



**1509367**

**GC/MS Volatiles:**

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

All acceptance criteria were met.

**GC/MS Semivolatiles-SIMPAH:**

The sample was analyzed using GC/MS following the current revision of SOP 506 based on SW-846 Method 8270D. The sample was analyzed using selective ion monitoring (SIM), in order to achieve lower reporting limits.

All compounds in the daily (continuing) calibration verifications were within 20%D with the exception of benzo(a)anthracene which was low. The reporting limit verification standard (RVS) indicates that there was adequate sensitivity to detect benzo(a)anthracene at the applicable quantitation limit. The compound was not detected in the associated sample.

All remaining 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.

All 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 <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 Environmental -- FC

## Sample Number(s) Cross-Reference Table

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**OrderNum:** 1509367

**Client Name:** Western Water and Land, Inc.

**Client Project Name:** WPX 317B

**Client Project Number:**

**Client PO Number:**

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Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
B29	1509367-1		WATER	21-Sep-15	13:10





ALS Environmental - Fort Collins  
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: Western water

Workorder No: 1509367

Project Manager: ARW

Initials: SDM

Date: 9-23-15

1. Does this project require any special handling in addition to standard ALS procedures?		YES	<input checked="" type="radio"/> NO
2. Are custody seals on shipping containers intact?	NONE	<input checked="" type="radio"/> YES	NO
3. Are Custody seals on sample containers intact?	<input checked="" type="radio"/> NONE	YES	NO
4. Is there a COC (Chain-of-Custody) present or other representative documents?		<input checked="" type="radio"/> YES	NO
5. Are the COC and bottle labels complete and legible?		<input checked="" type="radio"/> YES	NO
6. Is the COC in agreement with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)		<input checked="" type="radio"/> YES	NO
7. Were airbills / shipping documents present and/or removable?	DROP OFF	<input checked="" type="radio"/> YES	NO
8. Are all aqueous samples requiring preservation preserved correctly? (excluding volatiles)	<input checked="" type="radio"/> N/A	YES	NO
9. Are all aqueous non-preserved samples pH 4-9?	N/A	<input checked="" type="radio"/> YES	NO
10. Is there sufficient sample for the requested analyses?		<input checked="" type="radio"/> YES	NO
11. Were all samples placed in the proper containers for the requested analyses?		<input checked="" type="radio"/> YES	NO
12. Are all samples within holding times for the requested analyses?		<input checked="" type="radio"/> YES	NO
13. Were all sample containers received intact? (not broken or leaking, etc.)		<input checked="" type="radio"/> YES	NO
14. Are all samples requiring no headspace (VOC, GRO, RSK/MEE, Rx CN/S, radon) headspace free? Size of bubble: ___ < green pea ___ > green pea	N/A	<input checked="" type="radio"/> YES	NO
15. Do any water samples contain sediment? Amount Amount of sediment: <input checked="" type="checkbox"/> dusting ___ moderate ___ heavy	N/A	<input checked="" type="radio"/> YES	NO
16. Were the samples shipped on ice?		<input checked="" type="radio"/> YES	NO
17. Were cooler temperatures measured at 0.1-6.0°C? IR gun used*: <input checked="" type="radio"/> #2 #4 RAD ONLY		<input checked="" type="radio"/> YES	NO
Cooler #: <u>1</u>			
Temperature (°C): <u>4.4</u>			
No. of custody seals on cooler: <u>1</u>			
External µR/hr reading: <u>10</u>			
Background µR/hr reading: <u>12</u>			
Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? <input checked="" type="radio"/> YES / NO / NA (If no, see Form 008.)			

Additional Information: PROVIDE DETAILS BELOW FOR A NO RESPONSE TO ANY QUESTION ABOVE, EXCEPT #1 AND #16.

15.) Sample 1 bottles 1 through 9 have a very light dusting of sediment.

