



2004084

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 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
Gasoline Range Organics	LCS	High

This analyte was not detected above the reporting limit in the associated sample. No further action was taken.

All remaining 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.

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 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
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.

ALS -- Fort Collins

SAMPLE SUMMARY REPORT

Client: Western Water and Land, Inc.
 Project: GM 245-1 BWQ
 Sample ID: Hayes Gulch DWN
 Legal Location:
 Collection Date: 4/7/2020 12:50

Date: 20-Apr-20
 Work Order: 2004084
 Lab ID: 2004084-1
 Matrix: WATER
 Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	MDL	Date Analyzed
ALKALINITY AS CALCIUM CARBONATE			SM2320B		Prep Date: 4/13/2020		PrepBy: KJS
BICARBONATE AS CaCO3	290		20	MG/L	1		4/13/2020
CARBONATE AS CaCO3	ND		20	MG/L	1		4/13/2020
TOTAL ALKALINITY AS CaCO3	310		20	MG/L	1		4/13/2020
DIESEL RANGE ORGANICS			SW8015M		Prep Date: 4/14/2020		PrepBy: JRS
Diesel Range Organics	ND		1	MG/L	1	0.36	4/14/2020 15:35
Surr: O-TERPHENYL	84		69-120	%REC	1		4/14/2020 15:35
GC/MS VOLATILES			SW8260_25		Prep Date: 4/9/2020		PrepBy: CCL
BENZENE	ND		1	UG/L	1	0.3	4/9/2020 23:02
TOLUENE	ND		1	UG/L	1	0.34	4/9/2020 23:02
ETHYLBENZENE	ND		1	UG/L	1	0.33	4/9/2020 23:02
M+P-XYLENE	ND		1	UG/L	1	0.55	4/9/2020 23:02
O-XYLENE	ND		1	UG/L	1	0.34	4/9/2020 23:02
TOTAL XYLENES	ND		1	UG/L	1		4/9/2020 23:02
Surr: 4-BROMOFLUOROBENZENE	93		80-120	%REC	1		4/9/2020 23:02
Surr: DIBROMOFLUOROMETHANE	111		80-120	%REC	1		4/9/2020 23:02
Surr: TOLUENE-D8	100		80-120	%REC	1		4/9/2020 23:02
GASOLINE RANGE ORGANICS	ND		100	UG/L	1	51	4/9/2020 23:02
ION CHROMATOGRAPHY			EPA300.0		Prep Date: 4/9/2020		PrepBy: KJS
BROMIDE	ND		0.2	MG/L	1	0.064	4/9/2020 11:33
CHLORIDE	14		0.2	MG/L	1	0.076	4/9/2020 11:33
FLUORIDE	0.54		0.1	MG/L	1	0.039	4/9/2020 11:33
NITRATE/NITRITE AS N	ND		0.15	MG/L	1		4/9/2020 11:33
NITRATE AS N	ND		0.2	MG/L	1	0.092	4/9/2020 11:33
NITRITE AS N	ND		0.15	MG/L	1	0.069	4/9/2020 11:33
SULFATE	310		10	MG/L	10	5.3	4/9/2020 11:46
METALS BY 200.8			EPA200.8		Prep Date: 4/13/2020		PrepBy: JML
BARIUM	0.037		0.001	MG/L	10	0.00049	4/15/2020 12:59
BORON	0.11		0.05	MG/L	10	0.026	4/15/2020 12:59
CALCIUM	75		1	MG/L	10	0.18	4/15/2020 12:59
IRON	ND		0.15	MG/L	10	0.071	4/15/2020 12:59
MAGNESIUM	54		0.1	MG/L	10	0.023	4/15/2020 12:59
MANGANESE	ND		0.004	MG/L	10	0.0021	4/15/2020 12:59
POTASSIUM	4.1		1	MG/L	10	0.2	4/15/2020 12:59
SELENIUM	0.0046		0.0015	MG/L	10	0.00067	4/15/2020 12:59
SODIUM	110		1	MG/L	10	0.13	4/15/2020 12:59
STRONTIUM	1.5		0.001	MG/L	10	0.00024	4/15/2020 12:59
PH			SM4500-H		Prep Date: 4/9/2020		PrepBy: KJS
PH	8.23		0.1	pH	1		4/9/2020
SPECIFIC CONDUCTANCE IN WATER			SM2510B		Prep Date: 4/9/2020		PrepBy: KJS
SPECIFIC CONDUCTIVITY	1147		1	umhos/cm	1		4/9/2020

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SAMPLE SUMMARY REPORT

Client: Western Water and Land, Inc.
Project: GM 245-1 BWQ
Sample ID: Hayes Gulch DWN
Legal Location:
Collection Date: 4/7/2020 12:50

Date: 20-Apr-20
Work Order: 2004084
Lab ID: 2004084-1
Matrix: WATER
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	MDL	Date Analyzed
TOTAL DISSOLVED SOLIDS			SM2540C		Prep Date: 4/10/2020		PrepBy: LMC
TOTAL DISSOLVED SOLIDS	790		20	MG/L	1		4/14/2020

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SAMPLE SUMMARY REPORT

Client: Western Water and Land, Inc.
 Project: GM 245-1 BWQ
 Sample ID: Hayes Gulch UP
 Legal Location:
 Collection Date: 4/7/2020 13:15

Date: 20-Apr-20
 Work Order: 2004084
 Lab ID: 2004084-2
 Matrix: WATER
 Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	MDL	Date Analyzed
ALKALINITY AS CALCIUM CARBONATE			SM2320B		Prep Date: 4/13/2020		PrepBy: KJS
BICARBONATE AS CaCO3	300		20	MG/L	1		4/13/2020
CARBONATE AS CaCO3	ND		20	MG/L	1		4/13/2020
TOTAL ALKALINITY AS CaCO3	310		20	MG/L	1		4/13/2020
DIESEL RANGE ORGANICS			SW8015M		Prep Date: 4/14/2020		PrepBy: JRS
Diesel Range Organics	ND		1	MG/L	1	0.36	4/14/2020 15:56
Surr: O-TERPHENYL	83		69-120	%REC	1		4/14/2020 15:56
GC/MS VOLATILES			SW8260_25		Prep Date: 4/9/2020		PrepBy: CCL
BENZENE	ND		1	UG/L	1	0.3	4/9/2020 23:41
TOLUENE	ND		1	UG/L	1	0.34	4/9/2020 23:41
ETHYLBENZENE	ND		1	UG/L	1	0.33	4/9/2020 23:41
M+P-XYLENE	ND		1	UG/L	1	0.55	4/9/2020 23:41
O-XYLENE	ND		1	UG/L	1	0.34	4/9/2020 23:41
TOTAL XYLENES	ND		1	UG/L	1		4/9/2020 23:41
Surr: 4-BROMOFLUOROBENZENE	93		80-120	%REC	1		4/9/2020 23:41
Surr: DIBROMOFLUOROMETHANE	111		80-120	%REC	1		4/9/2020 23:41
Surr: TOLUENE-D8	100		80-120	%REC	1		4/9/2020 23:41
GASOLINE RANGE ORGANICS	ND		100	UG/L	1	51	4/9/2020 23:41
ION CHROMATOGRAPHY			EPA300.0		Prep Date: 4/9/2020		PrepBy: KJS
BROMIDE	ND		0.2	MG/L	1	0.064	4/9/2020 11:59
CHLORIDE	14		0.2	MG/L	1	0.076	4/9/2020 11:59
FLUORIDE	0.55		0.1	MG/L	1	0.039	4/9/2020 11:59
NITRATE/NITRITE AS N	ND		0.15	MG/L	1		4/9/2020 11:59
NITRATE AS N	ND		0.2	MG/L	1	0.092	4/9/2020 11:59
NITRITE AS N	ND		0.15	MG/L	1	0.069	4/9/2020 11:59
SULFATE	310		10	MG/L	10	5.3	4/9/2020 12:13
METALS BY 200.8			EPA200.8		Prep Date: 4/13/2020		PrepBy: JML
BARIUM	0.04		0.001	MG/L	10	0.00049	4/15/2020 13:14
BORON	0.085		0.05	MG/L	10	0.026	4/15/2020 13:14
CALCIUM	74		1	MG/L	10	0.18	4/15/2020 13:14
IRON	ND		0.15	MG/L	10	0.071	4/15/2020 13:14
MAGNESIUM	51		0.1	MG/L	10	0.023	4/15/2020 13:14
MANGANESE	ND		0.004	MG/L	10	0.0021	4/15/2020 13:14
POTASSIUM	3.8		1	MG/L	10	0.2	4/15/2020 13:14
SELENIUM	0.0034		0.0015	MG/L	10	0.00067	4/15/2020 13:14
SODIUM	110		1	MG/L	10	0.13	4/15/2020 13:14
STRONTIUM	1.5		0.001	MG/L	10	0.00024	4/15/2020 13:14
PH			SM4500-H		Prep Date: 4/9/2020		PrepBy: KJS
PH	8.24		0.1	pH	1		4/9/2020
SPECIFIC CONDUCTANCE IN WATER			SM2510B		Prep Date: 4/9/2020		PrepBy: KJS
SPECIFIC CONDUCTIVITY	1151		1	umhos/cm	1		4/9/2020

ALS -- Fort Collins

SAMPLE SUMMARY REPORT

Client: Western Water and Land, Inc.
Project: GM 245-1 BWQ
Sample ID: Hayes Gulch UP
Legal Location:
Collection Date: 4/7/2020 13:15

Date: 20-Apr-20
Work Order: 2004084
Lab ID: 2004084-2
Matrix: WATER
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	MDL	Date Analyzed
TOTAL DISSOLVED SOLIDS			SM2540C		Prep Date: 4/10/2020		PrepBy: LMC
TOTAL DISSOLVED SOLIDS	790		20	MG/L	1		4/14/2020

Client: Western Water and Land, Inc.
Project: GM 245-1 BWQ
Sample ID: Hayes Gulch UP
Legal Location:
Collection Date: 4/7/2020 13:15

Date: 20-Apr-20
Work Order: 2004084
Lab ID: 2004084-2
Matrix: WATER
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	MDL	Date Analyzed
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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

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Date: 4/20/2020 2:28:

Client: Western Water and Land, Inc.

QC BATCH REPORT

Work Order: 2004084

Project: GM 245-1 BWQ

Batch ID: **HC200414-81-1** Instrument ID **FUELS-1** Method: **SW8015M**

LCS Sample ID: **HC200414-81** Units: **MG/L** Analysis Date: **4/14/2020 14:09**

Client ID: Run ID: **HC200414-8A** Prep Date: **4/14/2020** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
Diesel Range Organics	7.86	1.07	8.33		94	53-120				20	
Surr: O-TERPHENYL	1.44		1.67		86	69-120					

LCSD Sample ID: **HC200414-81** Units: **MG/L** Analysis Date: **4/14/2020 14:30**

Client ID: Run ID: **HC200414-8A** Prep Date: **4/14/2020** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
Diesel Range Organics	7.68	1.07	8.33		92	53-120		7.86	2	20	
Surr: O-TERPHENYL	1.42		1.67		85	69-120			1		

MB Sample ID: **HC200414-81** Units: **MG/L** Analysis Date: **4/14/2020 13:48**

Client ID: Run ID: **HC200414-8A** Prep Date: **4/14/2020** DF: **1**

Analyte	Result	ReportLimit	MDL							Qual
Diesel Range Organics	ND	1.1	0.37							
Surr: O-TERPHENYL	1.47				88	69-120				

The following samples were analyzed in this batch:

Client: Western Water and Land, Inc.
 Work Order: 2004084
 Project: GM 245-1 BWQ

QC BATCH REPORT

Batch ID: **IP200413-2-1** Instrument ID **ICPMS2** Method: **EPA200.8**

LCS		Sample ID: IM200413-2			Units: MG/L		Analysis Date: 4/15/2020 12:32				
Client ID:		Run ID: IM200415-10A8			Prep Date: 4/13/2020		DF: 10				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
BARIUM	0.0936	0.001	0.1		94	85-115				20	
BORON	0.976	0.05	1		98	85-115				20	
CALCIUM	10.5	1	10		105	85-115				20	
IRON	5.32	0.15	5		106	85-115				20	
MAGNESIUM	9.79	0.1	10		98	85-115				20	
MANGANESE	0.0974	0.004	0.1		97	85-115				20	
POTASSIUM	4.81	1	5		96	85-115				20	
SELENIUM	0.1	0.0015	0.1		100	85-115				20	
SODIUM	9.35	1	10		93	85-115				20	
STRONTIUM	0.0969	0.001	0.1		97	85-115				20	

