>LACHAT2_171114B</b>		SeqNo: <b>4757803</b>		Prep Date:		DF: <b>1</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Phosphorus, Total 1.077 0.050 1 0 108 90-110 0

The following samples were analyzed in this batch:

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

Client: Western Water & Land, Inc.  
 Work Order: 1711630  
 Project: TEP RU 11-7 BWQ

# QC BATCH REPORT

Batch ID: **R224528A** Instrument ID **LACHAT2** Method: **E353.2 R2.0**

<b>MBLK</b>	Sample ID: <b>MBLK-R224528A</b>		Units: <b>mg/L</b>		Analysis Date: <b>11/13/2017 11:06 A</b>					
Client ID:	Run ID: <b>LACHAT2_171113C</b>		SeqNo: <b>4758752</b>		Prep Date:					
					DF: <b>1</b>					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Nitrogen, Nitrate U 0.020

<b>LCS</b>	Sample ID: <b>LCS-R224528A</b>		Units: <b>mg/L</b>		Analysis Date: <b>11/13/2017 11:06 A</b>					
Client ID:	Run ID: <b>LACHAT2_171113C</b>		SeqNo: <b>4758753</b>		Prep Date:					
					DF: <b>1</b>					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Nitrogen, Nitrate 5.113 0.020 5 0 102 90-110 0

<b>MS</b>	Sample ID: <b>1711605-06CMS</b>		Units: <b>mg/L</b>		Analysis Date: <b>11/13/2017 11:06 A</b>					
Client ID:	Run ID: <b>LACHAT2_171113C</b>		SeqNo: <b>4758790</b>		Prep Date:					
					DF: <b>1</b>					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Nitrogen, Nitrate 4.268 0.020 5 -0.1363 88.1 90-110 0 S

<b>MS</b>	Sample ID: <b>1711606-06B MS</b>		Units: <b>mg/L</b>		Analysis Date: <b>11/13/2017 11:06 A</b>					
Client ID:	Run ID: <b>LACHAT2_171113C</b>		SeqNo: <b>4758805</b>		Prep Date:					
					DF: <b>2</b>					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Nitrogen, Nitrate 10.93 0.040 5 6.25 93.6 90-110 0

<b>MSD</b>	Sample ID: <b>1711605-06CMSD</b>		Units: <b>mg/L</b>		Analysis Date: <b>11/13/2017 11:06 A</b>					
Client ID:	Run ID: <b>LACHAT2_171113C</b>		SeqNo: <b>4758791</b>		Prep Date:					
					DF: <b>1</b>					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Nitrogen, Nitrate 4.214 0.020 5 -0.1363 87 90-110 4.268 1.3 20 S

<b>MSD</b>	Sample ID: <b>1711606-06B MSD</b>		Units: <b>mg/L</b>		Analysis Date: <b>11/13/2017 11:06 A</b>					
Client ID:	Run ID: <b>LACHAT2_171113C</b>		SeqNo: <b>4758806</b>		Prep Date:					
					DF: <b>2</b>					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Nitrogen, Nitrate 10.93 0.040 5 6.25 93.6 90-110 10.93 0.0183 20

The following samples were analyzed in this batch: 1711630-01F

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

Client: Western Water & Land, Inc.  
 Work Order: 1711630  
 Project: TEP RU 11-7 BWQ

# QC BATCH REPORT

Batch ID: **R224754** Instrument ID **IC3** Method: **E300.0**

MBLK		Sample ID: <b>CCB/MBLK-R224754</b>				Units: <b>mg/L</b>		Analysis Date: <b>11/16/2017 10:42 A</b>		
Client ID:		Run ID: <b>IC3_171116A</b>				SeqNo: <b>4764579</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	U	0.20								
Chloride	U	1.0								
Fluoride	U	0.10								
Sulfate	U	1.0								

LCS		Sample ID: <b>LCS-R224754</b>				Units: <b>mg/L</b>		Analysis Date: <b>11/16/2017 11:01 A</b>		
Client ID:		Run ID: <b>IC3_171116A</b>				SeqNo: <b>4764580</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	1.978	0.20	2	0	98.9	90-110	0			
Chloride	9.322	1.0	10	0	93.2	90-110	0			
Fluoride	2.019	0.10	2	0	101	90-110	0			
Sulfate	9.747	1.0	10	0	97.5	90-110	0			

MS		Sample ID: <b>1711607-01E MS</b>				Units: <b>mg/L</b>		Analysis Date: <b>11/16/2017 01:35 PM</b>		
Client ID:		Run ID: <b>IC3_171116A</b>				SeqNo: <b>4764588</b>		Prep Date:		DF: <b>5</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	10.28	1.0	10	0	103	80-120	0			
Chloride	48.77	5.0	50	1.774	94	80-120	0			
Fluoride	10.53	0.50	10	0.098	104	80-120	0			
Sulfate	69.2	5.0	50	20.09	98.2	80-120	0			

