2008585

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.

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 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 two prior to analysis.

All acceptance criteria were met.

Inorganics:
The samples were analyzed following 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	SM4500-P	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:** *19-Sep-20*
Project: PA 34-24 BWQ **Work Order:** 2008585
Sample ID: Naugle 202848 **Lab ID:** 2008585-1
Legal Location: **Matrix:** WATER
Collection Date: 8/25/2020 12:10 **Percent Moisture:**

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Alkalinity as Calcium Carbonate		**SM2320B**		Prep Date: **9/3/2020**		PrepBy: **KJS**
BICARBONATE AS CaCO3	**420**		**20**	**MG/L**	1	9/3/2020
CARBONATE AS CaCO3	ND		20	MG/L	1	9/3/2020
TOTAL ALKALINITY AS CaCO3	**420**		**20**	**MG/L**	1	9/3/2020
Biological Activity Reaction Test		**BART**		Prep Date: **9/8/2020**		PrepBy: **JML**
IRON RELATED BACTERIA	**9000**		**1**	**cfu/ml**	1	9/16/2020
SLIME FORMING BACTERIA	**2500**		**1**	**cfu/ml**	1	9/16/2020
SULFATE REDUCING BACTERIA	**325**		**1**	**cfu/ml**	1	9/16/2020
Diesel Range Organics		**SW8015M**		Prep Date: **9/1/2020**		PrepBy: **JRS**
Diesel Range Organics	ND		1	MG/L	1	9/2/2020 18:53
Surr: O-TERPHENYL	*103*		*69-120*	*%REC*	1	9/2/2020 18:53
Dissolved Gasses		**RSK175**		Prep Date: **9/4/2020**		PrepBy: **DMS**
METHANE	ND		1	UG/L	1	9/4/2020 16:33
ETHANE	ND		2	UG/L	1	9/4/2020 16:33
PROPANE	ND		1	UG/L	1	9/4/2020 16:33
GC/MS Volatiles		**SW8260_25**		Prep Date: **8/31/2020**		PrepBy: **TWK**
BENZENE	ND		1	UG/L	1	8/31/2020 21:09
TOLUENE	ND		1	UG/L	1	8/31/2020 21:09
ETHYLBENZENE	ND		1	UG/L	1	8/31/2020 21:09
M+P-XYLENE	ND		1	UG/L	1	8/31/2020 21:09
O-XYLENE	ND		1	UG/L	1	8/31/2020 21:09
TOTAL XYLENES	ND		1	UG/L	1	8/31/2020 21:09
Surr: 4-BROMOFLUOROBENZENE	*104*		*80-120*	*%REC*	1	8/31/2020 21:09
Surr: DIBROMOFLUOROMETHANE	*111*		*80-120*	*%REC*	1	8/31/2020 21:09
Surr: TOLUENE-D8	*100*		*80-120*	*%REC*	1	8/31/2020 21:09
GASOLINE RANGE ORGANICS	ND		100	UG/L	1	8/31/2020 21:09
Ion Chromatography		**EPA300.0**		Prep Date: **8/27/2020**		PrepBy: **KJS**
BROMIDE	ND		4	MG/L	20	8/27/2020 11:14
CHLORIDE	**380**		**4**	**MG/L**	20	8/27/2020 11:14
FLUORIDE	ND		2	MG/L	20	8/27/2020 11:14
NITRATE/NITRITE AS N	**14**		**0.15**	**MG/L**	1	8/27/2020 11:14
NITRATE AS N	**14**		**4**	**MG/L**	20	8/27/2020 11:14
NITRITE AS N	ND		3	MG/L	20	8/27/2020 11:14
SULFATE	**2500**		**50**	**MG/L**	50	8/27/2020 08:21
Dissolved Metals by 200.8		**EPA200.8**		Prep Date: **9/9/2020**		PrepBy: **JML**
BARIUM	**0.008**		**0.001**	**MG/L**	10	9/10/2020 02:45
BORON	**0.12**		**0.05**	**MG/L**	10	9/10/2020 02:45
CALCIUM	**330**		**1**	**MG/L**	10	9/10/2020 02:45
IRON	ND		0.15	MG/L	10	9/10/2020 02:45
MAGNESIUM	**190**		**0.1**	**MG/L**	10	9/10/2020 02:45
MANGANESE	**0.26**		**0.004**	**MG/L**	10	9/10/2020 02:45
POTASSIUM	**7.4**		**1**	**MG/L**	10	9/10/2020 02:45
SELENIUM	**0.037**		**0.0015**	**MG/L**	10	9/10/2020 02:45
SODIUM	**880**		**1**	**MG/L**	10	9/10/2020 02:45

Client: Western Water and Land, Inc. **Date:** *19-Sep-20*
Project: PA 34-24 BWQ **Work Order:** 2008585
Sample ID: Naugle 202848 **Lab ID:** 2008585-1
Legal Location: **Matrix:** WATER
Collection Date: 8/25/2020 12:10 **Percent Moisture:**

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
STRONTIUM	**4.7**		**0.001**	**MG/L**	10	9/10/2020 02:45
pH			**SM4500-H**	Prep Date:	**8/31/2020**	PrepBy: **KJS**
PH	**7.58**		**0.1**	**pH**	1	8/31/2020
Specific Conductance in Water			**SM2510B**	Prep Date:	**8/31/2020**	PrepBy: **KJS**
SPECIFIC CONDUCTIVITY	**5870**		**1**	**umhos/cm**	1	8/31/2020
Total Dissolved Solids			**SM2540C**	Prep Date:	**9/1/2020**	PrepBy: **LMC**
TOTAL DISSOLVED SOLIDS	**4600**		**80**	**MG/L**	1	9/3/2020
Total Phosphorus as P			**SM4500-P**	Prep Date:	**9/1/2020**	PrepBy: **LMC**
TOTAL PHOSPHORUS	**0.033**	J	**0.05**	**MG/L**	1	9/1/2020

Client: Western Water and Land, Inc. **Date:** *19-Sep-20*
Project: PA 34-24 BWQ **Work Order:** 2008585
Sample ID: Naugle 67992-F **Lab ID:** 2008585-2
Legal Location: **Matrix:** WATER
Collection Date: 8/25/2020 10:10 **Percent Moisture:**

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Alkalinity as Calcium Carbonate			**SM2320B**	Prep Date: **9/3/2020**		PrepBy: **KJS**
BICARBONATE AS CaCO3	**420**		**20**	**MG/L**	1	9/3/2020
CARBONATE AS CaCO3	ND		20	MG/L	1	9/3/2020
TOTAL ALKALINITY AS CaCO3	**420**		**20**	**MG/L**	1	9/3/2020
Biological Activity Reaction Test			**BART**	Prep Date: **9/8/2020**		PrepBy: **JML**
IRON RELATED BACTERIA	**9000**		**1**	**cfu/ml**	1	9/16/2020
SLIME FORMING BACTERIA	**13000**		**1**	**cfu/ml**	1	9/16/2020
SULFATE REDUCING BACTERIA	**ND**		**1**	**cfu/ml**	1	9/16/2020
Diesel Range Organics			**SW8015M**	Prep Date: **9/1/2020**		PrepBy: **JRS**
Diesel Range Organics	ND		1	MG/L	1	9/2/2020 19:14
Surr: O-TERPHENYL	*96*		*69-120*	*%REC*	1	9/2/2020 19:14
Dissolved Gasses			**RSK175**	Prep Date: **9/4/2020**		PrepBy: **DMS**
METHANE	ND		1	UG/L	1	9/4/2020 16:56
ETHANE	ND		2	UG/L	1	9/4/2020 16:56
PROPANE	ND		1	UG/L	1	9/4/2020 16:56
GC/MS Volatiles			**SW8260_25**	Prep Date: **8/31/2020**		PrepBy: **TWK**
BENZENE	ND		1	UG/L	1	8/31/2020 21:29
TOLUENE	ND		1	UG/L	1	8/31/2020 21:29
ETHYLBENZENE	ND		1	UG/L	1	8/31/2020 21:29
M+P-XYLENE	ND		1	UG/L	1	8/31/2020 21:29
O-XYLENE	ND		1	UG/L	1	8/31/2020 21:29
TOTAL XYLENES	ND		1	UG/L	1	8/31/2020 21:29
Surr: 4-BROMOFLUOROBENZENE	*103*		*80-120*	*%REC*	1	8/31/2020 21:29
Surr: DIBROMOFLUOROMETHANE	*112*		*80-120*	*%REC*	1	8/31/2020 21:29
Surr: TOLUENE-D8	*98*		*80-120*	*%REC*	1	8/31/2020 21:29
GASOLINE RANGE ORGANICS	ND		100	UG/L	1	8/31/2020 21:29
Ion Chromatography			**EPA300.0**	Prep Date: **8/27/2020**		PrepBy: **KJS**
BROMIDE	ND		4	MG/L	20	8/27/2020 11:27
CHLORIDE	**760**		**10**	**MG/L**	50	8/27/2020 08:47
FLUORIDE	ND		2	MG/L	20	8/27/2020 11:27
NITRATE/NITRITE AS N	**4.5**		**0.15**	**MG/L**	1	8/27/2020 11:27
NITRATE AS N	**4.5**		**4**	**MG/L**	20	8/27/2020 11:27
NITRITE AS N	ND		3	MG/L	20	8/27/2020 11:27
SULFATE	**2300**		**50**	**MG/L**	50	8/27/2020 08:47
Dissolved Metals by 200.8			**EPA200.8**	Prep Date: **9/9/2020**		PrepBy: **JML**
BARIUM	**0.011**		**0.001**	**MG/L**	10	9/10/2020 02:48
BORON	**0.11**		**0.05**	**MG/L**	10	9/10/2020 02:48
CALCIUM	**460**		**1**	**MG/L**	10	9/10/2020 02:48
IRON	**0.085**	J	**0.15**	**MG/L**	10	9/10/2020 02:48
MAGNESIUM	**190**		**0.1**	**MG/L**	10	9/10/2020 02:48
MANGANESE	**0.018**		**0.004**	**MG/L**	10	9/10/2020 02:48
POTASSIUM	**8.5**		**1**	**MG/L**	10	9/10/2020 02:48
SELENIUM	**0.04**		**0.0015**	**MG/L**	10	9/10/2020 02:48
SODIUM	**910**		**1**	**MG/L**	10	9/10/2020 02:48

