



## 1904237

### 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.

### 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:

<u>Analyte</u>	<u>Method</u>	<u>SOP #</u>
Alkalinity	SM2320B	1106
Bicarbonate	SM2320B	1106
Carbonate	SM2320B	1106
pH	SM4500-H <sup>+</sup> 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: 4/11/2019 10:50

Date: 23-Apr-19  
 Work Order: 1904237  
 Lab ID: 1904237-1  
 Matrix: WATER  
 Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	MDL	Date Analyzed
<b>ALKALINITY AS CALCIUM CARBONATE</b>			<b>SM2320B</b>				
BICARBONATE AS CaCO3	320		20	MG/L	1		4/15/2019
CARBONATE AS CaCO3	ND		20	MG/L	1		4/15/2019
TOTAL ALKALINITY AS CaCO3	320		20	MG/L	1		4/15/2019
<b>DIESEL RANGE ORGANICS</b>			<b>SW8015M</b>				
Diesel Range Organics	ND		0.52	MG/L	1	0.26	4/15/2019 18:38
Surr: O-TERPHENYL	98		63-126	%REC	1		4/15/2019 18:38
<b>GC/MS VOLATILES</b>			<b>SW8260_25</b>				
BENZENE	ND		1	UG/L	1	0.3	4/16/2019 16:10
TOLUENE	ND		1	UG/L	1	0.3	4/16/2019 16:10
ETHYLBENZENE	ND		1	UG/L	1	0.3	4/16/2019 16:10
M+P-XYLENE	ND		1	UG/L	1	0.3	4/16/2019 16:10
O-XYLENE	ND		1	UG/L	1	0.3	4/16/2019 16:10
TOTAL XYLENES	ND		1	UG/L	1		4/16/2019 16:10
Surr: 4-BROMOFLUOROBENZENE	100		85-115	%REC	1		4/16/2019 16:10
Surr: DIBROMOFLUOROMETHANE	93		84-118	%REC	1		4/16/2019 16:10
Surr: TOLUENE-D8	105		85-115	%REC	1		4/16/2019 16:10
GASOLINE RANGE ORGANICS	ND		100	UG/L	1	30	4/16/2019 16:10
<b>ION CHROMATOGRAPHY</b>			<b>EPA300.0</b>				
BROMIDE	ND		0.2	MG/L	1	0.06	4/12/2019 22:43
CHLORIDE	9.9		0.2	MG/L	1	0.06	4/12/2019 22:43
FLUORIDE	0.52		0.1	MG/L	1	0.03	4/12/2019 22:43
NITRATE/NITRITE AS N	0.52	J	0.1	MG/L	1		4/12/2019 22:43
NITRATE AS N	0.49		0.2	MG/L	1	0.06	4/12/2019 22:43
NITRITE AS N	0.032	J	0.1	MG/L	1	0.03	4/12/2019 22:43
SULFATE	310		10	MG/L	10	3	4/12/2019 22:56
<b>METALS BY 200.8</b>			<b>EPA200.8</b>				
BARIUM	0.047		0.001	MG/L	10	0.000086	4/22/2019 16:29
BORON	0.094		0.05	MG/L	10	0.0007	4/22/2019 16:29
CALCIUM	77		1	MG/L	10	0.087	4/22/2019 16:29
IRON	0.0041	J	0.1	MG/L	10	0.00065	4/22/2019 16:29
MAGNESIUM	50		0.1	MG/L	10	0.014	4/22/2019 16:29
MANGANESE	0.0031		0.002	MG/L	10	0.000079	4/22/2019 16:29
POTASSIUM	4.1		1	MG/L	10	0.057	4/22/2019 16:29
SELENIUM	0.0072		0.001	MG/L	10	0.00012	4/22/2019 16:29
SODIUM	110		1	MG/L	10	0.022	4/22/2019 16:29
STRONTIUM	1.5		0.001	MG/L	10	0.00013	4/22/2019 16:29
<b>PH</b>			<b>SM4500-H</b>				
PH	8.49		0.1	pH	1		4/15/2019
<b>SPECIFIC CONDUCTANCE IN WATER</b>			<b>SM2510B</b>				
SPECIFIC CONDUCTIVITY	1337		1	mg/l	1		4/15/2019

**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:** 4/11/2019 10:50

**Date:** 23-Apr-19  
**Work Order:** 1904237  
**Lab ID:** 1904237-1  
**Matrix:** WATER  
**Percent Moisture:**

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	MDL	Date Analyzed
TOTAL DISSOLVED SOLIDS			SM2540C				Prep Date: 4/12/2019 PrepBy: AEJ
TOTAL DISSOLVED SOLIDS	760		20	MG/L	1		4/15/2019

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: 4/11/2019 11:00

Date: 23-Apr-19  
 Work Order: 1904237  
 Lab ID: 1904237-2  
 Matrix: WATER  
 Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	MDL	Date Analyzed
<b>ALKALINITY AS CALCIUM CARBONATE</b>			<b>SM2320B</b>		Prep Date: 4/15/2019		PrepBy: AEJ
BICARBONATE AS CaCO3	330		20	MG/L	1		4/15/2019
CARBONATE AS CaCO3	ND		20	MG/L	1		4/15/2019
TOTAL ALKALINITY AS CaCO3	330		20	MG/L	1		4/15/2019
<b>DIESEL RANGE ORGANICS</b>			<b>SW8015M</b>		Prep Date: 4/15/2019		PrepBy: LML
Diesel Range Organics	ND		0.52	MG/L	1	0.26	4/15/2019 19:00
Surr: O-TERPHENYL	99		63-126	%REC	1		4/15/2019 19:00
<b>GC/MS VOLATILES</b>			<b>SW8260_25</b>		Prep Date: 4/16/2019		PrepBy: JXK
BENZENE	ND		1	UG/L	1	0.3	4/16/2019 16:31
TOLUENE	ND		1	UG/L	1	0.3	4/16/2019 16:31
ETHYLBENZENE	ND		1	UG/L	1	0.3	4/16/2019 16:31
M+P-XYLENE	ND		1	UG/L	1	0.3	4/16/2019 16:31
O-XYLENE	ND		1	UG/L	1	0.3	4/16/2019 16:31
TOTAL XYLENES	ND		1	UG/L	1		4/16/2019 16:31
Surr: 4-BROMOFLUOROBENZENE	100		85-115	%REC	1		4/16/2019 16:31
Surr: DIBROMOFLUOROMETHANE	95		84-118	%REC	1		4/16/2019 16:31
Surr: TOLUENE-D8	105		85-115	%REC	1		4/16/2019 16:31
GASOLINE RANGE ORGANICS	ND		100	UG/L	1	30	4/16/2019 16:31
<b>ION CHROMATOGRAPHY</b>			<b>EPA300.0</b>		Prep Date: 4/12/2019		PrepBy: AEJ
BROMIDE	ND		0.2	MG/L	1	0.06	4/12/2019 23:09
CHLORIDE	9.9		0.2	MG/L	1	0.06	4/12/2019 23:09
FLUORIDE	0.53		0.1	MG/L	1	0.03	4/12/2019 23:09
NITRATE/NITRITE AS N	0.52	J	0.1	MG/L	1		4/12/2019 23:09
NITRATE AS N	0.49		0.2	MG/L	1	0.06	4/12/2019 23:09
NITRITE AS N	0.032	J	0.1	MG/L	1	0.03	4/12/2019 23:09
SULFATE	310		10	MG/L	10	3	4/12/2019 23:22
<b>METALS BY 200.8</b>			<b>EPA200.8</b>		Prep Date: 4/18/2019		PrepBy: JML
BARIUM	0.047		0.001	MG/L	10	0.000086	4/22/2019 16:32
BORON	0.093		0.05	MG/L	10	0.0007	4/22/2019 16:32
CALCIUM	75		1	MG/L	10	0.087	4/22/2019 16:32
IRON	0.0021	J	0.1	MG/L	10	0.00065	4/22/2019 16:32
MAGNESIUM	49		0.1	MG/L	10	0.014	4/22/2019 16:32
MANGANESE	0.0031		0.002	MG/L	10	0.000079	4/22/2019 16:32
POTASSIUM	4.2		1	MG/L	10	0.057	4/22/2019 16:32
SELENIUM	0.0066		0.001	MG/L	10	0.00012	4/22/2019 16:32
SODIUM	110		1	MG/L	10	0.022	4/22/2019 16:32
STRONTIUM	1.5		0.001	MG/L	10	0.00013	4/22/2019 16:32
<b>PH</b>			<b>SM4500-H</b>		Prep Date: 4/15/2019		PrepBy: AEJ
PH	8.57		0.1	pH	1		4/15/2019
<b>SPECIFIC CONDUCTANCE IN WATER</b>			<b>SM2510B</b>		Prep Date: 4/15/2019		PrepBy: AEJ
SPECIFIC CONDUCTIVITY	1289		1	mg/l	1		4/15/2019