MSD		Sample ID: <b>1711607-01E MSD</b>				Units: <b>mg/L</b>		Analysis Date: <b>11/16/2017 01:54 PM</b>		
Client ID:		Run ID: <b>IC3_171116A</b>				SeqNo: <b>4764589</b>		Prep Date:		DF: <b>5</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Bromide	10.36	1.0	10	0	104	80-120	10.28	0.785	20	
Chloride	48.8	5.0	50	1.774	94.1	80-120	48.77	0.0676	20	
Fluoride	10.58	0.50	10	0.098	105	80-120	10.53	0.559	20	
Sulfate	69.34	5.0	50	20.09	98.5	80-120	69.2	0.21	20	

The following samples were analyzed in this batch: 1711630-01E

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

**Client:** Western Water & Land, Inc.

**Work Order:** 1711630

**Project:** TEP RU 11-7 BWQ

# QC BATCH REPORT

Batch ID: **R224763**

Instrument ID **WETCHEM**

Method: **HACH METHOD**

<b>MBLK</b>	Sample ID: <b>WBLKW-171109-R224763</b>		Units: <b>cfu/1mL</b>		Analysis Date: <b>11/9/2017 11:31 AM</b>					
Client ID:	Run ID: <b>WETCHEM_171109X</b>		SeqNo: <b>4764729</b>		Prep Date:		DF: <b>1</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Iron Related Bacteria	U	0								
Slime Forming Bacteria	U	0								
Sulfate Reducing Bacteria	U	0								

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

1711630-01C

**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 202r6

WORKORDER #	1711630
PAGE	1 of 1

PROJECT NAME	TEP RU 11-7 BWO	PROJECT NO.		DATE	11/8/17	TURNAROUND	STANDARD	DISPOSAL	By Lab or Return to Client
FACILITY NAME		EDD FORMAT							
FACILITY ID (API)		PURCHASE ORDER							
COMPANY NAME	WESTERN WATER & LAND, INC	BILL TO COMPANY	TEP Rocky Mtn LLC						
SEND REPORT TO	BRUCE SMITH	INVOICE ATTN TO							
ADDRESS	743 HORIZON CT STE 330	ADDRESS	1058 CR 215						
CITY/STATE/ZIP	GRAND JUNCTION CO 81506	CITY/STATE/ZIP	Parachute, CO 81635						
PHONE	970-242-0170	PHONE	(970) 263-2792						
FAX		FAX							
E-MAIL	bsmith@westernwaterandland.com	E-MAIL							

Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC	NG1	BART	BTEX	GRO	DRO	Dissolved Metals, lab filtered	Anions, Alk, TDS, pH, SpC	Total Phosphorus	Dissolved gases - HCl preserved	Dissolved gases - unpreserved
1	BEAVER CR 2	GW	11/8/17	1050	13			X	X	X	X	X	X	X	X	X	X

### Field Parameters

Temp (°C)	0.59	DO (%)	83.3	SpC (uS/cm)	333	Turb (NTUs)	1.51
pH (s.u.)	7.08	DO (mg/L)	11.98	ORP (mv)	219.8	Disch (gpm)	
Temp (°C)		DO (%)		SpC (uS/cm)		Turb (NTUs)	
pH (s.u.)		DO (mg/L)		ORP (mv)		Disch (gpm)	

\*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.

<b>Comments:</b> CATIONS and ANIONS ANALYZE FOR RULE 6009 SHORT HOLD TIME NO <sub>3</sub> /NO <sub>2</sub>	<b>QC PACKAGE (check below)</b>	
	<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	<i>Jessie Pahler</i>	JESSIE PAHLER	11/8/17	1545
RECEIVED BY	<i>JR</i>	JR	11/8/17	1630
RELINQUISHED BY	<i>JR</i>	JR	11/8/17	1630
RECEIVED BY	<i>Diane E. Shea</i>	Diane E. Shea	11/9/17	0915
RELINQUISHED BY				
RECEIVED BY				

SP2 2.6°C

Sample Receipt Checklist

Client Name: WESTERNW&L

Date/Time Received: 09-Nov-17 09:15

Work Order: 1711630

Received by: DS

Checklist completed by Diane Shaw 09-Nov-17
eSignature Date

Reviewed by: Chad Whilton 10-Nov-17
eSignature Date

Matrices: Surface Water

Carrier name: FedEx

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

Temperature(s)/Thermometer(s): 2.6/2.6 SR2

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage: 11/9/2017 10:49:32 AM

Water - VOA vials have zero headspace? Yes [checked] No [ ] No VOA vials submitted [ ]

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

pH adjusted? Yes [ ] No [checked] N/A [ ]

pH adjusted by:

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction: