



1708036

GC/MS Volatiles:

The samples were analyzed using GC/MS following the current revision of SOP 525 based on SW-846 Method 8260C. The samples were also analyzed for Gasoline Range Organics (GRO).

All acceptance criteria were met.

GC/MS Semivolatiles:

The sample was analyzed using GC/MS following the current revision of SOP 506 based on SW-846 Method 8270D.

All acceptance criteria were met.

DRO:

The sample was 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.

The method blank associated with this project was below the reporting limit, but above the MDL for diesel range organics. No diesel or other fuel pattern was present in the method blank. Typically, small fluctuations in the detector baseline are responsible for this type of low level analytical result with no observable fuel pattern.

All remaining acceptance criteria were met.

Metals:

The sample was 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 sample was to be analyzed for dissolved metals. The sample was filtered through a 0.45 micron filter and preserved with nitric acid to a pH less than 2 prior to analysis.

All acceptance criteria were met.



Inorganics:

The sample was analyzed following EMSL and Standard Method procedures for the current revisions of the following SOPs and methods:

<u>Analyte</u>	<u>Method</u>	<u>SOP #</u>
Alkalinity	SM2320B	1106
Bicarbonate	SM2320B	1106
Carbonate	SM2320B	1106
pH	SM4500-H ⁺ B	1126
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 initial and continuing calibration verifications were within the acceptance criteria for the requested analytes with the exception of CCV1, CCV2, CCV3 and CCV4 for fluoride on 08/02/17. The sample bracketed by these CCVs were re-analyzed with acceptable CCVs.

All remaining acceptance criteria were met.

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SAMPLE SUMMARY REPORT

Client: Western Water and Land, Inc.
 Project: TEP RU 32-12 317B
 Sample ID: BC10
 Legal Location:
 Collection Date: 8/1/2017 12:05

Date: 25-Aug-17
 Work Order: 1708036
 Lab ID: 1708036-1
 Matrix: WATER
 Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	MDL	Date Analyzed
ALKALINITY AS CALCIUM CARBONATE			SM2320B		Prep Date: 8/7/2017		PrepBy: HMA
BICARBONATE AS CaCO3	120		20	MG/L	1		8/7/2017
CARBONATE AS CaCO3	ND		20	MG/L	1		8/7/2017
TOTAL ALKALINITY AS CaCO3	120		20	MG/L	1		8/7/2017
DIESEL RANGE ORGANICS			SW8015M		Prep Date: 8/4/2017		PrepBy: JFN
Diesel Range Organics	ND		0.6	MG/L	1	0.17	8/4/2017 17:14
Surr: O-TERPHENYL	70		63-126	%REC	1		8/4/2017 17:14
GC/MS SEMI-VOLATILES			SW8270		Prep Date: 8/7/2017		PrepBy: LML
NAPHTHALENE	ND		9.5	UG/L	1	2.9	8/8/2017 12:59
2-METHYLNAPHTHALENE	ND		9.5	UG/L	1	2.9	8/8/2017 12:59
ACENAPHTHYLENE	ND		9.5	UG/L	1	2.9	8/8/2017 12:59
ACENAPHTHENE	ND		9.5	UG/L	1	2.9	8/8/2017 12:59
FLUORENE	ND		9.5	UG/L	1	2.9	8/8/2017 12:59
PHENANTHRENE	ND		9.5	UG/L	1	2.9	8/8/2017 12:59
ANTHRACENE	ND		9.5	UG/L	1	2.9	8/8/2017 12:59
FLUORANTHENE	ND		9.5	UG/L	1	2.9	8/8/2017 12:59
PYRENE	ND		9.5	UG/L	1	2.9	8/8/2017 12:59
BENZO(A)ANTHRACENE	ND		9.5	UG/L	1	2.9	8/8/2017 12:59
CHRYSENE	ND		9.5	UG/L	1	2.9	8/8/2017 12:59
BENZO(B)FLUORANTHENE	ND		9.5	UG/L	1	2.9	8/8/2017 12:59
BENZO(K)FLUORANTHENE	ND		9.5	UG/L	1	2.9	8/8/2017 12:59
BENZO(A)PYRENE	ND		9.5	UG/L	1	2.9	8/8/2017 12:59
INDENO(1,2,3-CD)PYRENE	ND		9.5	UG/L	1	2.9	8/8/2017 12:59
DIBENZO(A,H)ANTHRACENE	ND		9.5	UG/L	1	2.9	8/8/2017 12:59
BENZO(G,H,I)PERYLENE	ND		9.5	UG/L	1	2.9	8/8/2017 12:59
Surr: NITROBENZENE-D5	86		53-111	%REC	1		8/8/2017 12:59
Surr: 2-FLUOROBIPHENYL	86		55-108	%REC	1		8/8/2017 12:59
Surr: TERPHENYL-D14	54		34-139	%REC	1		8/8/2017 12:59
GC/MS VOLATILES			SW8260_25		Prep Date: 8/3/2017		PrepBy: JXK
BENZENE	ND		1	UG/L	1	0.32	8/3/2017 18:52
TOLUENE	ND		1	UG/L	1	0.31	8/3/2017 18:52
ETHYLBENZENE	ND		1	UG/L	1	0.31	8/3/2017 18:52
M+P-XYLENE	ND		1	UG/L	1	0.31	8/3/2017 18:52
O-XYLENE	ND		1	UG/L	1	0.31	8/3/2017 18:52
TOTAL XYLENES	ND		1	UG/L	1		8/3/2017 18:52
Surr: 4-BROMOFLUOROBENZENE	100		85-115	%REC	1		8/3/2017 18:52
Surr: DIBROMOFLUOROMETHANE	95		84-118	%REC	1		8/3/2017 18:52
Surr: TOLUENE-D8	101		85-115	%REC	1		8/3/2017 18:52
GASOLINE RANGE ORGANICS	ND		100	UG/L	1	47	8/3/2017 18:52
ION CHROMATOGRAPHY			EPA300.0		Prep Date: 8/2/2017		PrepBy: AMG
BROMIDE	ND		0.2	MG/L	1	0.06	8/2/2017 17:51
CHLORIDE	0.83		0.2	MG/L	1	0.06	8/2/2017 17:51