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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:** 4/11/2019 11:00

**Date:** 23-Apr-19  
**Work Order:** 1904237  
**Lab ID:** 1904237-2  
**Matrix:** WATER  
**Percent Moisture:**

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	MDL	Date Analyzed
TOTAL DISSOLVED SOLIDS			SM2540C				Prep Date: 4/12/2019 PrepBy: AEJ
TOTAL DISSOLVED SOLIDS	760		20	MG/L	1		4/15/2019

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**SAMPLE SUMMARY REPORT**

**Client:** Western Water and Land, Inc.  
**Project:** GM 245-1 BWQ  
**Sample ID:** Trip Blank  
**Legal Location:**  
**Collection Date:** 4/11/2019

**Date:** 23-Apr-19  
**Work Order:** 1904237  
**Lab ID:** 1904237-3  
**Matrix:** WATER  
**Percent Moisture:**

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	MDL	Date Analyzed
<b>GC/MS VOLATILES</b>			<b>SW8260_25</b>				Prep Date: <b>4/16/2019</b> PrepBy: <b>JJK</b>
BENZENE	ND		1	UG/L	1	0.3	4/16/2019 16:52
TOLUENE	ND		1	UG/L	1	0.3	4/16/2019 16:52
ETHYLBENZENE	ND		1	UG/L	1	0.3	4/16/2019 16:52
M+P-XYLENE	ND		1	UG/L	1	0.3	4/16/2019 16:52
O-XYLENE	ND		1	UG/L	1	0.3	4/16/2019 16:52
TOTAL XYLENES	ND		1	UG/L	1		4/16/2019 16:52
Surr: 4-BROMOFLUOROBENZENE	98		85-115	%REC	1		4/16/2019 16:52
Surr: DIBROMOFLUOROMETHANE	95		84-118	%REC	1		4/16/2019 16:52
Surr: TOLUENE-D8	106		85-115	%REC	1		4/16/2019 16:52
GASOLINE RANGE ORGANICS	ND		100	UG/L	1	30	4/16/2019 16:52

**Client:** Western Water and Land, Inc.  
**Project:** GM 245-1 BWQ  
**Sample ID:** Trip Blank  
**Legal Location:**  
**Collection Date:** 4/11/2019

**Date:** 23-Apr-19  
**Work Order:** 1904237  
**Lab ID:** 1904237-3  
**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: 4/23/2019 3:56:

Client: Western Water and Land, Inc.

**QC BATCH REPORT**

Work Order: 1904237

Project: GM 245-1 BWQ

Batch ID: **HC190415-82-1** Instrument ID **FUELS-1** Method: **SW8015M**

**LCS** Sample ID: **HC190415-82** Units: **MG/L** Analysis Date: **4/15/2019 23:41**

Client ID: Run ID: **HC190415-8A** Prep Date: **4/15/2019** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
Diesel Range Organics	8.84	0.533	8.33		106	36-150				20	
Surr: O-TERPHENYL	1.64		1.67		98	63-126					

**MB** Sample ID: **HC190415-82** Units: **MG/L** Analysis Date: **4/15/2019 18:16**

Client ID: Run ID: **HC190415-8A** Prep Date: **4/15/2019** DF: **1**

Analyte	Result	ReportLimit	MDL							Qual
Diesel Range Organics	ND	0.53	0.27							
Surr: O-TERPHENYL	1.65				99	63-126				

The following samples were analyzed in this batch:

1904237-1	1904237-2
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Client: Western Water and Land, Inc.  
 Work Order: 1904237  
 Project: GM 245-1 BWQ