Client: Western Water and Land, Inc. **Date:** *19-Sep-20*
Project: PA 34-24 BWQ **Work Order:** 2008585
Sample ID: Naugle 67992-F **Lab ID:** 2008585-2
Legal Location: **Matrix:** WATER
Collection Date: 8/25/2020 10:10 **Percent Moisture:**

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
STRONTIUM	**4.5**		**0.001**	**MG/L**	10	9/10/2020 02:48
pH			**SM4500-H**	Prep Date:	**8/31/2020**	PrepBy: **KJS**
PH	**7.48**		**0.1**	**pH**	1	8/31/2020
Specific Conductance in Water			**SM2510B**	Prep Date:	**8/31/2020**	PrepBy: **KJS**
SPECIFIC CONDUCTIVITY	**6460**		**1**	**umhos/cm**	1	8/31/2020
Total Dissolved Solids			**SM2540C**	Prep Date:	**9/1/2020**	PrepBy: **LMC**
TOTAL DISSOLVED SOLIDS	**4000**		**200**	**MG/L**	1	9/3/2020
Total Phosphorus as P			**SM4500-P**	Prep Date:	**9/1/2020**	PrepBy: **LMC**
TOTAL PHOSPHORUS	**0.033**	J	**0.05**	**MG/L**	1	9/1/2020

Client:	Western Water and Land, Inc.	**Date:**	*19-Sep-20*
Project:	PA 34-24 BWQ	**Work Order:**	2008585
Sample ID:	Naugle 67992-F	**Lab ID:**	2008585-2
Legal Location:		**Matrix:**	WATER
Collection Date:	8/25/2020 10:10	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed

Explanation of Qualifiers

Radiochemistry:

- "Report Limit" is the MDC

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.