Noked.  
aw 9/23/15

If applicable, was the client contacted? YES / NO /  NA Contact: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Project Manager Signature / Date: [Signature] 9/23/15

1509367

ORIGIN: RILA (616) 298-1033  
NICK MARTINEZ  
ALS ENVIRONMENTAL  
127 E. 1ST STREET  
PARACHUTE, CO 81635  
UNITED STATES US

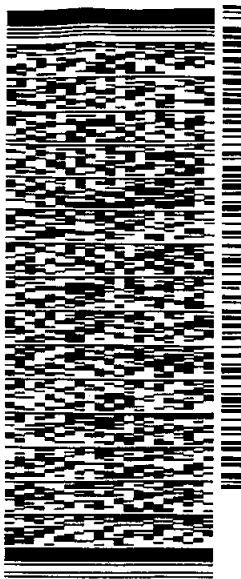
SHIP DATE: 21SEP15  
ACT WT: 5.100 LB  
CAD: 108058167/NET 3670  
DIMS: 24x15x15 IN  
BILL RECIPIENT

TO SAMPLE RECEIVING  
ALS LABORATORY GROUP  
225 COMMERCE DRIVE

FORT COLLINS CO 80524  
(970) 490-1511 REF: 092115-2  
INV. DEPT  
PO: PARACHUTE

10  
-1  
y.yoc

539J2/CBB9/31D0



4153016091061LV

TRK# 7745 6090 3482  
#0201

TUE - 22 SEP AA  
STANDARD OVERNIGHT

72 FTCA

80524  
CO-US DEN



this label:

button on this page to print your label to your laser or inkjet printer.  
ed page along the horizontal line.  
shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result  
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interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is  
ater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of  
alue is \$1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written  
filed within strict time limits, see current FedEx Service Guide.

ALS Environmental -- FC

SAMPLE SUMMARY REPORT

Client: Western Water and Land, Inc.  
 Project: WPX 317B  
 Sample ID: B29  
 Legal Location:  
 Collection Date: 9/21/2015 13:10