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SAMPLE SUMMARY REPORT

Client: Western Water and Land, Inc.
Project: TEP RU 32-12 317B
Sample ID: BC10
Legal Location:
Collection Date: 8/1/2017 12:05

Date: 25-Aug-17
Work Order: 1708036
Lab ID: 1708036-1
Matrix: WATER
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	MDL	Date Analyzed
FLUORIDE	0.051	J	0.1	MG/L	1	0.03	8/8/2017 12:50
NITRATE/NITRITE AS N	0.098	J	0.1	MG/L	1		8/2/2017 17:51
NITRATE AS N	0.098	J	0.2	MG/L	1	0.06	8/2/2017 17:51
NITRITE AS N	ND		0.1	MG/L	1	0.03	8/2/2017 17:51
SULFATE	16		1	MG/L	1	0.15	8/2/2017 17:51
METALS BY 200.8			EPA200.8				Prep Date: 8/17/2017 PrepBy: JML
BARIUM	0.04		0.001	MG/L	10	0.0006	8/22/2017 20:01
BORON	0.02	J	0.05	MG/L	10	0.015	8/22/2017 20:01
CALCIUM	36		1	MG/L	10	0.3	8/22/2017 20:01
IRON	ND		0.1	MG/L	10	0.044	8/22/2017 20:01
MAGNESIUM	7.2		0.1	MG/L	10	0.03	8/22/2017 20:01
MANGANESE	ND		0.002	MG/L	10	0.0006	8/22/2017 20:01
POTASSIUM	0.85	J	1	MG/L	10	0.3	8/22/2017 20:01
SELENIUM	ND		0.001	MG/L	10	0.0003	8/22/2017 20:01
SODIUM	12		1	MG/L	10	0.3	8/22/2017 20:01
STRONTIUM	0.24		0.001	MG/L	10	0.00049	8/22/2017 20:01
PH			SM4500-H				Prep Date: 8/3/2017 PrepBy: SKC
PH	8.32		0.1	pH	1		8/3/2017
SPECIFIC CONDUCTANCE IN WATER			SM2510B				Prep Date: 8/3/2017 PrepBy: SKC
SPECIFIC CONDUCTIVITY	257		1	umhos/cm	1		8/3/2017
TOTAL DISSOLVED SOLIDS			SM2540C				Prep Date: 8/3/2017 PrepBy: HMA
TOTAL DISSOLVED SOLIDS	170		20	MG/L	1		8/4/2017

Client: Western Water and Land, Inc.
Project: TEP RU 32-12 317B
Sample ID: BC10
Legal Location:
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Work Order: 1708036
Lab ID: 1708036-1
Matrix: WATER
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	MDL	Date Analyzed
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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

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Date: 8/25/2017 9:33:

Client: Western Water and Land, Inc.