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

QC BATCH REPORT

Batch ID: **HC200901-82-1** Instrument ID **FUELS-1** Method: **SW8015M**

LCS Sample ID **HC200901-82** Units: **MG/L** Analysis Date: **9/2/2020 18:09**

Client ID: Run ID: **HC200901-82A** Prep Date: **9/1/2020** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
Diesel Range Organics	8.61	1.07	8.33		103	53-120				20	
Surr: O-TERPHENYL	1.86		1.67		112	69-120					

LCSD Sample ID **HC200901-82** Units: **MG/L** Analysis Date: **9/2/2020 18:31**

Client ID: Run ID: **HC200901-82A** Prep Date: **9/1/2020** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
Diesel Range Organics	8.36	1.07	8.33		100	53-120		8.61	3	20	
Surr: O-TERPHENYL	1.91		1.67		115	69-120			2		

MB Sample ID **HC200901-82** Units: **MG/L** Analysis Date: **9/2/2020 17:48**

Client ID: Run ID: **HC200901-82A** Prep Date: **9/1/2020** DF: **1**

Analyte	Result	ReportLimit	Qual
Diesel Range Organics	ND	1.1	
Surr: O-TERPHENYL	1.82		

The following samples were analyzed in this batch: 2008585-1 2008585-2

Client: Western Water and Land, Inc.
Work Order: 2008585
Project: PA 34-24 BWQ

QC BATCH REPORT

Batch ID: **HC200904-91-2** Instrument ID **MEE-1** Method: **RSK175**

LCS Sample ID **HC200904-91** Units: **UG/L** Analysis Date: **9/4/2020 14:52**
Client ID: Run ID: **HC200904-91A** Prep Date: **9/4/2020** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
METHANE	127	1	142		89	76-125				25	
ETHANE	245	2	267		92	70-120				25	
PROPANE	355	1	391		91	72-120				25	

LCSD Sample ID **HC200904-91** Units: **UG/L** Analysis Date: **9/4/2020 16:42**
Client ID: Run ID: **HC200904-91A** Prep Date: **9/4/2020** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
METHANE	126	1	142		88	76-125		127	1	25	
ETHANE	245	2	267		92	70-120		245	0	25	
PROPANE	359	1	391		92	72-120		355	1	25	

MB Sample ID **HC200904-91** Units: **UG/L** Analysis Date: **9/4/2020 14:58**
Client ID: Run ID: **HC200904-91A** Prep Date: **9/4/2020** DF: **1**

Analyte	Result	ReportLimit	Qual
METHANE	ND	1	
ETHANE	ND	2	
PROPANE	ND	1	

The following samples were analyzed in this batch: 2008585-1 2008585-2

QC BATCH REPORT

Batch ID: **IP200909-8-1** Instrument ID **ICPMS2** Method: **EPA200.8**

LCS Sample ID **IM200909-8** Units: **MG/L** Analysis Date: **9/10/2020 02:33**

Client ID: Run ID: **IM200909-10A11** Prep Date: **9/9/2020** DF: **10**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
BARIUM	0.0976	0.001	0.1		98	85-115				20	
BORON	1.06	0.05	1		106	85-115				20	
CALCIUM	11.3	1	10		113	85-115				20	
IRON	5.03	0.15	5		101	85-115				20	
MAGNESIUM	9.73	0.1	10		97	85-115				20	
MANGANESE	0.107	0.004	0.1		107	85-115				20	
POTASSIUM	4.64	1	5		93	85-115				20	
SELENIUM	0.109	0.0015	0.1		109	85-115				20	
SODIUM	10	1	10		100	85-115				20	
STRONTIUM	0.102	0.001	0.1		102	85-115				20	

LCSD Sample ID **IM200909-8** Units: **MG/L** Analysis Date: **9/10/2020 02:39**

Client ID: Run ID: **IM200909-10A11** Prep Date: **9/9/2020** DF: **10**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
BARIUM	0.0963	0.001	0.1		96	85-115		0.0976	1	20	
BORON	1.04	0.05	1		104	85-115		1.06	2	20	
CALCIUM	10.6	1	10		106	85-115		11.3	6	20	
IRON	5.03	0.15	5		101	85-115		5.03	0	20	
MAGNESIUM	9.53	0.1	10		95	85-115		9.73	2	20	
MANGANESE	0.105	0.004	0.1		105	85-115		0.107	2	20	
POTASSIUM	4.61	1	5		92	85-115		4.64	1	20	
SELENIUM	0.108	0.0015	0.1		108	85-115		0.109	1	20	
SODIUM	9.81	1	10		98	85-115		10	2	20	
STRONTIUM	0.1	0.001	0.1		100	85-115		0.102	1	20	

