1708622

GC/MS Volatiles:
The samples were analyzed using GC/MS following the current revision of SOP 525 based on SW-846 Method 8260C.

All laboratory control sample and laboratory control sample duplicate recoveries and RPDs were within the acceptance criteria with the following exception:

Spiked Compound	QC Sample	Direction
Benzene	LCS	High

The above compound was not detected in the samples. No further action was taken.

All remaining acceptance criteria were met.

Dissolved Gasses:
The samples were prepared and analyzed according to method RSK-175 procedures and the current revision of SOP 449.

All acceptance criteria were met.

DRO:
The samples were analyzed following the current revision of SOP 406 generally based on SW-846 Methods 8000C and 8015D. TEPH is a multicomponent mixture and is quantitated by summing the entire carbon range, rather than individual peaks. The carbon range integrated in this test extends from C10 to C28.

All acceptance criteria were met.

BART:
The Biological Activity Reaction Test was completed with the Iron-Related Bacteria, Sulfate-Reducing Bacteria, and Slime-Forming Bacteria kit manufactured by Hach Company. The analysis was performed following the manufacturer provided instructions. If the target analyte is not detected (absent), then the sample will be reported with "ND" in the result field. If the target analyte is detected (present), then the sample will be reported with the estimated colony forming units/mL (cfu/mL) as provided by the manufacturer based on the day reaction was observed.

Metals:

The samples were analyzed following Methods for the Determination of Metals in Environmental Samples – Supplement 1 procedures. Analysis by ICPMS followed method 200.8 and the current revision of SOP 827.

The samples were to be analyzed for dissolved metals. The samples were filtered through a 0.45 micron filter and preserved with nitric acid to a pH less than two prior to analysis.

All acceptance criteria were met.

Inorganics:

The samples were analyzed following MCAWW, EMSL and Standard Method procedures for the current revisions of the following SOPs and methods:

Analyte	Method	SOP #
Alkalinity	SM2320B	1106
Bicarbonate	SM2320B	1106
Carbonate	SM2320B	1106
pH	SM4500-H^+ B	1126
Total phosphorus	365.2	1119
Specific conductance	SM2510B	1128
TDS	SM2540C	1101
Bromide	300.0 Revision 2.1	1113
Chloride	300.0 Revision 2.1	1113
Fluoride	300.0 Revision 2.1	1113
Nitrate as N	300.0 Revision 2.1	1113
Nitrite as N	300.0 Revision 2.1	1113
Total Nitrates	300.0 Revision 2.1	1113
Sulfate	300.0 Revision 2.1	1113

All acceptance criteria were met.

Client: Western Water and Land, Inc. **Date:** *26-Sep-17*
Project: TEP TR 1-24-597 BWQ **Work Order:** 1708622
Sample ID: GETTY 6D **Lab ID:** 1708622-1
Legal Location: **Matrix:** WATER
Collection Date: 8/29/2017 10:58 **Percent Moisture:**