Date: 12-Oct-15  
 Work Order: 1509367  
 Lab ID: 1509367-1  
 Matrix: WATER

Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	MDL	Date Analyzed
<b>ALKALINITY AS CALCIUM CARBONATE</b>			<b>SM2320B</b>		Prep Date: 9/25/2015		PrepBy: TLB
BICARBONATE AS CaCO3	120		5	MG/L	1		9/25/2015
CARBONATE AS CaCO3	ND		5	MG/L	1		9/25/2015
TOTAL ALKALINITY AS CaCO3	120		5	MG/L	1		9/25/2015
<b>DIESEL RANGE ORGANICS</b>			<b>SW8015M</b>		Prep Date: 9/28/2015		PrepBy: JFN
Diesel Range Organics	ND		0.57	MG/L	1	0.17	9/28/2015 18:00
Surr: O-TERPHENYL	94		63-126	%REC	1		9/28/2015 18:00
<b>GC/MS SEMI-VOLATILES</b>			<b>SW8270SIM</b>		Prep Date: 9/24/2015		PrepBy: JXK
NAPHTHALENE	ND		0.1	UG/L	1	0.03	9/29/2015 13:48
2-METHYLNAPHTHALENE	ND		0.1	UG/L	1	0.03	9/29/2015 13:48
1-METHYLNAPHTHALENE	ND		0.1	UG/L	1	0.03	9/29/2015 13:48
ACENAPHTHYLENE	ND		0.1	UG/L	1	0.03	9/29/2015 13:48
ACENAPHTHENE	ND		0.1	UG/L	1	0.03	9/29/2015 13:48
FLUORENE	ND		0.1	UG/L	1	0.03	9/29/2015 13:48
PHENANTHRENE	ND		0.1	UG/L	1	0.03	9/29/2015 13:48
ANTHRACENE	ND		0.1	UG/L	1	0.033	9/29/2015 13:48
FLUORANTHENE	ND		0.1	UG/L	1	0.03	9/29/2015 13:48
PYRENE	ND		0.1	UG/L	1	0.033	9/29/2015 13:48
BENZO(A)ANTHRACENE	ND		0.1	UG/L	1	0.03	9/29/2015 13:48
CHRYSENE	ND		0.1	UG/L	1	0.03	9/29/2015 13:48
BENZO(B)FLUORANTHENE	ND		0.1	UG/L	1	0.033	9/29/2015 13:48
BENZO(K)FLUORANTHENE	ND		0.1	UG/L	1	0.03	9/29/2015 13:48
BENZO(A)PYRENE	ND		0.1	UG/L	1	0.035	9/29/2015 13:48
INDENO(1,2,3-CD)PYRENE	ND		0.1	UG/L	1	0.034	9/29/2015 13:48
DIBENZO(A,H)ANTHRACENE	ND		0.1	UG/L	1	0.03	9/29/2015 13:48
BENZO(G,H,I)PERYLENE	ND		0.1	UG/L	1	0.042	9/29/2015 13:48
Surr: NITROBENZENE-D5	64		34-111	%REC	1		9/29/2015 13:48
Surr: 2-FLUOROBIPHENYL	73		21-106	%REC	1		9/29/2015 13:48
Surr: TERPHENYL-D14	79		33-111	%REC	1		9/29/2015 13:48
<b>GC/MS VOLATILES</b>			<b>SW8260_25</b>		Prep Date: 9/24/2015		PrepBy: SDW
BENZENE	ND		1	UG/L	1	0.3	9/24/2015 16:20
TOLUENE	ND		1	UG/L	1	0.3	9/24/2015 16:20
ETHYLBENZENE	ND		1	UG/L	1	0.3	9/24/2015 16:20
M+P-XYLENE	ND		1	UG/L	1	0.3	9/24/2015 16:20
O-XYLENE	ND		1	UG/L	1	0.3	9/24/2015 16:20
TOTAL XYLENES	ND		1	UG/L	1		9/24/2015 16:20
Surr: 4-BROMOFLUOROBENZENE	109		85-115	%REC	1		9/24/2015 16:20
Surr: DIBROMOFLUOROMETHANE	96		84-118	%REC	1		9/24/2015 16:20
Surr: TOLUENE-D8	101		85-115	%REC	1		9/24/2015 16:20
GASOLINE RANGE ORGANICS	ND		100	UG/L	1	100	9/24/2015 16:20
<b>ION CHROMATOGRAPHY</b>			<b>EPA300.0</b>		Prep Date: 9/23/2015		PrepBy: JAC
BROMIDE	ND		0.2	MG/L	1	0.06	9/23/2015 11:41

**ALS Environmental -- FC**

**SAMPLE SUMMARY REPORT**

**Client:** Western Water and Land, Inc.  
**Project:** WPX 317B  
**Sample ID:** B29  
**Legal Location:**  
**Collection Date:** 9/21/2015 13:10