QC BATCH REPORT

Work Order: 1708036

Project: TEP RU 32-12 317B

Batch ID: **HC170804-100-1** Instrument ID **FUELS-1** Method: **SW8015M**

LCS		Sample ID: HC170804-100			Units: MG/L		Analysis Date: 8/4/2017 15:32				
Client ID:		Run ID: HC170804-8A					Prep Date: 8/4/2017		DF: 1		
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
Diesel Range Organics	6.9	0.592	8.22		84	36-150				20	
Surr: O-TERPHENYL	0.697		0.822		85	63-126					

LCSD		Sample ID: HC170804-100			Units: MG/L		Analysis Date: 8/4/2017 15:53				
Client ID:		Run ID: HC170804-8A					Prep Date: 8/4/2017		DF: 1		
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
Diesel Range Organics	6.07	0.603	8.38		72	36-150		6.9	13	20	
Surr: O-TERPHENYL	0.575		0.838		69	63-126			19		

MB		Sample ID: HC170804-100			Units: MG/L		Analysis Date: 8/4/2017 15:12				
Client ID:		Run ID: HC170804-8A					Prep Date: 8/4/2017		DF: 1		
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
Diesel Range Organics	0.21	0.6									J
Surr: O-TERPHENYL	0.657		0.831		79	63-126					

MS		Sample ID: 1708036-1			Units: MG/L		Analysis Date: 8/4/2017 17:35				
Client ID: BC10		Run ID: HC170804-8A					Prep Date: 8/4/2017		DF: 1		
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
Diesel Range Organics	5.95	0.589	8.18	0.6	73	36-150				20	
Surr: O-TERPHENYL	0.56		0.818		68	63-126					

The following samples were analyzed in this batch:

Client: Western Water and Land, Inc.
 Work Order: 1708036
 Project: TEP RU 32-12 317B

QC BATCH REPORT

Batch ID: **IP170817-4-1** Instrument ID **ICPMS2** Method: **EPA200.8**

LCS		Sample ID: IM170817-4			Units: MG/L		Analysis Date: 8/22/2017 19:38				
Client ID:		Run ID: IM170822-11A25			Prep Date: 8/17/2017		DF: 10				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
BARIUM	0.101	0.001	0.1		101	85-115				20	
BORON	0.886	0.05	1		89	85-115				20	
CALCIUM	10.1	1	10		101	85-115				20	
IRON	4.79	0.1	5		96	85-115				20	
MAGNESIUM	9.76	0.1	10		98	85-115				20	
MANGANESE	0.0974	0.002	0.1		97	85-115				20	
POTASSIUM	4.86	1	5.02		97	85-115				20	
SELENIUM	0.094	0.001	0.1		94	85-115				20	
SODIUM	9.8	1	10		98	85-115				20	
STRONTIUM	0.0982	0.001	0.1		98	85-115				20	

MB		Sample ID: FP170815-4			Units: MG/L		Analysis Date: 8/22/2017 19:35				
Client ID:		Run ID: IM170822-11A25			Prep Date: 8/17/2017		DF: 10				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
BARIUM	0.00091	0.001									J
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	0.00097	0.001									J

The following samples were analyzed in this batch:

1708036-1

Client: Western Water and Land, Inc.
 Work Order: 1708036
 Project: TEP RU 32-12 317B

QC BATCH REPORT

Batch ID: EX170807-5-1 Instrument ID HPSV4 Method: SW8270

LCS Sample ID: EX170807-5 Units: UG/L Analysis Date: 8/8/2017 12:20
 Client ID: Run ID: SV170808-44 Prep Date: 8/7/2017 DF: 1