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	MDL	Date Analyzed
ALKALINITY AS CALCIUM CARBONATE			**SM2320B**		Prep Date: **9/11/2017**		PrepBy: **SKC**
BICARBONATE AS CaCO3	**280**		**20**	**MG/L**	1		9/11/2017
CARBONATE AS CaCO3	ND		20	MG/L	1		9/11/2017
TOTAL ALKALINITY AS CaCO3	**280**		**20**	**MG/L**	1		9/11/2017
BIOLOGICAL ACTIVITY REACTION TEST			**BART**		Prep Date: **9/5/2017**		PrepBy: **JML**
IRON RELATED BACTERIA	**9000**		**1**	**cfu/ml**	1		9/13/2017
SLIME FORMING BACTERIA	**350000**		**1**	**cfu/ml**	1		9/13/2017
SULFATE REDUCING BACTERIA	**700000**		**1**	**cfu/ml**	1		9/13/2017
DIESEL RANGE ORGANICS			**SW8015M**		Prep Date: **9/5/2017**		PrepBy: **JFN**
Diesel Range Organics	ND		0.59	MG/L	1	0.17	9/5/2017 19:49
Surr: O-TERPHENYL	*97*		*63-126*	*%REC*	1		9/5/2017 19:49
DISSOLVED GASSES			**RSK175**		Prep Date: **9/1/2017**		PrepBy: **JFN**
METHANE	ND		1	UG/L	1	1	9/1/2017 14:23
ETHANE	ND		2	UG/L	1	2	9/1/2017 14:23
PROPANE	ND		1	UG/L	1	1	9/1/2017 14:23
GC/MS VOLATILES			**SW8260_25**		Prep Date: **9/6/2017**		PrepBy: **JXK**
BENZENE	ND		1	UG/L	1	0.32	9/6/2017 17:27
TOLUENE	ND		1	UG/L	1	0.31	9/6/2017 17:27
ETHYLBENZENE	ND		1	UG/L	1	0.31	9/6/2017 17:27
M+P-XYLENE	ND		1	UG/L	1	0.31	9/6/2017 17:27
O-XYLENE	ND		1	UG/L	1	0.31	9/6/2017 17:27
TOTAL XYLENES	ND		1	UG/L	1		9/6/2017 17:27
Surr: 4-BROMOFLUOROBENZENE	*102*		*85-115*	*%REC*	1		9/6/2017 17:27
Surr: DIBROMOFLUOROMETHANE	*107*		*84-118*	*%REC*	1		9/6/2017 17:27
Surr: TOLUENE-D8	*90*		*85-115*	*%REC*	1		9/6/2017 17:27
GASOLINE RANGE ORGANICS	ND		100	UG/L	1	47	9/6/2017 17:27
ION CHROMATOGRAPHY			**EPA300.0**		Prep Date: **8/30/2017**		PrepBy: **AMG**
BROMIDE	ND		0.2	MG/L	1	0.06	8/31/2017 01:31
CHLORIDE	**3**		**0.2**	**MG/L**	1	0.06	8/31/2017 01:31
FLUORIDE	**0.13**		**0.1**	**MG/L**	1	0.03	8/31/2017 01:31
NITRATE/NITRITE AS N	**0.51**		**0.1**	**MG/L**	1		8/31/2017 01:31
NITRATE AS N	**0.51**		**0.2**	**MG/L**	1	0.06	8/31/2017 01:31
NITRITE AS N	ND		0.1	MG/L	1	0.03	8/31/2017 01:31
SULFATE	**78**		**1**	**MG/L**	1	0.15	8/31/2017 01:31
METALS BY 200.8			**EPA200.8**		Prep Date: **9/6/2017**		PrepBy: **JML**
BARIUM	**0.12**		**0.001**	**MG/L**	10	0.0006	9/25/2017 16:28
BORON	**0.035**	J	**0.05**	**MG/L**	10	0.015	9/25/2017 16:28
CALCIUM	**66**		**1**	**MG/L**	10	0.3	9/25/2017 16:28
IRON	**0.046**	J	**0.1**	**MG/L**	10	0.044	9/25/2017 16:28
MAGNESIUM	**29**		**0.1**	**MG/L**	10	0.03	9/25/2017 16:28
MANGANESE	**0.02**		**0.002**	**MG/L**	10	0.0006	9/25/2017 16:28

Client: Western Water and Land, Inc. **Date:** *26-Sep-17*
Project: TEP TR 1-24-597 BWQ **Work Order:** 1708622
Sample ID: GETTY 6D **Lab ID:** 1708622-1
Legal Location: **Matrix:** WATER
Collection Date: 8/29/2017 10:58 **Percent Moisture:**

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	MDL	Date Analyzed
POTASSIUM	**1.2**		**1**	**MG/L**	10	0.3	9/25/2017 16:28
SELENIUM	**0.00034**	J	**0.001**	**MG/L**	10	0.0003	9/25/2017 16:28
SODIUM	**49**		**1**	**MG/L**	10	0.3	9/25/2017 16:28
STRONTIUM	**1.2**		**0.001**	**MG/L**	10	0.00049	9/25/2017 16:28
PH			**SM4500-H**		Prep Date: **8/30/2017**		PrepBy: **HMA**
PH	**8.19**		**0.1**	**pH**	1		8/30/2017
SPECIFIC CONDUCTANCE IN WATER			**SM2510B**		Prep Date: **8/30/2017**		PrepBy: **HMA**
SPECIFIC CONDUCTIVITY	**677**		**1**	**umhos/cm**	1		8/30/2017
TOTAL DISSOLVED SOLIDS			**SM2540C**		Prep Date: **9/5/2017**		PrepBy: **SKC**
TOTAL DISSOLVED SOLIDS	**400**		**20**	**MG/L**	1		9/6/2017
TOTAL PHOSPHORUS AS P			**EPA365.2**		Prep Date: **9/23/2017**		PrepBy: **HMA**
TOTAL PHOSPHORUS	ND		0.05	MG/L	1	0.045	9/23/2017