**Date:** 12-Oct-15  
**Work Order:** 1509367  
**Lab ID:** 1509367-1  
**Matrix:** WATER  
**Percent Moisture:**

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	MDL	Date Analyzed
<b>CHLORIDE</b>	<b>150</b>		<b>2</b>	<b>MG/L</b>	10	0.6	9/23/2015 11:56
<b>FLUORIDE</b>	<b>0.26</b>		<b>0.1</b>	<b>MG/L</b>	1	0.03	9/23/2015 11:41
NITRATE/NITRITE AS N	ND		0.1	MG/L	1		9/23/2015 11:41
NITRATE AS N	ND		0.2	MG/L	1	0.06	9/23/2015 11:41
NITRITE AS N	ND		0.1	MG/L	1	0.03	9/23/2015 11:41
<b>SULFATE</b>	<b>88</b>		<b>10</b>	<b>MG/L</b>	10	3	9/23/2015 11:56
<b>METALS BY 200.8</b>			<b>EPA200.8</b>				Prep Date: <b>9/28/2015</b> PrepBy: <b>CDR</b>
<b>BARIUM</b>	<b>0.052</b>		<b>0.001</b>	<b>MG/L</b>	10	0.00058	9/29/2015 20:04
<b>BORON</b>	<b>0.051</b>		<b>0.05</b>	<b>MG/L</b>	10	0.0069	9/29/2015 20:04
<b>CALCIUM</b>	<b>62</b>		<b>1</b>	<b>MG/L</b>	10	0.1	9/29/2015 20:04
<b>IRON</b>	<b>0.035</b>	J	<b>0.1</b>	<b>MG/L</b>	10	0.025	9/29/2015 20:04
<b>MAGNESIUM</b>	<b>13</b>		<b>0.1</b>	<b>MG/L</b>	10	0.045	9/29/2015 20:04
<b>MANGANESE</b>	<b>0.00083</b>	J	<b>0.002</b>	<b>MG/L</b>	10	0.0007	9/29/2015 20:04
<b>POTASSIUM</b>	<b>2.9</b>		<b>1</b>	<b>MG/L</b>	10	0.22	9/29/2015 20:04
<b>SELENIUM</b>	<b>0.0015</b>		<b>0.001</b>	<b>MG/L</b>	10	0.00068	9/29/2015 20:04
<b>SODIUM</b>	<b>110</b>		<b>1</b>	<b>MG/L</b>	10	0.24	9/29/2015 20:04
<b>STRONTIUM</b>	<b>0.53</b>		<b>0.001</b>	<b>MG/L</b>	10	0.00066	9/29/2015 20:04
<b>PH</b>			<b>SM4500-H</b>				Prep Date: <b>9/24/2015</b> PrepBy: <b>TLB</b>
<b>PH</b>	<b>8.6</b>		<b>0.1</b>	<b>pH</b>	1		9/24/2015
<b>SPECIFIC CONDUCTANCE IN WATER</b>			<b>SM2510B</b>				Prep Date: <b>9/24/2015</b> PrepBy: <b>TLB</b>
<b>SPECIFIC CONDUCTIVITY</b>	<b>906</b>		<b>1</b>	<b>umhos/cm</b>	1		9/24/2015
<b>TOTAL DISSOLVED SOLIDS</b>			<b>SM2540C</b>				Prep Date: <b>9/25/2015</b> PrepBy: <b>TLB</b>
<b>TOTAL DISSOLVED SOLIDS</b>	<b>510</b>		<b>20</b>	<b>MG/L</b>	1		9/28/2015

**Client:** Western Water and Land, Inc.  
**Project:** WPX 317B  
**Sample ID:** B29  
**Legal Location:**  
**Collection Date:** 9/21/2015 13:10

**Date:** 12-Oct-15  
**Work Order:** 1509367  
**Lab ID:** 1509367-1  
**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

ALS Environmental -- FC

Date: 10/12/2015 9:45

Client: Western Water and Land, Inc.

QC BATCH REPORT

Work Order: 1509367

Project: WPX 317B

Batch ID: **HC150928-100-1** Instrument ID: **FUELS-1** Method: **SW8015M**

LCS		Sample ID: <b>HC150928-100</b>			Units: <b>MG/L</b>		Analysis Date: <b>9/28/2015 16:27</b>				
Client ID:		Run ID: <b>HC150928-7A</b>			Prep Date: <b>9/28/2015</b>		DF: <b>1</b>				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
Diesel Range Organics	7.96	0.57	7.92		101	36-150				20	
Surr: O-TERPHENYL	0.839		0.792		106	63-126					

MB		Sample ID: <b>HC150928-100</b>			Units: <b>MG/L</b>		Analysis Date: <b>9/28/2015 14:21</b>				
Client ID:		Run ID: <b>HC150928-7A</b>			Prep Date: <b>9/28/2015</b>		DF: <b>1</b>				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
Diesel Range Organics	ND	0.57									
Surr: O-TERPHENYL	0.818		0.796		103	63-126					

The following samples were analyzed in this batch:

Client: Western Water and Land, Inc.  
 Work Order: 1509367  
 Project: WPX 317B

# QC BATCH REPORT

Batch ID: **IP150928-1-2** Instrument ID: **ICPMS2** Method: **EPA200.8**

LCS		Sample ID: <b>FM150928-1</b>			Units: <b>MG/L</b>		Analysis Date: <b>9/29/2015 20:01</b>				
Client ID:		Run ID: <b>IM150929-12A4</b>			Prep Date: <b>9/28/2015</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	0.101	0.001	0.1		101	85-115				20	
BORON	1.03	0.05	1		103	85-115				20	
CALCIUM	10.3	1	10		103	85-115				20	
IRON	5.13	0.1	5		103	85-115				20	
MAGNESIUM	9.89	0.1	10		99	85-115				20	
MANGANESE	0.102	0.002	0.1		102	85-115				20	
POTASSIUM	4.91	1	5		98	85-115				20	
SELENIUM	0.107	0.001	0.1		107	85-115				20	
SODIUM	9.95	1	10		100	85-115				20	
STRONTIUM	0.1	0.001	0.1		100	85-115				20	

MB		Sample ID: <b>FP150928-1</b>			Units: <b>MG/L</b>		Analysis Date: <b>9/29/2015 19:57</b>				
Client ID:		Run ID: <b>IM150929-12A4</b>			Prep Date: <b>9/28/2015</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	-0.00077	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	ND	0.001									

The following samples were analyzed in this batch:

1509367-1

Client: Western Water and Land, Inc.  
 Work Order: 1509367  
 Project: WPX 317B

# QC BATCH REPORT

Batch ID: EX150924-2-1 Instrument ID: HPSV1 Method: SW8270SIM

LCS		Sample ID: EX150924-2			Units: UG/L		Analysis Date: 9/29/2015 12:05				
Client ID:		Run ID: SV150929-4			Prep Date: 9/24/2015		DF: 1				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
NAPHTHALENE	1.41	0.1	2		70	39-102				20	
2-METHYLNAPHTHALENE	1.43	0.1	2		71	46-104				20	
1-METHYLNAPHTHALENE	1.44	0.1	2		72	60-100				20	
ACENAPHTHYLENE	1.21	0.1	2		61	50-107				20	
ACENAPHTHENE	1.43	0.1	2		71	47-108				20	
FLUORENE	1.39	0.1	2		70	50-112				20	
PHENANTHRENE	1.47	0.1	2		74	51-117				20	
ANTHRACENE	1.28	0.1	2		64	54-112				20	
FLUORANTHENE	1.38	0.1	2		69	54-116				20	
PYRENE	1.43	0.1	2		72	49-128				20	
BENZO(A)ANTHRACENE	1.24	0.1	2		62	56-109				20	
CHRYSENE	1.5	0.1	2		75	55-109				20	
BENZO(B)FLUORANTHENE	1.57	0.1	2		78	46-118				20	
BENZO(K)FLUORANTHENE	1.46	0.1	2		73	45-124				20	
BENZO(A)PYRENE	1.24	0.1	2		62	53-110				20	
INDENO(1,2,3-CD)PYRENE	1.44	0.1	2		72	63-121				20	
DIBENZO(A,H)ANTHRACENE	1.48	0.1	2		74	62-124				20	
BENZO(G,H,I)PERYLENE	1.47	0.1	2		73	38-123				20	
Surr: NITROBENZENE-D5	1.38		2		69	34-111					
Surr: 2-FLUOROBIPHENYL	1.47		2		73	21-106					
Surr: TERPHENYL-D14	1.64		2		82	33-111					