# QC BATCH REPORT

Batch ID: **IP190418-1-2** Instrument ID **ICPMS2** Method: **EPA200.8**

LCS		Sample ID: <b>IM190418-1</b>			Units: <b>MG/L</b>		Analysis Date: <b>4/22/2019 16:23</b>				
Client ID:		Run ID: <b>IM190422-10A6</b>			Prep Date: <b>4/18/2019</b>		DF: <b>10</b>				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
BARIUM	0.104	0.001	0.1		104	85-115				20	
BORON	1	0.05	1		100	85-115				20	
CALCIUM	10.4	1	10		104	85-115				20	
IRON	5.01	0.1	5		100	85-115				20	
MAGNESIUM	10.3	0.1	10		103	85-115				20	
MANGANESE	0.113	0.002	0.1		113	85-115				20	
POTASSIUM	5.2	1	5		104	85-115				20	
SELENIUM	0.108	0.001	0.1		108	85-115				20	
SODIUM	10.4	1	10		104	85-115				20	
STRONTIUM	0.109	0.001	0.1		109	85-115				20	

MB		Sample ID: <b>FP190413-1</b>			Units: <b>MG/L</b>		Analysis Date: <b>4/22/2019 16:17</b>				
Client ID:		Run ID: <b>IM190422-10A6</b>			Prep Date: <b>4/18/2019</b>		DF: <b>10</b>				
Analyte	Result	ReportLimit	MDL								Qual
BARIUM	ND	0.001	0.000086								
BORON	0.0071	0.05	0.0007								J
CALCIUM	ND	1	0.087								
IRON	0.0049	0.1	0.00065								J
MAGNESIUM	ND	0.1	0.014								
MANGANESE	0.00015	0.002	0.000079								J
POTASSIUM	ND	1	0.057								
SELENIUM	ND	0.001	0.00012								
SODIUM	-0.074	1	0.022								J
STRONTIUM	ND	0.001	0.00013								

The following samples were analyzed in this batch:

1904237-1	1904237-2
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Client: Western Water and Land, Inc.  
 Work Order: 1904237  
 Project: GM 245-1 BWQ

# QC BATCH REPORT

Batch ID: VL190416-4-1 Instrument ID: HPV4 Method: SW8260\_25

LCS		Sample ID: VL190416-4			Units: %REC		Analysis Date: 4/16/2019 13:40				
Client ID:		Run ID: VL190416-4A			Prep Date: 4/16/2019		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	85-115					
Surr: DIBROMOFLUOROMETHANE	23.5		25		94	84-118					
Surr: TOLUENE-D8	26.4		25		106	85-115					
BENZENE	10.6	1	10		106	83-117				20	
TOLUENE	10.7	1	10		107	82-113				20	
ETHYLBENZENE	11.1	1	10		111	81-113				20	
M+P-XYLENE	21	1	20		105	82-115				20	
O-XYLENE	10.5	1	10		105	81-115				20	

LCSD		Sample ID: VL190416-4			Units: %REC		Analysis Date: 4/16/2019 14:01				
Client ID:		Run ID: VL190416-4A			Prep Date: 4/16/2019		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	85-115			0		
Surr: DIBROMOFLUOROMETHANE	23.6		25		95	84-118			1		
Surr: TOLUENE-D8	26.4		25		106	85-115			0		
BENZENE	10.4	1	10		104	83-117		10.6	2	20	
TOLUENE	10.8	1	10		108	82-113		10.7	0	20	
ETHYLBENZENE	10.8	1	10		108	81-113		11.1	3	20	
M+P-XYLENE	20.7	1	20		104	82-115		21	1	20	
O-XYLENE	10.2	1	10		102	81-115		10.5	3	20	

MB		Sample ID: VL190416-4			Units: %REC		Analysis Date: 4/16/2019 15:49				
Client ID:		Run ID: VL190416-4A			Prep Date: 4/16/2019		DF: 1				
Analyte	Result	ReportLimit	MDL								Qual
Surr: 4-BROMOFLUOROBENZENE	24.9				99	85-115					
Surr: DIBROMOFLUOROMETHANE	23.3				93	84-118					
Surr: TOLUENE-D8	26.6				106	85-115					
BENZENE	ND	1	0.3								
TOLUENE	ND	1	0.3								
ETHYLBENZENE	ND	1	0.3								
M+P-XYLENE	ND	1	0.3								
O-XYLENE	ND	1	0.3								
TOTAL XYLENES	ND	1									