Client: Western Water and Land, Inc. **Date:** *26-Sep-17*
Project: TEP TR 1-24-597 BWQ **Work Order:** 1708622
Sample ID: GETTY 6E **Lab ID:** 1708622-2
Legal Location: **Matrix:** WATER
Collection Date: 8/29/2017 11:26 **Percent Moisture:**

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	MDL	Date Analyzed
ALKALINITY AS CALCIUM CARBONATE			**SM2320B**		Prep Date: **9/11/2017**		PrepBy: **SKC**
BICARBONATE AS CaCO3	**280**		**20**	**MG/L**	1		9/11/2017
CARBONATE AS CaCO3	ND		20	MG/L	1		9/11/2017
TOTAL ALKALINITY AS CaCO3	**280**		**20**	**MG/L**	1		9/11/2017
BIOLOGICAL ACTIVITY REACTION TEST			**BART**		Prep Date: **9/5/2017**		PrepBy: **JML**
IRON RELATED BACTERIA	**35000**		**1**	**cfu/ml**	1		9/13/2017
SLIME FORMING BACTERIA	**350000**		**1**	**cfu/ml**	1		9/13/2017
SULFATE REDUCING BACTERIA	**700000**		**1**	**cfu/ml**	1		9/13/2017
DIESEL RANGE ORGANICS			**SW8015M**		Prep Date: **9/5/2017**		PrepBy: **JFN**
Diesel Range Organics	ND		0.6	MG/L	1	0.17	9/5/2017 20:29
Surr: O-TERPHENYL	*95*		*63-126*	*%REC*	1		9/5/2017 20:29
DISSOLVED GASSES			**RSK175**		Prep Date: **9/1/2017**		PrepBy: **JFN**
METHANE	**2.7**		**1**	**UG/L**	1	1	9/1/2017 14:28
ETHANE	ND		2	UG/L	1	2	9/1/2017 14:28
PROPANE	ND		1	UG/L	1	1	9/1/2017 14:28
GC/MS VOLATILES			**SW8260_25**		Prep Date: **9/6/2017**		PrepBy: **JXK**
BENZENE	ND		1	UG/L	1	0.32	9/6/2017 17:50
TOLUENE	ND		1	UG/L	1	0.31	9/6/2017 17:50
ETHYLBENZENE	ND		1	UG/L	1	0.31	9/6/2017 17:50
M+P-XYLENE	ND		1	UG/L	1	0.31	9/6/2017 17:50
O-XYLENE	ND		1	UG/L	1	0.31	9/6/2017 17:50
TOTAL XYLENES	ND		1	UG/L	1		9/6/2017 17:50
Surr: 4-BROMOFLUOROBENZENE	*102*		*85-115*	*%REC*	1		9/6/2017 17:50
Surr: DIBROMOFLUOROMETHANE	*106*		*84-118*	*%REC*	1		9/6/2017 17:50
Surr: TOLUENE-D8	*92*		*85-115*	*%REC*	1		9/6/2017 17:50
GASOLINE RANGE ORGANICS	ND		100	UG/L	1	47	9/6/2017 17:50
ION CHROMATOGRAPHY			**EPA300.0**		Prep Date: **8/30/2017**		PrepBy: **AMG**
BROMIDE	ND		0.2	MG/L	1	0.06	8/31/2017 02:02
CHLORIDE	**3**		**0.2**	**MG/L**	1	0.06	8/31/2017 02:02
FLUORIDE	**0.12**		**0.1**	**MG/L**	1	0.03	8/31/2017 02:02
NITRATE/NITRITE AS N	**0.7**		**0.1**	**MG/L**	1		8/31/2017 02:02
NITRATE AS N	**0.7**		**0.2**	**MG/L**	1	0.06	8/31/2017 02:02
NITRITE AS N	ND		0.1	MG/L	1	0.03	8/31/2017 02:02
SULFATE	**73**		**1**	**MG/L**	1	0.15	8/31/2017 02:02
METALS BY 200.8			**EPA200.8**		Prep Date: **9/6/2017**		PrepBy: **JML**
BARIUM	**0.11**		**0.001**	**MG/L**	10	0.0006	9/25/2017 16:31
BORON	**0.033**	J	**0.05**	**MG/L**	10	0.015	9/25/2017 16:31
CALCIUM	**65**		**1**	**MG/L**	10	0.3	9/25/2017 16:31
IRON	ND		0.1	MG/L	10	0.044	9/25/2017 16:31
MAGNESIUM	**28**		**0.1**	**MG/L**	10	0.03	9/25/2017 16:31
MANGANESE	**0.029**		**0.002**	**MG/L**	10	0.0006	9/25/2017 16:31