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
NAPHTHALENE	48.3	10	60		80	60-100				20	
2-METHYLNAPHTHALENE	47	10	60		78	62-100				20	
ACENAPHTHYLENE	49.6	10	60		83	67-108				20	
ACENAPHTHENE	48.2	10	60		80	60-108				20	
FLUORENE	49.5	10	60		83	64-116				20	
PHENANTHRENE	51.2	10	60		85	64-113				20	
ANTHRACENE	48.1	10	60		80	72-108				20	
FLUORANTHENE	52.9	10	60		88	63-122				20	
PYRENE	52.2	10	60		87	60-113				20	
BENZO(A)ANTHRACENE	50.7	10	60		84	69-107				20	
CHRYSENE	53.2	10	60		89	68-114				20	
BENZO(B)FLUORANTHENE	50.7	10	60		84	67-111				20	
BENZO(K)FLUORANTHENE	51.8	10	60		86	65-118				20	
BENZO(A)PYRENE	50.1	10	60		84	62-104				20	
INDENO(1,2,3-CD)PYRENE	51.8	10	60		86	54-124				20	
DIBENZO(A,H)ANTHRACENE	51.4	10	60		86	57-126				20	
BENZO(G,H,I)PERYLENE	51.7	10	60		86	52-124				20	
Surr: NITROBENZENE-D5	42.4		50		85	53-111					
Surr: 2-FLUOROBIPHENYL	41.4		50		83	55-108					
Surr: TERPHENYL-D14	43.4		50		87	34-139					

Client: Western Water and Land, Inc.
 Work Order: 1708036
 Project: TEP RU 32-12 317B

QC BATCH REPORT

Batch ID: EX170807-5-1 Instrument ID HPSV4 Method: SW8270

LCSD Sample ID: EX170807-5 Units: UG/L Analysis Date: 8/8/2017 12:39
 Client ID: Run ID: SV170808-44 Prep Date: 8/7/2017 DF: 1

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
NAPHTHALENE	49.6	10	60		83	60-100		48.3	3	20	
2-METHYLNAPHTHALENE	47.9	10	60		80	62-100		47	2	20	
ACENAPHTHYLENE	52.8	10	60		88	67-108		49.6	6	20	
ACENAPHTHENE	50.9	10	60		85	60-108		48.2	5	20	
FLUORENE	52.3	10	60		87	64-116		49.5	6	20	
PHENANTHRENE	54	10	60		90	64-113		51.2	5	20	
ANTHRACENE	49.9	10	60		83	72-108		48.1	4	20	
FLUORANTHENE	55.1	10	60		92	63-122		52.9	4	20	
PYRENE	53.1	10	60		89	60-113		52.2	2	20	
BENZO(A)ANTHRACENE	51.9	10	60		86	69-107		50.7	2	20	
CHRYSENE	54.7	10	60		91	68-114		53.2	3	20	
BENZO(B)FLUORANTHENE	54	10	60		90	67-111		50.7	6	20	
BENZO(K)FLUORANTHENE	52.1	10	60		87	65-118		51.8	1	20	
BENZO(A)PYRENE	52.8	10	60		88	62-104		50.1	5	20	
INDENO(1,2,3-CD)PYRENE	53.6	10	60		89	54-124		51.8	3	20	
DIBENZO(A,H)ANTHRACENE	53.3	10	60		89	57-126		51.4	4	20	
BENZO(G,H,I)PERYLENE	53.1	10	60		89	52-124		51.7	3	20	
Surr: NITROBENZENE-D5	44		50		88	53-111				4	
Surr: 2-FLUOROBIPHENYL	42.2		50		84	55-108				2	
Surr: TERPHENYL-D14	44.8		50		90	34-139				3	

Client: Western Water and Land, Inc.
 Work Order: 1708036
 Project: TEP RU 32-12 317B

QC BATCH REPORT

Batch ID: **EX170807-5-1** Instrument ID **HPSV4** Method: **SW8270**

MB Sample ID: **EX170807-5** Units: **UG/L** Analysis Date: **8/8/2017 12:01**
 Client ID: Run ID: **SV170808-44** Prep Date: **8/7/2017** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
NAPHTHALENE	ND	10									
2-METHYLNAPHTHALENE	ND	10									
ACENAPHTHYLENE	ND	10									
ACENAPHTHENE	ND	10									
FLUORENE	ND	10									
PHENANTHRENE	ND	10									
ANTHRACENE	ND	10									
FLUORANTHENE	ND	10									
PYRENE	ND	10									
BENZO(A)ANTHRACENE	ND	10									
CHRYSENE	ND	10									
BENZO(B)FLUORANTHENE	ND	10									
BENZO(K)FLUORANTHENE	ND	10									
BENZO(A)PYRENE	ND	10									
INDENO(1,2,3-CD)PYRENE	ND	10									
DIBENZO(A,H)ANTHRACENE	ND	10									
BENZO(G,H,I)PERYLENE	ND	10									
Surr: NITROBENZENE-D5	44.4		50		89	53-111					
Surr: 2-FLUOROBIPHENYL	42.3		50		85	55-108					
Surr: TERPHENYL-D14	47.1		50		94	34-139					