LCSD		Sample ID: IM200413-2			Units: MG/L		Analysis Date: 4/15/2020 12:38				
Client ID:		Run ID: IM200415-10A8			Prep Date: 4/13/2020		DF: 10				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
BARIUM	0.097	0.001	0.1		97	85-115		0.0936	4	20	
BORON	1.02	0.05	1		102	85-115		0.976	4	20	
CALCIUM	10.6	1	10		106	85-115		10.5	1	20	
IRON	5.3	0.15	5		106	85-115		5.32	0	20	
MAGNESIUM	9.67	0.1	10		97	85-115		9.79	1	20	
MANGANESE	0.098	0.004	0.1		98	85-115		0.0974	1	20	
POTASSIUM	4.86	1	5		97	85-115		4.81	1	20	
SELENIUM	0.102	0.0015	0.1		102	85-115		0.1	2	20	
SODIUM	9.5	1	10		95	85-115		9.35	2	20	
STRONTIUM	0.0969	0.001	0.1		97	85-115		0.0969	0	20	

Client: Western Water and Land, Inc.
Work Order: 2004084
Project: GM 245-1 BWQ

QC BATCH REPORT

Batch ID: **IP200413-2-1** Instrument ID **ICPMS2** Method: **EPA200.8**

MB Sample ID: **FP200409-2** Units: **MG/L** Analysis Date: **4/15/2020 12:26**
Client ID: Run ID: **IM200415-10A8** Prep Date: **4/13/2020** DF: **10**

Analyte	Result	ReportLimit	MDL	Qual
BARIUM	ND	0.001	0.00049	
BORON	ND	0.05	0.026	
CALCIUM	ND	1	0.18	
IRON	ND	0.15	0.071	
MAGNESIUM	ND	0.1	0.023	
MANGANESE	ND	0.004	0.0021	
POTASSIUM	ND	1	0.2	
SELENIUM	ND	0.0015	0.00067	
SODIUM	ND	1	0.13	
STRONTIUM	ND	0.001	0.00024	

The following samples were analyzed in this batch:

2004084-1 2004084-2

Client: Western Water and Land, Inc.
 Work Order: 2004084
 Project: GM 245-1 BWQ

QC BATCH REPORT

Batch ID: VL200409-3-2 Instrument ID: HPV3 Method: SW8260_25

LCS		Sample ID: VL200409-3			Units: %REC		Analysis Date: 4/9/2020 17:02				
Client ID:		Run ID: VL200409-3A			Prep Date: 4/9/2020		DF: 1				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
Surr: 4-BROMOFLUOROBENZENE	23		25		92	80-120					
Surr: DIBROMOFLUOROMETHANE	27.6		25		111	80-120					
Surr: TOLUENE-D8	24.7		25		99	80-120					
BENZENE	8.52	1	10		85	80-120				20	
TOLUENE	8.41	1	10		84	80-120				20	
ETHYLBENZENE	8.83	1	10		88	80-120				20	
M+P-XYLENE	17.8	1	20		89	80-120				20	
O-XYLENE	8.97	1	10		90	80-120				20	

LCSD		Sample ID: VL200409-3			Units: %REC		Analysis Date: 4/9/2020 17:22				
Client ID:		Run ID: VL200409-3A			Prep Date: 4/9/2020		DF: 1				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
Surr: 4-BROMOFLUOROBENZENE	23.3		25		93	80-120			1		
Surr: DIBROMOFLUOROMETHANE	27.8		25		111	80-120			1		
Surr: TOLUENE-D8	25.1		25		101	80-120			2		
BENZENE	9.03	1	10		90	80-120		8.52	6	20	
TOLUENE	8.97	1	10		90	80-120		8.41	7	20	
ETHYLBENZENE	9.51	1	10		95	80-120		8.83	7	20	
M+P-XYLENE	18.8	1	20		94	80-120		17.8	6	20	
O-XYLENE	9.45	1	10		95	80-120		8.97	5	20	