Client: Western Water and Land, Inc. **Date:** *26-Sep-17*
Project: TEP TR 1-24-597 BWQ **Work Order:** 1708622
Sample ID: GETTY 6E **Lab ID:** 1708622-2
Legal Location: **Matrix:** WATER
Collection Date: 8/29/2017 11:26 **Percent Moisture:**

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	MDL	Date Analyzed
POTASSIUM	**0.63**	J	**1**	**MG/L**	10	0.3	9/25/2017 16:31
SELENIUM	**0.00063**	J	**0.001**	**MG/L**	10	0.0003	9/25/2017 16:31
SODIUM	**48**		**1**	**MG/L**	10	0.3	9/25/2017 16:31
STRONTIUM	**1.1**		**0.001**	**MG/L**	10	0.00049	9/25/2017 16:31
PH			**SM4500-H**		Prep Date: **8/30/2017**		PrepBy: **HMA**
PH	**7.82**		**0.1**	**pH**	1		8/30/2017
SPECIFIC CONDUCTANCE IN WATER			**SM2510B**		Prep Date: **8/30/2017**		PrepBy: **HMA**
SPECIFIC CONDUCTIVITY	**684**		**1**	**umhos/cm**	1		8/30/2017
TOTAL DISSOLVED SOLIDS			**SM2540C**		Prep Date: **9/5/2017**		PrepBy: **SKC**
TOTAL DISSOLVED SOLIDS	**370**		**20**	**MG/L**	1		9/6/2017
TOTAL PHOSPHORUS AS P			**EPA365.2**		Prep Date: **9/23/2017**		PrepBy: **HMA**
TOTAL PHOSPHORUS	**0.1**		**0.05**	**MG/L**	1	0.045	9/23/2017

Client:	Western Water and Land, Inc.	**Date:**	*26-Sep-17*
Project:	TEP TR 1-24-597 BWQ	**Work Order:**	1708622
Sample ID:	GETTY 6E	**Lab ID:**	1708622-2
Legal Location:		**Matrix:**	WATER
Collection Date:	8/29/2017 11:26	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	MDL	Date Analyzed

Explanation of Qualifiers

Radiochemistry:

U or ND - Result is less than the sample specific MDC.

Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.

Y2 - Chemical Yield outside default limits.

W - DER is greater than Warning Limit of 1.42

* - Aliquot Basis is 'As Received' while the Report Basis is 'Dry Weight'.
# - Aliquot Basis is 'Dry Weight' while the Report Basis is 'As Received'.

G - Sample density differs by more than 15% of LCS density.

D - DER is greater than Control Limit

M - Requested MDC not met.

LT - Result is less than requested MDC but greater than achieved MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

L - LCS Recovery below lower control limit.

H - LCS Recovery above upper control limit.

P - LCS, Matrix Spike Recovery within control limits.

N - Matrix Spike Recovery outside control limits

NC - Not Calculated for duplicate results less than 5 times MDC

B - Analyte concentration greater than MDC.

B3 - Analyte concentration greater than MDC but less than Requested MDC.

Inorganics:

B - Result is less than the requested reporting limit but greater than the instrument method detection limit (MDL).

U or ND - Indicates that the compound was analyzed for but not detected.