The following samples were analyzed in this batch:

1708036-1

Client: Western Water and Land, Inc.
 Work Order: 1708036
 Project: TEP RU 32-12 317B

QC BATCH REPORT

Batch ID: VL170803-4-3 Instrument ID: HPV1 Method: SW8260_25

LCS		Sample ID: VL170803-4			Units: %REC		Analysis Date: 8/3/2017 11:17				
Client ID:		Run ID: VL170803-4A			Prep Date: 8/3/2017		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		25		100	85-115					
Surr: DIBROMOFLUOROMETHANE	23.8		25		95	84-118					
Surr: TOLUENE-D8	24.7		25		99	85-115					
BENZENE	8.94	1	10		89	83-117				20	
TOLUENE	9.38	1	10		94	82-113				20	
ETHYLBENZENE	9.26	1	10		93	81-113				20	
M+P-XYLENE	18.5	1	20		92	82-115				20	
O-XYLENE	9.34	1	10		93	81-115				20	

LCSD		Sample ID: VL170803-4			Units: %REC		Analysis Date: 8/3/2017 11:40				
Client ID:		Run ID: VL170803-4A			Prep Date: 8/3/2017		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				1	
Surr: DIBROMOFLUOROMETHANE	24.6		25		99	84-118				3	
Surr: TOLUENE-D8	25.2		25		101	85-115				2	
BENZENE	8.82	1	10		88	83-117		8.94	1	20	
TOLUENE	9.28	1	10		93	82-113		9.38	1	20	
ETHYLBENZENE	8.97	1	10		90	81-113		9.26	3	20	
M+P-XYLENE	18.3	1	20		92	82-115		18.5	1	20	
O-XYLENE	9.15	1	10		92	81-115		9.34	2	20	

MB		Sample ID: VL170803-4			Units: %REC		Analysis Date: 8/3/2017 13:14				
Client ID:		Run ID: VL170803-4A			Prep Date: 8/3/2017		DF: 1				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
Surr: 4-BROMOFLUOROBENZENE	26.6		25		106	85-115					
Surr: DIBROMOFLUOROMETHANE	23.7		25		95	84-118					
Surr: TOLUENE-D8	25.6		25		102	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:

1708036-1

Client: Western Water and Land, Inc.
 Work Order: 1708036
 Project: TEP RU 32-12 317B

QC BATCH REPORT

Batch ID: **VL170803-4-4** Instrument ID **HPV1** Method: **SW8260_25**

LCS		Sample ID: VL170803-8			Units: UG/L		Analysis Date: 8/3/2017 15:44				
Client ID:		Run ID: VL170803-4A			Prep Date: 8/3/2017		DF: 1				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
GASOLINE RANGE ORGANICS	1040	100	1000		104	80-120				20	

LCSD		Sample ID: VL170803-8			Units: UG/L		Analysis Date: 8/3/2017 16:08				
Client ID:		Run ID: VL170803-4A			Prep Date: 8/3/2017		DF: 1				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
GASOLINE RANGE ORGANICS	982	100	1000		98	80-120		1040	5	20	

MB		Sample ID: VL170803-4			Units: UG/L		Analysis Date: 8/3/2017 13:14				
Client ID:		Run ID: VL170803-4A			Prep Date: 8/3/2017		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:

Client: Western Water and Land, Inc.
Work Order: 1708036
Project: TEP RU 32-12 317B

QC BATCH REPORT

Batch ID: **AK170807-1-2** Instrument ID **NONE** Method: **SM2320B**

LCS	Sample ID: AK170807-1					Units: MG/L	Analysis Date: 8/7/2017				
Client ID:		Run ID: AK170807-1A1				Prep Date: 8/7/2017		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	99.1	5	100		99	85-115				15	

MB	Sample ID: AK170807-1					Units: MG/L	Analysis Date: 8/7/2017				
Client ID:		Run ID: AK170807-1A1				Prep Date: 8/7/2017		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:

1708036-1

Client: Western Water and Land, Inc.
 Work Order: 1708036
 Project: TEP RU 32-12 317B