Client: Western Water and Land, Inc.
Work Order: 2008585
Project: PA 34-24 BWQ

QC BATCH REPORT

Batch ID: **IP200909-8-1** Instrument ID **ICPMS2** Method: **EPA200.8**

MB Sample ID **FP200908-8** Units: **MG/L** Analysis Date: **9/10/2020 02:27**
Client ID: Run ID: **IM200909-10A11** Prep Date: **9/9/2020** DF: **10**

Analyte	Result	ReportLimit	Qual
BARIUM	ND	0.001	
BORON	ND	0.05	
CALCIUM	ND	1	
IRON	ND	0.15	
MAGNESIUM	ND	0.1	
MANGANESE	ND	0.004	
POTASSIUM	ND	1	
SELENIUM	ND	0.0015	
SODIUM	ND	1	
STRONTIUM	0.00036	0.001	J

The following samples were analyzed in this batch: 2008585-1 2008585-2

Client: Western Water and Land, Inc.
Work Order: 2008585
Project: PA 34-24 BWQ

QC BATCH REPORT

Batch ID: **VL200831-3-1** Instrument ID **HPV4** Method: **SW8260_25**

LCS Sample ID **VL200831-33** Units: **UG/L** Analysis Date: **8/31/2020 16:29**
Client ID: Run ID: **VL200831-3A** Prep Date: **8/31/2020** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
GASOLINE RANGE ORGANICS	896	100	1000		90	75-121				20	

LCSD Sample ID **VL200831-33** Units: **UG/L** Analysis Date: **8/31/2020 16:49**
Client ID: Run ID: **VL200831-3A** Prep Date: **8/31/2020** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
GASOLINE RANGE ORGANICS	940	100	1000		94	75-121		896	5	20	

MB Sample ID **VL200831-3** Units: **UG/L** Analysis Date: **8/31/2020 17:51**
Client ID: Run ID: **VL200831-3A** Prep Date: **8/31/2020** DF: **1**

Analyte	Result	ReportLimit	Qual
GASOLINE RANGE ORGANICS	ND	100	

The following samples were analyzed in this batch: 2008585-1 2008585-2

Batch ID: **VL200831-3-2** Instrument ID **HPV4** Method: **SW8260_25**

LCS Sample ID **VL200831-3** Units: **%REC** Analysis Date: **8/31/2020 15:49**

Client ID: Run ID: **VL200831-3A** Prep Date: **8/31/2020** 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	80-120					
Surr: DIBROMOFLUOROMETHANE	27.5		25		110	80-120					
Surr: TOLUENE-D8	24.8		25		99	80-120					
BENZENE	10.8	1	10		108	80-120				20	
TOLUENE	10.8	1	10		108	80-120				20	
ETHYLBENZENE	11	1	10		110	80-120				20	
M+P-XYLENE	20.8	1	20		104	80-120				20	
O-XYLENE	10.3	1	10		103	80-120				20	

LCSD Sample ID **VL200831-3** Units: **%REC** Analysis Date: **8/31/2020 16:09**

Client ID: Run ID: **VL200831-3A** Prep Date: **8/31/2020** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
Surr: 4-BROMOFLUOROBENZENE	24.7		25		99	80-120			2		
Surr: DIBROMOFLUOROMETHANE	27.5		25		110	80-120			0		
Surr: TOLUENE-D8	24.3		25		97	80-120			2		
BENZENE	10.2	1	10		102	80-120		10.8	5	20	
TOLUENE	10.2	1	10		102	80-120		10.8	6	20	
ETHYLBENZENE	10.7	1	10		107	80-120		11	3	20	
M+P-XYLENE	20.5	1	20		102	80-120		20.8	2	20	
O-XYLENE	10.5	1	10		105	80-120		10.3	2	20	