E - The reported value is estimated because of the presence of interference. An explanatory note may be included in the narrative.

M - Duplicate injection precision was not met.

N - Spiked sample recovery not within control limits. A post spike is analyzed for all ICP analyses when the matrix spike and or spike duplicate fail and the native sample concentration is less than four times the spike added concentration.

Z - Spiked recovery not within control limits. An explanatory note may be included in the narrative.

* - Duplicate analysis (relative percent difference) not within control limits.

S - SAR value is estimated as one or more analytes used in the calculation were not detected above the detection limit.

Organics:

U or ND - Indicates that the compound was analyzed for but not detected.

B - Analyte is detected in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user.

E - Analyte concentration exceeds the upper level of the calibration range.

J - Estimated value. The result is less than the reporting limit but greater than the instrument method detection limit (MDL).

A - A tentatively identified compound is a suspected aldol-condensation product.

X - The analyte was diluted below an accurate quantitation level.

* - The spike recovery is equal to or outside the control criteria used.

+ - The relative percent difference (RPD) equals or exceeds the control criteria.

G - A pattern resembling gasoline was detected in this sample.

D - A pattern resembling diesel was detected in this sample.

M - A pattern resembling motor oil was detected in this sample.

C - A pattern resembling crude oil was detected in this sample.

4 - A pattern resembling JP-4 was detected in this sample.

5 - A pattern resembling JP-5 was detected in this sample.

H - Indicates that the fuel pattern was in the heavier end of the retention time window for the analyte of interest.

L - Indicates that the fuel pattern was in the lighter end of the retention time window for the analyte of interest.

Z - This flag indicates that a significant fraction of the reported result did not resemble the patterns of any of the following petroleum hydrocarbon products:
- gasoline
- JP-8
- diesel
- mineral spirits
- motor oil
- Stoddard solvent
- bunker C

Batch ID: **HC170901-9-1** Instrument ID **MEE-1** Method: **RSK175**

LCS Sample ID: **HC170901-9** Units: **UG/L** Analysis Date: **9/1/2017 14:14**

Client ID: Run ID: **HC170901-9A** Prep Date: **9/1/2017** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
METHANE	139	1	142		98	80-120				25	
ETHANE	271	2	267		102	80-120				25	
PROPANE	392	1	391		100	80-120				25	

LCSD Sample ID: **HC170901-9** Units: **UG/L** Analysis Date: **9/1/2017 14:51**

Client ID: Run ID: **HC170901-9A** Prep Date: **9/1/2017** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
METHANE	131	1	142		92	80-120		139	6	25	
ETHANE	254	2	267		95	80-120		271	7	25	
PROPANE	367	1	391		94	80-120		392	7	25	

MB Sample ID: **HC170901-9** Units: **UG/L** Analysis Date: **9/1/2017 14:17**

Client ID: Run ID: **HC170901-9A** Prep Date: **9/1/2017** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
METHANE	ND	1									
ETHANE	ND	2									
PROPANE	ND	1									

MS Sample ID: **1708622-1** Units: **UG/L** Analysis Date: **9/1/2017 14:26**

Client ID: **GETTY 6D** Run ID: **HC170901-9A** Prep Date: **9/1/2017** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
METHANE	33.4	1	35.6	1	94	70-130				25	
ETHANE	64.5	2	66.7	2	97	70-130				25	
PROPANE	93.3	1	97.8	1	95	70-130				25	

The following samples were analyzed in this batch: 1708622-1 1708622-2

Client: Western Water and Land, Inc.
Work Order: 1708622
Project: TEP TR 1-24-597 BWQ

QC BATCH REPORT

Batch ID: **HC170905-100-1** Instrument ID **FUELS-1** Method: **SW8015M**

LCS Sample ID: **HC170905-100** Units: **MG/L** Analysis Date: **9/5/2017 19:09**
Client ID: Run ID: **HC170905-8A** Prep Date: **9/5/2017** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
Diesel Range Organics	8.08	0.606	8.42		96	36-150				20	
Surr: O-TERPHENYL	0.794		0.842		94	63-126					