The following samples were analyzed in this batch: 1904237-1 1904237-2 1904237-3

Client: Western Water and Land, Inc.  
 Work Order: 1904237  
 Project: GM 245-1 BWQ

# QC BATCH REPORT

Batch ID: VL190416-4-2 Instrument ID: HPV4 Method: SW8260\_25

LCS		Sample ID: VL190416-8			Units: UG/L		Analysis Date: 4/16/2019 14:46				
Client ID:		Run ID: VL190416-4A			Prep Date: 4/16/2019		DF: 1				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
GASOLINE RANGE ORGANICS	932	100	1000		93	80-120				20	

LCSD		Sample ID: VL190416-8			Units: UG/L		Analysis Date: 4/16/2019 15:07				
Client ID:		Run ID: VL190416-4A			Prep Date: 4/16/2019		DF: 1				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
GASOLINE RANGE ORGANICS	986	100	1000		99	80-120		932	6	20	

MB		Sample ID: VL190416-4			Units: UG/L		Analysis Date: 4/16/2019 15:49					
Client ID:		Run ID: VL190416-4A			Prep Date: 4/16/2019		DF: 1					
Analyte	Result	ReportLimit	MDL									Qual
GASOLINE RANGE ORGANICS	ND	100	30									

The following samples were analyzed in this batch: 1904237-1      1904237-2      1904237-3

**Client:** Western Water and Land, Inc.  
**Work Order:** 1904237  
**Project:** GM 245-1 BWQ

## QC BATCH REPORT

Batch ID: **AK190415-2-1**      Instrument ID **NONE**      Method: **SM2320B**

LCS	Sample ID: <b>AK190415-2</b>					Units: <b>MG/L</b>	Analysis Date: <b>4/15/2019</b>				
Client ID:		Run ID: <b>AK190415-1A1</b>					Prep Date: <b>4/15/2019</b>		DF: <b>1</b>		
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
TOTAL ALKALINITY AS CaCO3	106	5	100		106	85-115				15	

MB	Sample ID: <b>AK190415-2</b>					Units: <b>MG/L</b>	Analysis Date: <b>4/15/2019</b>				
Client ID:		Run ID: <b>AK190415-1A1</b>					Prep Date: <b>4/15/2019</b>		DF: <b>1</b>		
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:**

1904237-1	1904237-2
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Client: Western Water and Land, Inc.  
 Work Order: 1904237  
 Project: GM 245-1 BWQ

# QC BATCH REPORT

Batch ID: **IC190412-1-2** Instrument ID **IC3** Method: **EPA300.0**

LCS		Sample ID: <b>IC190412-1</b>			Units: <b>MG/L</b>		Analysis Date: <b>4/12/2019 09:17</b>				
Client ID:		Run ID: <b>IC190412-1A3</b>			Prep Date: <b>4/12/2019</b>		DF: <b>1</b>				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
BROMIDE	10.2	0.2	10		102	90-110				15	
CHLORIDE	9.92	0.2	10		99	90-110				15	
FLUORIDE	5	0.1	5		100	90-110				15	
NITRATE AS N	9.96	0.2	10		100	90-110				15	
NITRITE AS N	5.12	0.1	5		102	90-110				15	
SULFATE	51.1	1	50		102	90-110				15	

LCSD		Sample ID: <b>IC190412-1</b>			Units: <b>MG/L</b>		Analysis Date: <b>4/12/2019 11:43</b>				
Client ID:		Run ID: <b>IC190412-1A3</b>			Prep Date: <b>4/12/2019</b>		DF: <b>1</b>				
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		10.2	1	15	
CHLORIDE	9.9	0.2	10		99	90-110		9.92	0	15	
FLUORIDE	4.93	0.1	5		99	90-110		5	1	15	
NITRATE AS N	10	0.2	10		100	90-110		9.96	0	15	
NITRITE AS N	5.12	0.1	5		102	90-110		5.12	0	15	
SULFATE	50.9	1	50		102	90-110		51.1	0	15	