Client: Western Water and Land, Inc.  
 Work Order: 1509367  
 Project: WPX 317B

# QC BATCH REPORT

Batch ID: EX150924-2-1 Instrument ID: HPSV1 Method: SW8270SIM

LCSD	Sample ID: EX150924-2	Units: UG/L					Analysis Date: 9/29/2015 12:26				
Client ID:	Run ID: SV150929-4	Prep Date: 9/24/2015					DF: 1				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
NAPHTHALENE	1.52	0.1	2		76	39-102		1.41	8	20	
2-METHYLNAPHTHALENE	1.54	0.1	2		77	46-104		1.43	7	20	
1-METHYLNAPHTHALENE	1.59	0.1	2		80	60-100		1.44	10	20	
ACENAPHTHYLENE	1.36	0.1	2		68	50-107		1.21	12	20	
ACENAPHTHENE	1.59	0.1	2		80	47-108		1.43	11	20	
FLUORENE	1.59	0.1	2		79	50-112		1.39	13	20	
PHENANTHRENE	1.59	0.1	2		79	51-117		1.47	7	20	
ANTHRACENE	1.41	0.1	2		71	54-112		1.28	10	20	
FLUORANTHENE	1.51	0.1	2		75	54-116		1.38	9	20	
PYRENE	1.56	0.1	2		78	49-128		1.43	8	20	
BENZO(A)ANTHRACENE	1.31	0.1	2		66	56-109		1.24	6	20	
CHRYSENE	1.63	0.1	2		81	55-109		1.5	8	20	
BENZO(B)FLUORANTHENE	1.67	0.1	2		83	46-118		1.57	6	20	
BENZO(K)FLUORANTHENE	1.64	0.1	2		82	45-124		1.46	11	20	
BENZO(A)PYRENE	1.34	0.1	2		67	53-110		1.24	7	20	
INDENO(1,2,3-CD)PYRENE	1.55	0.1	2		78	63-121		1.44	7	20	
DIBENZO(A,H)ANTHRACENE	1.59	0.1	2		80	62-124		1.48	8	20	
BENZO(G,H,I)PERYLENE	1.55	0.1	2		77	38-123		1.47	5	20	
Surr: NITROBENZENE-D5	1.44		2		72	34-111				4	
Surr: 2-FLUOROBIPHENYL	1.58		2		79	21-106				7	
Surr: TERPHENYL-D14	1.71		2		85	33-111				4	

Client: Western Water and Land, Inc.  
 Work Order: 1509367  
 Project: WPX 317B

# QC BATCH REPORT

Batch ID: EX150924-2-1 Instrument ID: HPSV1 Method: SW8270SIM

MB Sample ID: EX150924-2 Units: UG/L Analysis Date: 9/29/2015 11:44  
 Client ID: Run ID: SV150929-4 Prep Date: 9/24/2015 DF: 1

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
NAPHTHALENE	ND	0.1									
2-METHYLNAPHTHALENE	ND	0.1									
1-METHYLNAPHTHALENE	ND	0.1									
ACENAPHTHYLENE	ND	0.1									
ACENAPHTHENE	ND	0.1									
FLUORENE	ND	0.1									
PHENANTHRENE	ND	0.1									
ANTHRACENE	ND	0.1									
FLUORANTHENE	ND	0.1									
PYRENE	ND	0.1									
BENZO(A)ANTHRACENE	ND	0.1									
CHRYSENE	ND	0.1									
BENZO(B)FLUORANTHENE	ND	0.1									
BENZO(K)FLUORANTHENE	ND	0.1									
BENZO(A)PYRENE	ND	0.1									
INDENO(1,2,3-CD)PYRENE	ND	0.1									
DIBENZO(A,H)ANTHRACENE	ND	0.1									
BENZO(G,H,I)PERYLENE	ND	0.1									
Surr: NITROBENZENE-D5	1.42		2		71	34-111					
Surr: 2-FLUOROBIPHENYL	1.59		2		80	21-106					
Surr: TERPHENYL-D14	1.71		2		85	33-111					

The following samples were analyzed in this batch:

1509367-1

Client: Western Water and Land, Inc.  
 Work Order: 1509367  
 Project: WPX 317B

# QC BATCH REPORT

Batch ID: VL150924-3-2 Instrument ID: HPV1 Method: SW8260\_25

LCS		Sample ID: VL150924-3			Units: %REC		Analysis Date: 9/24/2015 12:04				
Client ID:		Run ID: VL150924-3A			Prep Date: 9/24/2015		DF: 1				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
Surr: 4-BROMOFLUOROBENZENE	25.2		25		101	85-115					
Surr: DIBROMOFLUOROMETHANE	24.1		25		97	84-118					
Surr: TOLUENE-D8	25.1		25		100	85-115					
BENZENE	9.24	1	10		92	83-117				20	
TOLUENE	9.12	1	10		91	82-113				20	
ETHYLBENZENE	9.52	1	10		95	81-113				20	
M+P-XYLENE	18.3	1	20		91	82-115				20	
O-XYLENE	9.3	1	10		93	81-115				20	

LCSD		Sample ID: VL150924-3			Units: %REC		Analysis Date: 9/24/2015 12:25				
Client ID:		Run ID: VL150924-3A			Prep Date: 9/24/2015		DF: 1				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
Surr: 4-BROMOFLUOROBENZENE	25.3		25		101	85-115			1		
Surr: DIBROMOFLUOROMETHANE	24.3		25		97	84-118			1		
Surr: TOLUENE-D8	25		25		100	85-115			1		
BENZENE	9.45	1	10		94	83-117		9.24	2	20	
TOLUENE	9.14	1	10		91	82-113		9.12	0	20	
ETHYLBENZENE	9.62	1	10		96	81-113		9.52	1	20	
M+P-XYLENE	18.4	1	20		92	82-115		18.3	0	20	
O-XYLENE	9.43	1	10		94	81-115		9.3	1	20	

MB		Sample ID: VL150924-3			Units: %REC		Analysis Date: 9/24/2015 13:10				
Client ID:		Run ID: VL150924-3A			Prep Date: 9/24/2015		DF: 1				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
Surr: 4-BROMOFLUOROBENZENE	26.4		25		106	85-115					
Surr: DIBROMOFLUOROMETHANE	24		25		96	84-118					
Surr: TOLUENE-D8	25.2		25		101	85-115					
BENZENE	ND	1									
TOLUENE	ND	1									
ETHYLBENZENE	ND	1									
M+P-XYLENE	ND	1									
O-XYLENE	ND	1									
TOTAL XYLENES	ND	1									

Client: Western Water and Land, Inc.  
 Work Order: 1509367  
 Project: WPX 317B

# QC BATCH REPORT

Batch ID: VL150924-3-4 Instrument ID: HPV1 Method: SW8260\_25

LCS		Sample ID: VL150924-6			Units: UG/L			Analysis Date: 9/24/2015 11:01			
Client ID:		Run ID: VL150924-3A			Prep Date: 9/24/2015			DF: 1			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
GASOLINE RANGE ORGANICS	1080	100	1000		108	80-120				20	

LCSD		Sample ID: VL150924-6			Units: UG/L			Analysis Date: 9/24/2015 11:22			
Client ID:		Run ID: VL150924-3A			Prep Date: 9/24/2015			DF: 1			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
GASOLINE RANGE ORGANICS	1030	100	1000		103	80-120		1080	5	20	

MB		Sample ID: VL150924-3			Units: UG/L			Analysis Date: 9/24/2015 13:10			
Client ID:		Run ID: VL150924-3A			Prep Date: 9/24/2015			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: 1509367  
 Project: WPX 317B

# QC BATCH REPORT

Batch ID: **AK150925-1-1** Instrument ID: **NONE** Method: **SM2320B**

LCS		Sample ID: <b>AK150925-1</b>			Units: <b>MG/L</b>		Analysis Date: <b>9/25/2015</b>				
Client ID:		Run ID: <b>AK150925-1A1</b>			Prep Date: <b>9/25/2015</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	98.8	5	100		99	85-115				15	