LCSD Sample ID: **HC170905-100** Units: **MG/L** Analysis Date: **9/5/2017 19:29**
Client ID: Run ID: **HC170905-8A** Prep Date: **9/5/2017** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
Diesel Range Organics	8.75	0.602	8.36		105	36-150		8.08	8	20	
Surr: O-TERPHENYL	0.87		0.836		104	63-126			9		

MB Sample ID: **HC170905-100** Units: **MG/L** Analysis Date: **9/5/2017 18:49**
Client ID: Run ID: **HC170905-8A** Prep Date: **9/5/2017** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
Diesel Range Organics	ND	0.6									
Surr: O-TERPHENYL	0.832		0.84		99	63-126					

MS Sample ID: **1708622-1** Units: **MG/L** Analysis Date: **9/5/2017 20:09**
Client ID: **GETTY 6D** Run ID: **HC170905-8A** Prep Date: **9/5/2017** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
Diesel Range Organics	7.78	0.595	8.27	0.59	94	36-150				20	
Surr: O-TERPHENYL	0.793		0.827		96	63-126					

The following samples were analyzed in this batch: 1708622-1 1708622-2

QC BATCH REPORT

Batch ID: **IP170906-4-3** Instrument ID **ICPMS2** Method: **EPA200.8**

LCS Sample ID: **IM170906-4** Units: **MG/L** Analysis Date: **9/25/2017 15:46**

Client ID: Run ID: **IM170925-10A4** Prep Date: **9/6/2017** DF: **10**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
BARIUM	0.0986	0.001	0.1		99	85-115				20	
BORON	0.918	0.05	1		92	85-115				20	
CALCIUM	9.9	1	10		99	85-115				20	
IRON	5.04	0.1	5		101	85-115				20	
MAGNESIUM	10.4	0.1	10		104	85-115				20	
MANGANESE	0.0969	0.002	0.1		97	85-115				20	
POTASSIUM	4.83	1	5.02		96	85-115				20	
SELENIUM	0.0974	0.001	0.1		97	85-115				20	
SODIUM	9.89	1	10		99	85-115				20	
STRONTIUM	0.092	0.001	0.1		92	85-115				20	

MB Sample ID: **FP170831-4** Units: **MG/L** Analysis Date: **9/25/2017 15:43**

Client ID: Run ID: **IM170925-10A4** Prep Date: **9/6/2017** DF: **10**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
BARIUM	ND	0.001									
BORON	ND	0.05									
CALCIUM	ND	1									
IRON	ND	0.1									
MAGNESIUM	ND	0.1									
MANGANESE	ND	0.002									
POTASSIUM	ND	1									
SELENIUM	ND	0.001									
SODIUM	ND	1									
STRONTIUM	ND	0.001									

The following samples were analyzed in this batch: 1708622-1 1708622-2

QC BATCH REPORT

Batch ID: **VL170906-4-1** Instrument ID **HPV4** Method: **SW8260_25**

LCS Sample ID: **VL170906-4** Units: **%REC** Analysis Date: **9/6/2017 11:08**
Client ID: Run ID: **VL170906-4A** Prep Date: **9/6/2017** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
Surr: 4-BROMOFLUOROBENZENE	24.8		25		99	85-115					
Surr: DIBROMOFLUOROMETHANE	25.8		25		103	84-118					
Surr: TOLUENE-D8	23.3		25		93	85-115					
BENZENE	12	1	10		120	83-117				20	*
TOLUENE	10.3	1	10		103	82-113				20	
ETHYLBENZENE	10.3	1	10		103	81-113				20	
M+P-XYLENE	20.6	1	20		103	82-115				20	
O-XYLENE	10.3	1	10		103	81-115				20	

LCSD Sample ID: **VL170906-4** Units: **%REC** Analysis Date: **9/6/2017 11:32**
Client ID: Run ID: **VL170906-4A** Prep Date: **9/6/2017** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
Surr: 4-BROMOFLUOROBENZENE	25.5		25		102	85-115			3		
Surr: DIBROMOFLUOROMETHANE	26.9		25		107	84-118			4		
Surr: TOLUENE-D8	23.4		25		94	85-115			0		
BENZENE	11.5	1	10		115	83-117		12	4	20	
TOLUENE	9.87	1	10		99	82-113		10.3	4	20	
ETHYLBENZENE	10.2	1	10		102	81-113		10.3	1	20	
M+P-XYLENE	20.6	1	20		103	82-115		20.6	0	20	
O-XYLENE	10	1	10		100	81-115		10.3	2	20	