MB		Sample ID: <b>IC190412-1</b>			Units: <b>MG/L</b>		Analysis Date: <b>4/12/2019 09:29</b>					
Client ID:		Run ID: <b>IC190412-1A3</b>			Prep Date: <b>4/12/2019</b>		DF: <b>1</b>					
Analyte	Result	ReportLimit	MDL									Qual
BROMIDE	ND	0.2	0.06									
CHLORIDE	ND	0.2	0.06									
FLUORIDE	ND	0.1	0.03									
NITRATE/NITRITE AS N	0.067	0.1										J
NITRATE AS N	0.067	0.2	0.06									J
NITRITE AS N	ND	0.1	0.03									
SULFATE	ND	1	0.3									

The following samples were analyzed in this batch: 1904237-1      1904237-2

Client: Western Water and Land, Inc.  
 Work Order: 1904237  
 Project: GM 245-1 BWQ

# QC BATCH REPORT

Batch ID: PH190415-1-1 Instrument ID pH-1 Method: SM4500-H

CCV		Sample ID: CCV			Units: pH		Analysis Date: 4/15/2019				
Client ID:		Run ID: PH190415-1A1			Prep Date: 4/15/2019		DF: 1				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
PH	7.06	0.1	7			6.9-7.1					

DUP		Sample ID: 1904237-1			Units: pH		Analysis Date: 4/15/2019				
Client ID: Hayes Gulch DWN		Run ID: PH190415-1A1			Prep Date: 4/15/2019		DF: 1				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
PH	8.51	0.1							8.49		

ICV		Sample ID: ICV			Units: pH		Analysis Date: 4/15/2019				
Client ID:		Run ID: PH190415-1A1			Prep Date: 4/15/2019		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					

The following samples were analyzed in this batch:

1904237-1	1904237-2
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Client: Western Water and Land, Inc.  
 Work Order: 1904237  
 Project: GM 245-1 BWQ

# QC BATCH REPORT

Batch ID: **SC190415-1-1** Instrument ID **pH-1** Method: **SM2510B**

CCV	Sample ID: <b>CCV1</b>					Units: <b>mg/l</b>	Analysis Date: <b>4/15/2019</b>				
Client ID:		Run ID: <b>SC190415-1A1</b>					Prep Date: <b>4/15/2019</b>			DF: <b>1</b>	
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
SPECIFIC CONDUCTIVITY	1440	1	1410		102		71.7-1554				

CCV	Sample ID: <b>CCV2</b>					Units: <b>mg/l</b>	Analysis Date: <b>4/15/2019</b>				
Client ID:		Run ID: <b>SC190415-1A1</b>					Prep Date: <b>4/15/2019</b>			DF: <b>1</b>	
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				

DUP	Sample ID: <b>1904237-1</b>					Units: <b>mg/l</b>	Analysis Date: <b>4/15/2019</b>				
Client ID: <b>Hayes Gulch DWN</b>		Run ID: <b>SC190415-1A1</b>					Prep Date: <b>4/15/2019</b>			DF: <b>1</b>	
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
SPECIFIC CONDUCTIVITY	1335	1						1337	0	10	

ICV	Sample ID: <b>ICV</b>					Units: <b>mg/l</b>	Analysis Date: <b>4/15/2019</b>				
Client ID:		Run ID: <b>SC190415-1A1</b>					Prep Date: <b>4/15/2019</b>			DF: <b>1</b>	
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
SPECIFIC CONDUCTIVITY	784	1	718		109		46.2-789.7				

The following samples were analyzed in this batch:

1904237-1	1904237-2
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**Client:** Western Water and Land, Inc.  
**Work Order:** 1904237  
**Project:** GM 245-1 BWQ

## QC BATCH REPORT

Batch ID: **TD190412-1-1**      Instrument ID **Balance**      Method: **SM2540C**

**LCS**      Sample ID: **TD190412-1**      Units: **MG/L**      Analysis Date: **4/15/2019**  
 Client ID:      Run ID: **TD190415-1A1**      Prep Date: **4/12/2019**      DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
TOTAL DISSOLVED SOLIDS	396	20	400		99	85-115				5	

**MB**      Sample ID: **TD190412-1**      Units: **MG/L**      Analysis Date: **4/15/2019**  
 Client ID:      Run ID: **TD190415-1A1**      Prep Date: **4/12/2019**      DF: **1**

Analyte	Result	ReportLimit	MDL	Qual
TOTAL DISSOLVED SOLIDS	ND	20		

The following samples were analyzed in this batch:

1904237-1	1904237-2
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