MB		Sample ID: VL200409-3			Units: %REC		Analysis Date: 4/9/2020 18:44								
Client ID:		Run ID: VL200409-3A			Prep Date: 4/9/2020		DF: 1								
Analyte	Result	ReportLimit	MDL									Qual			
Surr: 4-BROMOFLUOROBENZENE	23.7				95	80-120									
Surr: DIBROMOFLUOROMETHANE	27.8				111	80-120									
Surr: TOLUENE-D8	25.2				101	80-120									
BENZENE	ND	1	0.3												
TOLUENE	ND	1	0.34												
ETHYLBENZENE	ND	1	0.33												
M+P-XYLENE	ND	1	0.55												
O-XYLENE	ND	1	0.34												
TOTAL XYLENES	ND	1													

The following samples were analyzed in this batch: 2004084-1 2004084-2

Client: Western Water and Land, Inc.
 Work Order: 2004084
 Project: GM 245-1 BWQ

QC BATCH REPORT

Batch ID: VL200409-3-3 Instrument ID HPV3 Method: SW8260_25

LCS		Sample ID: VL200409-8			Units: UG/L		Analysis Date: 4/9/2020 18:04				
Client ID:		Run ID: VL200409-3A			Prep Date: 4/9/2020		DF: 1				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
GASOLINE RANGE ORGANICS	1240	100	1000		124	75-121				20	*

LCSD		Sample ID: VL200409-8			Units: UG/L		Analysis Date: 4/9/2020 18:24				
Client ID:		Run ID: VL200409-3A			Prep Date: 4/9/2020		DF: 1				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
GASOLINE RANGE ORGANICS	1180	100	1000		118	75-121		1240	5	20	

MB		Sample ID: VL200409-3			Units: UG/L		Analysis Date: 4/9/2020 18:44				
Client ID:		Run ID: VL200409-3A			Prep Date: 4/9/2020		DF: 1				
Analyte	Result	ReportLimit	MDL								
GASOLINE RANGE ORGANICS	ND	100	51								

The following samples were analyzed in this batch:

2004084-1	2004084-2
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Client: Western Water and Land, Inc.
 Work Order: 2004084
 Project: GM 245-1 BWQ

QC BATCH REPORT

Batch ID: **AK200413-1-1** Instrument ID **NONE** Method: **SM2320B**

LCS		Sample ID: AK200413-1			Units: MG/L		Analysis Date: 4/13/2020				
Client ID:		Run ID: AK200413-1a1			Prep Date: 4/13/2020		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	98.6	5	100		98	85-115				15	

LCSD		Sample ID: AK200413-1			Units: MG/L		Analysis Date: 4/13/2020				
Client ID:		Run ID: AK200413-1a1			Prep Date: 4/13/2020		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	98.7	5	100		99	85-115		98.6	0	15	

MB		Sample ID: AK200413-1			Units: MG/L		Analysis Date: 4/13/2020				
Client ID:		Run ID: AK200413-1a1			Prep Date: 4/13/2020		DF: 1				
Analyte	Result	ReportLimit	MDL								
BICARBONATE AS CaCO3	ND	5									
CARBONATE AS CaCO3	ND	5									
TOTAL ALKALINITY AS CaCO3	ND	5									

The following samples were analyzed in this batch: 2004084-1 2004084-2

Client: Western Water and Land, Inc.
 Work Order: 2004084
 Project: GM 245-1 BWQ

QC BATCH REPORT

Batch ID: **IC200409-1-2** Instrument ID **IC3** Method: **EPA300.0**

LCS		Sample ID: IC200409-1			Units: MG/L		Analysis Date: 4/9/2020 07:08				
Client ID:		Run ID: IC200409-1a2			Prep Date: 4/9/2020		DF: 1				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
BROMIDE	9.93	0.2	10		99	90-110				15	
CHLORIDE	9.86	0.2	10		99	90-110				15	
FLUORIDE	4.99	0.1	5		100	90-110				15	
NITRATE AS N	9.87	0.2	10		99	90-110				15	
NITRITE AS N	4.98	0.15	5		100	90-110				15	
SULFATE	49.3	1	50		99	90-110				15	