MB Sample ID: **VL170906-4** Units: **%REC** Analysis Date: **9/6/2017 13:53**
Client ID: Run ID: **VL170906-4A** Prep Date: **9/6/2017** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
Surr: 4-BROMOFLUOROBENZENE	25.2		25		101	85-115					
Surr: DIBROMOFLUOROMETHANE	26.4		25		105	84-118					
Surr: TOLUENE-D8	22.8		25		91	85-115					
BENZENE	ND	1									
TOLUENE	ND	1									
ETHYLBENZENE	ND	1									
M+P-XYLENE	ND	1									
O-XYLENE	ND	1									
TOTAL XYLENES	ND	1									

The following samples were analyzed in this batch: 1708622-1 1708622-2

Client: Western Water and Land, Inc.
Work Order: 1708622
Project: TEP TR 1-24-597 BWQ

QC BATCH REPORT

Batch ID: **VL170906-4-2** Instrument ID **HPV4** Method: **SW8260_25**

LCS Sample ID: **VL170906-8** Units: **UG/L** Analysis Date: **9/6/2017 12:19**
Client ID: Run ID: **VL170906-4A** Prep Date: **9/6/2017** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
GASOLINE RANGE ORGANICS	1090	100	1000		109	80-120				20	

LCSD Sample ID: **VL170906-8** Units: **UG/L** Analysis Date: **9/6/2017 12:43**
Client ID: Run ID: **VL170906-4A** Prep Date: **9/6/2017** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
GASOLINE RANGE ORGANICS	1060	100	1000		106	80-120		1090	3	20	

MB Sample ID: **VL170906-4** Units: **UG/L** Analysis Date: **9/6/2017 13:53**
Client ID: Run ID: **VL170906-4A** Prep Date: **9/6/2017** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
GASOLINE RANGE ORGANICS	ND	100									

The following samples were analyzed in this batch: 1708622-1 1708622-2

QC BATCH REPORT

Batch ID: **AK170911-2-2** Instrument ID **NONE** Method: **SM2320B**

LCS Sample ID: **AK170911-2** Units: **MG/L** Analysis Date: **9/11/2017**
Client ID: Run ID: **AK170911-2A1** Prep Date: **9/11/2017** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
TOTAL ALKALINITY AS CaCO3	99.3	5	100		99	85-115				15	

MB Sample ID: **AK170911-2** Units: **MG/L** Analysis Date: **9/11/2017**
Client ID: Run ID: **AK170911-2A1** Prep Date: **9/11/2017** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
BICARBONATE AS CaCO3	ND	5									
CARBONATE AS CaCO3	ND	5									
TOTAL ALKALINITY AS CaCO3	ND	5									

The following samples were analyzed in this batch: 1708622-1 1708622-2

QC BATCH REPORT

Batch ID: **IC170830-2-1** Instrument ID **IC3** Method: **EPA300.0**

LCS Sample ID: **IC170830-2** Units: **MG/L** Analysis Date: **8/30/2017 23:43**

Client ID: Run ID: **IC170830-1a4** Prep Date: **8/30/2017** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
BROMIDE	4.69	0.2	5		94	90-110				15	
CHLORIDE	4.92	0.2	5		98	90-110				15	
FLUORIDE	1.87	0.1	2		94	90-110				15	
NITRATE AS N	5.02	0.2	5		100	90-110				15	
NITRITE AS N	1.99	0.1	2		99	90-110				15	
SULFATE	20.6	1	20		103	90-110				15	

MB Sample ID: **IC170830-2** Units: **MG/L** Analysis Date: **8/30/2017 23:27**

Client ID: Run ID: **IC170830-1a4** Prep Date: **8/30/2017** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
BROMIDE	ND	0.2									
CHLORIDE	ND	0.2									
FLUORIDE	ND	0.1									
NITRATE AS N	ND	0.2									
NITRITE AS N	ND	0.1									
SULFATE	0.19	1									J