QC BATCH REPORT

Batch ID: **IC170802-1-2** Instrument ID **IC-2** Method: **EPA300.0**

LCS		Sample ID: IC170802-1			Units: MG/L		Analysis Date: 8/2/2017 09:32				
Client ID:		Run ID: IC170802-1A3			Prep Date: 8/2/2017		DF: 1				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
BROMIDE	9.44	0.2	10		94	90-110				15	
CHLORIDE	9.36	0.2	10		94	90-110				15	
FLUORIDE	5.36	0.1	5		107	90-110				15	
NITRATE AS N	9.4	0.2	10		94	90-110				15	
NITRITE AS N	5.13	0.1	5		103	90-110				15	
SULFATE	47.1	1	50		94	90-110				15	

MB		Sample ID: IC170802-1			Units: MG/L		Analysis Date: 8/2/2017 10:02				
Client ID:		Run ID: IC170802-1A3			Prep Date: 8/2/2017		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	ND	1									

The following samples were analyzed in this batch:

1708036-1

Client: Western Water and Land, Inc.
 Work Order: 1708036
 Project: TEP RU 32-12 317B

QC BATCH REPORT

Batch ID: **PH170803-1-3** Instrument ID **pH-1** Method: **SM4500-H**

CCV		Sample ID: CCV1			Units: pH		Analysis Date: 8/3/2017				
Client ID:		Run ID: PH170803-1A1			Prep Date: 8/3/2017		DF: 1				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
PH	7.04	0.1	7			6.9-7.1					

CCV		Sample ID: CCV2			Units: pH		Analysis Date: 8/3/2017				
Client ID:		Run ID: PH170803-1A1			Prep Date: 8/3/2017		DF: 1				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
PH	7.04	0.1	7			6.9-7.1					

ICV		Sample ID: ICV			Units: pH		Analysis Date: 8/3/2017				
Client ID:		Run ID: PH170803-1A1			Prep Date: 8/3/2017		DF: 1				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
PH	7.05	0.1	7			6.95-7.05					

The following samples were analyzed in this batch:

1708036-1

Client: Western Water and Land, Inc.
 Work Order: 1708036
 Project: TEP RU 32-12 317B

QC BATCH REPORT

Batch ID: **SC170803-1-2** Instrument ID **pH-2** Method: **SM2510B**

CCV	Sample ID: CCV1				Units: umhos/cm	Analysis Date: 8/3/2017					
Client ID:	Run ID: SC170803-1A1			Prep Date: 8/3/2017		DF: 1					
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
SPECIFIC CONDUCTIVITY	1430	1	1410		101		71.7-1554				

CCV	Sample ID: CCV2				Units: umhos/cm	Analysis Date: 8/3/2017					
Client ID:	Run ID: SC170803-1A1			Prep Date: 8/3/2017		DF: 1					
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
SPECIFIC CONDUCTIVITY	1420	1	1410		100		71.7-1554				

ICV	Sample ID: ICV				Units: umhos/cm	Analysis Date: 8/3/2017					
Client ID:	Run ID: SC170803-1A1			Prep Date: 8/3/2017		DF: 1					
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
SPECIFIC CONDUCTIVITY	664	1	718		92		46.2-789.7				

The following samples were analyzed in this batch:

1708036-1

Client: Western Water and Land, Inc.
 Work Order: 1708036
 Project: TEP RU 32-12 317B

QC BATCH REPORT

Batch ID: **TD170803-1-3** Instrument ID **Balance** Method: **SM2540C**

LCS		Sample ID: TD170803-1			Units: MG/L		Analysis Date: 8/4/2017				
Client ID:		Run ID: TD170804-1A1			Prep Date: 8/3/2017		DF: 1				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
TOTAL DISSOLVED SOLIDS	407	20	400		102	85-115				5	

LCSD		Sample ID: TD170803-1			Units: MG/L		Analysis Date: 8/4/2017				
Client ID:		Run ID: TD170804-1A1			Prep Date: 8/3/2017		DF: 1				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
TOTAL DISSOLVED SOLIDS	402	20	400		101	85-115		407	1	5	

MB		Sample ID: TD170803-1			Units: MG/L		Analysis Date: 8/4/2017				
Client ID:		Run ID: TD170804-1A1			Prep Date: 8/3/2017		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:

1708036-1