LCSD		Sample ID: IC200409-1			Units: MG/L		Analysis Date: 4/9/2020 09:46				
Client ID:		Run ID: IC200409-1a2			Prep Date: 4/9/2020		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		9.93	1	15	
CHLORIDE	9.93	0.2	10		99	90-110		9.86	1	15	
FLUORIDE	4.97	0.1	5		99	90-110		4.99	0	15	
NITRATE AS N	9.94	0.2	10		99	90-110		9.87	1	15	
NITRITE AS N	5.04	0.15	5		101	90-110		4.98	1	15	
SULFATE	49.4	1	50		99	90-110		49.3	0	15	

MB		Sample ID: IC200409-1			Units: MG/L		Analysis Date: 4/9/2020 07:21				
Client ID:		Run ID: IC200409-1a2			Prep Date: 4/9/2020		DF: 1				
Analyte	Result	ReportLimit	MDL								
BROMIDE	ND	0.2	0.064								
CHLORIDE	ND	0.2	0.076								
FLUORIDE	ND	0.1	0.039								
NITRATE AS N	ND	0.2	0.092								
NITRITE AS N	ND	0.15	0.069								
SULFATE	ND	1	0.53								

The following samples were analyzed in this batch: 2004084-1 2004084-2

Client: Western Water and Land, Inc.
Work Order: 2004084
Project: GM 245-1 BWQ

QC BATCH REPORT

Batch ID: **pH200409-1-1** Instrument ID **pH-2** Method: **SM4500-H**

CCV	Sample ID: ccv					Units: pH	Analysis Date: 4/9/2020				
Client ID:		Run ID: pH200409-1a1					Prep Date: 4/9/2020		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			6.9-7.1					

ICV	Sample ID: icv					Units: pH	Analysis Date: 4/9/2020				
Client ID:		Run ID: pH200409-1a1					Prep Date: 4/9/2020		DF: 1		
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
PH	7.08	0.1	7			6.9-7.1					

The following samples were analyzed in this batch:

2004084-1	2004084-2
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Client: Western Water and Land, Inc.
 Work Order: 2004084
 Project: GM 245-1 BWQ

QC BATCH REPORT

Batch ID: **SC200409-1-1** Instrument ID **pH-2** Method: **SM2510B**

CCV	Sample ID: ccv				Units: umhos/cm	Analysis Date: 4/9/2020					
Client ID:		Run ID: SC200409-1a1				Prep Date: 4/9/2020			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	90-110					

ICV	Sample ID: icv				Units: umhos/cm	Analysis Date: 4/9/2020					
Client ID:		Run ID: SC200409-1a1				Prep Date: 4/9/2020			DF: 1		
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
SPECIFIC CONDUCTIVITY	717	1	718		100	90-110					

The following samples were analyzed in this batch:

2004084-1	2004084-2
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Client: Western Water and Land, Inc.
Work Order: 2004084
Project: GM 245-1 BWQ

QC BATCH REPORT

Batch ID: **TD200410-1-1** Instrument ID **Balance** Method: **SM2540C**

LCS Sample ID: **TD200410-1** Units: **MG/L** Analysis Date: **4/14/2020**
 Client ID: Run ID: **TD200414-1A1** Prep Date: **4/10/2020** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
TOTAL DISSOLVED SOLIDS	401	20	400		100	85-115				14	

MB Sample ID: **TD200410-1** Units: **MG/L** Analysis Date: **4/14/2020**
 Client ID: Run ID: **TD200414-1A1** Prep Date: **4/10/2020** DF: **1**

Analyte	Result	ReportLimit	MDL	Qual
TOTAL DISSOLVED SOLIDS	ND	20		

The following samples were analyzed in this batch:

2004084-1	2004084-2
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