The following samples were analyzed in this batch: 1708622-1 1708622-2

QC BATCH REPORT

Batch ID: **PH170830-1-2** Instrument ID **pH-1** Method: **SM4500-H**

CCV Sample ID: **CCV1** Units: **pH** Analysis Date: **8/30/2017**
Client ID: Run ID: **PH170830-1A1** Prep Date: **8/30/2017** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
PH	7.02	0.1	7			6.9-7.1					

CCV Sample ID: **CCV2** Units: **pH** Analysis Date: **8/30/2017**
Client ID: Run ID: **PH170830-1A1** Prep Date: **8/30/2017** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
PH	6.99	0.1	7			6.9-7.1					

ICV Sample ID: **ICV** Units: **pH** Analysis Date: **8/30/2017**
Client ID: Run ID: **PH170830-1A1** Prep Date: **8/30/2017** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
PH	7.03	0.1	7			6.95-7.05					

The following samples were analyzed in this batch: 1708622-1 1708622-2

QC BATCH REPORT

Batch ID: **SC170830-1-1** Instrument ID **pH-2** Method: **SM2510B**

CCV Sample ID: **CCV** Units: **umhos/cm** Analysis Date: **8/30/2017**

Client ID: Run ID: **SC170830-1A1** Prep Date: **8/30/2017** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
SPECIFIC CONDUCTIVITY	1410	1	1410		100	?71.7-1554					

ICV Sample ID: **ICV** Units: **umhos/cm** Analysis Date: **8/30/2017**

Client ID: Run ID: **SC170830-1A1** Prep Date: **8/30/2017** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
SPECIFIC CONDUCTIVITY	694	1	718		97	646.2-789.7					

The following samples were analyzed in this batch: 1708622-1 1708622-2

Client: Western Water and Land, Inc.
Work Order: 1708622
Project: TEP TR 1-24-597 BWQ

QC BATCH REPORT

Batch ID: **TD170905-2-1** Instrument ID **Balance** Method: **SM2540C**

DUP Sample ID: **1708622-1** Units: **MG/L** Analysis Date: **9/6/2017**
Client ID: **GETTY 6D** Run ID: **TD170906-2A1** Prep Date: **9/5/2017** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
TOTAL DISSOLVED SOLIDS	388	20						400	4	5	

LCS Sample ID: **TD170905-2** Units: **MG/L** Analysis Date: **9/6/2017**
Client ID: Run ID: **TD170906-2A1** Prep Date: **9/5/2017** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
TOTAL DISSOLVED SOLIDS	399	20	400		100	85-115				5	

LCSD Sample ID: **TD170905-2** Units: **MG/L** Analysis Date: **9/6/2017**
Client ID: Run ID: **TD170906-2A1** Prep Date: **9/5/2017** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
TOTAL DISSOLVED SOLIDS	388	20	400		97	85-115		399	3	5	

MB Sample ID: **TD170905-2** Units: **MG/L** Analysis Date: **9/6/2017**
Client ID: Run ID: **TD170906-2A1** Prep Date: **9/5/2017** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
TOTAL DISSOLVED SOLIDS	ND	20									

The following samples were analyzed in this batch: 1708622-1 1708622-2

Client: Western Water and Land, Inc.
Work Order: 1708622
Project: TEP TR 1-24-597 BWQ

QC BATCH REPORT

Batch ID: **TP170923-1-1** Instrument ID **Spec** Method: **EPA365.2**

LCS Sample ID: **TP170923-1** Units: **MG/L** Analysis Date: **9/23/2017**
Client ID: Run ID: **TP170923-1A2** Prep Date: **9/23/2017** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
TOTAL PHOSPHORUS	0.459	0.05	0.5		92	80-120				20	

LCSD Sample ID: **TP170923-1** Units: **MG/L** Analysis Date: **9/23/2017**
Client ID: Run ID: **TP170923-1A2** Prep Date: **9/23/2017** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
TOTAL PHOSPHORUS	0.469	0.05	0.5		94	80-120		0.459	2	20	

MB Sample ID: **TP170923-1** Units: **MG/L** Analysis Date: **9/23/2017**
Client ID: Run ID: **TP170923-1A2** Prep Date: **9/23/2017** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
TOTAL PHOSPHORUS	ND	0.05									

The following samples were analyzed in this batch: 1708622-1 1708622-2