MB Sample ID **VL200831-3** Units: **%REC** Analysis Date: **8/31/2020 17:51**

Client ID: Run ID: **VL200831-3A** Prep Date: **8/31/2020** DF: **1**

Analyte	Result	ReportLimit	%REC	Control Limit	Qual
Surr: 4-BROMOFLUOROBENZENE	25.3		101	80-120	
Surr: DIBROMOFLUOROMETHANE	27.1		108	80-120	
Surr: TOLUENE-D8	24.7		99	80-120	
BENZENE	ND	1			
TOLUENE	ND	1			
ETHYLBENZENE	ND	1			
M+P-XYLENE	ND	1			
O-XYLENE	ND	1			
TOTAL XYLENES	ND	1			

QC BATCH REPORT

Batch ID: **VL200831-3-2** Instrument ID **HPV4** Method: **SW8260_25**

The following samples were analyzed in this batch: 2008585-1 2008585-2

QC BATCH REPORT

Batch ID: **AK200903-1-1** Instrument ID **NONE** Method: **SM2320B**

LCS Sample ID **AK200903-1** Units: **MG/L** Analysis Date: **9/3/2020**
Client ID: Run ID: **AK200903-1a1** Prep Date: **9/3/2020** 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	99.5	5	100		99	85-115				15	

LCSD Sample ID **AK200903-1** Units: **MG/L** Analysis Date: **9/3/2020**
Client ID: Run ID: **AK200903-1a1** Prep Date: **9/3/2020** 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	100	5	100		100	85-115		99.5	1	15	

MB Sample ID **AK200903-1** Units: **MG/L** Analysis Date: **9/3/2020**
Client ID: Run ID: **AK200903-1a1** Prep Date: **9/3/2020** DF: **1**

Analyte	Result	ReportLimit	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: 2008585-1 2008585-2

QC BATCH REPORT

Batch ID: **IC200827-1-2** Instrument ID **IC3** Method: **EPA300.0**

LCS Sample ID **IC200827-1** Units: **MG/L** Analysis Date: **8/27/2020 07:54**
Client ID: Run ID: **IC200827-1a4** Prep Date: **8/27/2020** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
BROMIDE	10.3	0.2	10		103	90-110				15	
CHLORIDE	10.2	0.2	10		102	90-110				15	
FLUORIDE	5.07	0.1	5		101	90-110				15	
NITRATE AS N	10.1	0.2	10		101	90-110				15	
NITRITE AS N	4.87	0.15	4.99		98	90-110				15	
SULFATE	50.4	1	50		101	90-110				15	

LCSD Sample ID **IC200827-1** Units: **MG/L** Analysis Date: **8/27/2020 10:33**
Client ID: Run ID: **IC200827-1a4** Prep Date: **8/27/2020** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
BROMIDE	10.1	0.2	10		101	90-110		10.3	2	15	
CHLORIDE	10.1	0.2	10		101	90-110		10.2	0	15	
FLUORIDE	5.12	0.1	5		102	90-110		5.07	1	15	
NITRATE AS N	10.1	0.2	10		101	90-110		10.1	0	15	
NITRITE AS N	4.85	0.15	4.99		97	90-110		4.87	0	15	
SULFATE	50.5	1	50		101	90-110		50.4	0	15	

MB Sample ID **IC200827-1** Units: **MG/L** Analysis Date: **8/27/2020 08:08**
Client ID: Run ID: **IC200827-1a4** Prep Date: **8/27/2020** DF: **1**

Analyte	Result	ReportLimit	Qual
BROMIDE	ND	0.2	
CHLORIDE	ND	0.2	
FLUORIDE	ND	0.1	
NITRATE AS N	ND	0.2	
NITRITE AS N	ND	0.15	
SULFATE	ND	1	

The following samples were analyzed in this batch: 2008585-1 2008585-2

QC BATCH REPORT

Batch ID: **pH200831-1-3** Instrument ID **pH-2** Method: **SM4500-H**

CCV Sample ID **CCV1** Units: **pH** Analysis Date: **8/31/2020**
Client ID: Run ID: **pH200831-1a1** Prep Date: **8/31/2020** DF: **1**

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

CCV Sample ID **CCV2** Units: **pH** Analysis Date: **8/31/2020**
Client ID: Run ID: **pH200831-1a1** Prep Date: **8/31/2020** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
PH	6.95	0.1	7			6.9-7.1					

CCV Sample ID **CCV3** Units: **pH** Analysis Date: **8/31/2020**
Client ID: Run ID: **pH200831-1a1** Prep Date: **8/31/2020** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
PH	7.07	0.1	7			6.9-7.1					