MB		Sample ID: <b>AK150925-1</b>			Units: <b>MG/L</b>		Analysis Date: <b>9/25/2015</b>				
Client ID:		Run ID: <b>AK150925-1A1</b>			Prep Date: <b>9/25/2015</b>		DF: <b>1</b>				
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:

1509367-1

Client: Western Water and Land, Inc.  
 Work Order: 1509367  
 Project: WPX 317B

# QC BATCH REPORT

Batch ID: IC150923-1-1 Instrument ID: IC-2 Method: EPA300.0

LCS		Sample ID: IC150923-1			Units: MG/L		Analysis Date: 9/23/2015 10:55				
Client ID:		Run ID: IC150923-1A3			Prep Date: 9/23/2015		DF: 1				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
BROMIDE	5.02	0.2	5		100	90-110				15	
CHLORIDE	4.97	0.2	5		99	90-110				15	
FLUORIDE	2.06	0.1	2		103	90-110				15	
NITRATE AS N	4.92	0.2	5		98	90-110				15	
NITRITE AS N	1.9	0.1	2		95	90-110				15	
SULFATE	19.6	1	20		98	90-110				15	

MB		Sample ID: IC150923-1			Units: MG/L		Analysis Date: 9/23/2015 11:10				
Client ID:		Run ID: IC150923-1A3			Prep Date: 9/23/2015		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:

Client: Western Water and Land, Inc.  
 Work Order: 1509367  
 Project: WPX 317B

# QC BATCH REPORT

Batch ID: **PH150924-1-1** Instrument ID: **pH-1** Method: **SM4500-H**

CCV		Sample ID: <b>CCV1</b>			Units: <b>pH</b>		Analysis Date: <b>9/24/2015</b>				
Client ID:		Run ID: <b>PH150924-1A1</b>			Prep Date: <b>9/24/2015</b>		DF: <b>1</b>				
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					

ICV		Sample ID: <b>ICV1</b>			Units: <b>pH</b>		Analysis Date: <b>9/24/2015</b>				
Client ID:		Run ID: <b>PH150924-1A1</b>			Prep Date: <b>9/24/2015</b>		DF: <b>1</b>				
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			6.95-7.05					

The following samples were analyzed in this batch:

1509367-1
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Client: Western Water and Land, Inc.  
 Work Order: 1509367  
 Project: WPX 317B

# QC BATCH REPORT

Batch ID: **SC150924-1-1** Instrument ID: **pH-2** Method: **SM2510B**

CCV	Sample ID: <b>CCV1</b>				Units: <b>umhos/cm</b>	Analysis Date: <b>9/24/2015</b>					
Client ID:		Run ID: <b>SC150924-1A1</b>				Prep Date: <b>9/24/2015</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	1400	1	1410		99	71.7-1554					

ICV	Sample ID: <b>ICV1</b>				Units: <b>umhos/cm</b>	Analysis Date: <b>9/24/2015</b>					
Client ID:		Run ID: <b>SC150924-1A1</b>				Prep Date: <b>9/24/2015</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	714	1	718		99	46.2-789.7					

The following samples were analyzed in this batch:

1509367-1
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**Client:** Western Water and Land, Inc.  
**Work Order:** 1509367  
**Project:** WPX 317B

## QC BATCH REPORT

Batch ID: **TD150926-1-1**      Instrument ID: **Balance**      Method: **SM2540C**

LCS	Sample ID: <b>TD150926-1</b>					Units: <b>MG/L</b>	Analysis Date: <b>9/28/2015</b>				
Client ID:		Run ID: <b>TD150928-1A1</b>					Prep Date: <b>9/25/2015</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 DISSOLVED SOLIDS	405	20	400		101	85-115				5	

MB	Sample ID: <b>TD150926-1</b>					Units: <b>MG/L</b>	Analysis Date: <b>9/28/2015</b>				
Client ID:		Run ID: <b>TD150928-1A1</b>					Prep Date: <b>9/25/2015</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 DISSOLVED SOLIDS	ND	20									

**The following samples were analyzed in this batch:**