ICV Sample ID **ICV** Units: **pH** Analysis Date: **8/31/2020**
Client ID: Run ID: **pH200831-1a1** Prep Date: **8/31/2020** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
PH	7.09	0.1	7			6.9-7.1					

The following samples were analyzed in this batch: 2008585-1 2008585-2

Client: Western Water and Land, Inc.
Work Order: 2008585
Project: PA 34-24 BWQ

QC BATCH REPORT

Batch ID: **SC200831-1-1** Instrument ID **pH-2** Method: **SM2510B**

CCV Sample ID **CCV** Units: **umhos/cm** Analysis Date: **8/31/2020**
Client ID: Run ID: **SC200831-1a1** Prep Date: **8/31/2020** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
SPECIFIC CONDUCTIVITY	1400	1	1410		99	90-110					

ICV Sample ID **ICV** Units: **umhos/cm** Analysis Date: **8/31/2020**
Client ID: Run ID: **SC200831-1a1** Prep Date: **8/31/2020** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
SPECIFIC CONDUCTIVITY	715	1	718		100	90-110					

The following samples were analyzed in this batch: 2008585-1 2008585-2

Client: Western Water and Land, Inc.
Work Order: 2008585
Project: PA 34-24 BWQ

QC BATCH REPORT

Batch ID: **TD200901-1-1** Instrument ID **Balance** Method: **SM2540C**

DUP Sample ID **2008585-2** Units: **MG/L** Analysis Date: **9/3/2020**
Client ID: **Naugle 67992-F** Run ID: **TD200903-1A1** Prep Date: **9/1/2020** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
TOTAL DISSOLVED SOLIDS	4600	200						4000	14	14	

LCS Sample ID **TD200901-1** Units: **MG/L** Analysis Date: **9/3/2020**
Client ID: Run ID: **TD200903-1A1** Prep Date: **9/1/2020** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
TOTAL DISSOLVED SOLIDS	395	20	400		99	85-115				14	

MB Sample ID **TD200901-1** Units: **MG/L** Analysis Date: **9/3/2020**
Client ID: Run ID: **TD200903-1A1** Prep Date: **9/1/2020** DF: **1**

Analyte	Result	ReportLimit	Qual
TOTAL DISSOLVED SOLIDS	ND	20	

The following samples were analyzed in this batch: 2008585-1 2008585-2

Client: Western Water and Land, Inc.
Work Order: 2008585
Project: PA 34-24 BWQ

QC BATCH REPORT

Batch ID: **TP200901-2-2** Instrument ID **Spec** Method: **SM4500-P**

LCS Sample ID **TP200901-2** Units: **MG/L** Analysis Date: **9/1/2020**
Client ID: Run ID: **TP200901-1A2** Prep Date: **9/1/2020** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
TOTAL PHOSPHORUS	0.529	0.05	0.5		106	80-120				20	

LCSD Sample ID **TP200901-2** Units: **MG/L** Analysis Date: **9/1/2020**
Client ID: Run ID: **TP200901-1A2** Prep Date: **9/1/2020** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
TOTAL PHOSPHORUS	0.524	0.05	0.5		105	80-120		0.529	1	20	

MB Sample ID **TP200901-2** Units: **MG/L** Analysis Date: **9/1/2020**
Client ID: Run ID: **TP200901-1A2** Prep Date: **9/1/2020** DF: **1**

Analyte	Result	ReportLimit	Qual
TOTAL PHOSPHORUS	0.017	0.05	J

MS Sample ID **2008585-1** Units: **MG/L** Analysis Date: **9/1/2020**
Client ID: **Naugle 202848** Run ID: **TP200901-1A2** Prep Date: **9/1/2020** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
TOTAL PHOSPHORUS	0.286	0.05	0.25	0.033	101	80-120				20	

MSD Sample ID **2008585-1** Units: **MG/L** Analysis Date: **9/1/2020**
Client ID: **Naugle 202848** Run ID: **TP200901-1A2** Prep Date: **9/1/2020** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
TOTAL PHOSPHORUS	0.284	0.05	0.25	0.033	100	80-120		0.286	1	20	

The following samples were analyzed in this batch: 2008585-1 2008585-2