1503069

GC/MS Volatiles:
The sample was analyzed using GC/MS following the current revision of SOP 525 based on SW-846 Method 8260C.

All acceptance criteria were met.

Dissolved Gasses:
The sample was prepared and analyzed according to method RSK-175 procedures and the current revision of SOP 449.

All acceptance criteria were met.

GRO:
The sample was analyzed following the current revision of SOP 425 generally based on SW-846 Methods 8000C and 8015D. The procedures are based on these methods because SW-846 does not have a specific method for TVPH or gasoline range organics. The only true modification from these methods is that TVPH is a multicomponent mixture and is quantitated by summing the entire range, rather than individual peaks. The carbon range integrated in this test extends from C_6 to C_{10}.

All acceptance criteria were met.

DRO:
The sample was analyzed following the current revision of SOP 406 generally based on SW-846 Method 8000C and Method 8015D. The procedures are based on this general method because SW-846 does not have a specific method for total extractable petroleum hydrocarbons (TEPH) or diesel range organics. The only true modification from this method is that TEPH is a multicomponent mixture and is quantitated by summing the entire range, rather than individual peaks.

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 “U” 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 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.

All acceptance criteria were met.

Inorganics:
The sample was analyzed following MCAWW, 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	365.2	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.

ALS Environmental -- FC

Sample Number(s) Cross-Reference Table

OrderNum: 1503069
Client Name: Western Water and Land, Inc.
Client Project Name: BWQ RU 11-7
Client Project Number:
Client PO Number:

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
Yellow Jacket Spg	1503069-1		WATER	05-Mar-15	8:40

ALS Laboratory Group

225 Commerce Drive, Fort Collins, Colorado 80524
TF: (800) 443-1511 PH: (970) 490-1511 FX: (970) 490-1522

Chain-of-Custody

Form 202r8

WORKORDER # 1503069

PAGE 1 of 1

DISPOSAL: By Lab or Return to Client

SAMPLER	Nick Solawetz	DATE	3-5-15
PROJECT NAME	BWD: RU 11-7	PROJECT NO.	
FACILITY NAME		EDD FORMAT	
FACILITY ID (API)		PURCHASE ORDER	
COMPANY NAME	Western Water & Land, Inc.	BILL TO COMPANY	WPX Energy
SEND REPORT TO	Bruce Smith	INVOICE ATTN TO	Mike Shoemaker
ADDRESS	743 Horizon Court, Suite 330	ADDRESS	1058 CR 215
CITY / STATE / ZIP	Grand Junction, CO 81506	CITY / STATE / ZIP	Parachute, CO 81635
PHONE	(970) 242-0170	PHONE	(970) 250-5778
FAX		FAX	
E-MAIL	bsmith@westernwaterandland.com	E-MAIL	mike.shoemaker@wpxenergy.com
TURNAROUND			Standard

Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC	NG1	BART	BTEX/GRO	DRO	Dissolved Metals, lab filtered	Anions, Alk, TDS, pH, SpC	Total Phosphorus	Dissolved gases - HCl preserved	Dissolved gases - unpreserved
(1)	Yellow Jacket Spg	~~SW~~ 3-5-15	3-5-15	0840	~~16~~	~~1:3~~	1X	1	1	6	3	1	1	1	2	

Field Parameters

Yellow Jacket Spg	Temp (°C)	1.92	DO (%)	30.6	SpC (uS/cm)	641	Turb (NTUs)	0.21		
	pH (s.u.)	6.78	DO (mg/L)	4.12	ORP (mv)	-3.0	Disch (gpm)			
	Temp (°C)		DO (%)		SpC (uS/cm)		Turb (NTUs)			
	pH (s.u.)		DO (mg/L)		ORP (mv)		Disch (gpm)			

*Time Zone (Circle): EST CST MST PST Matrix: O = oil S = soil NS = non-soil solid W = water L = liquid E = extract F = filter

For metals or anions, please detail analytes below.

Comments: Unable to invert VOAs; Used Preserved VOAs.

QC PACKAGE (check below)	
	LEVEL II (Standard QC)
	LEVEL III (Std QC + forms)
X	LEVEL IV (Std QC + forms + raw data)

Preservative Key: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-NaHSO4 7-Other 8-4 degrees C 9-5035

	SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY	S. Kipp	Shelby Kipp	3-5-15	1100
RECEIVED BY	W.M.	W.M.	3-5-15	1130
RELINQUISHED BY			3-5-15	1150
RECEIVED BY	Erin Peterson	Erin Peterson	3/6/15	1050
RELINQUISHED BY				
RECEIVED BY				

ALS Environmental - Fort Collins

CONDITION OF SAMPLE UPON RECEIPT FORM

Client: Western Water Workorder No: 1503069

Project Manager: ARW Initials: ECP Date: 3/6/15

1.	Does this project require any special handling in addition to standard ALS procedures?		YES	(NO)
2.	Are custody seals on shipping containers intact?	NONE	(YES)	NO
3.	Are Custody seals on sample containers intact?	(NONE)	YES	NO
4.	Is there a COC (Chain-of-Custody) present or other representative documents?		(YES)	NO
5.	Are the COC and bottle labels complete and legible?		(YES)	NO
6.	Is the COC in agreement with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)		(YES)	NO
7.	Were airbills / shipping documents present and/or removable?	DROP OFF	(YES)	NO
8.	Are all aqueous samples requiring preservation preserved correctly? (excluding volatiles)	N/A	(YES)	NO
9.	Are all aqueous non-preserved samples pH 4-9?	N/A	(YES)	NO
10.	Is there sufficient sample for the requested analyses?		(YES)	NO
11.	Were all samples placed in the proper containers for the requested analyses?		(YES)	NO
12.	Are all samples within holding times for the requested analyses?		(YES)	NO
13.	Were all sample containers received intact? (not broken or leaking, etc.)		(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	(YES)	NO
15.	Do any water samples contain sediment? Amount Amount of sediment: ____ dusting ____ moderate ____ heavy	N/A	YES	(NO)
16.	Were the samples shipped on ice?		(YES)	NO
17.	Were cooler temperatures measured at 0.1-6.0°C? IR gun used*: #2 (#4)	RAD ONLY	(YES)	NO

Cooler #: 1

Temperature (°C): 0.6°

No. of custody seals on cooler: 1

DOT Survey/ Acceptance Information

External µR/hr reading: 11

Background µR/hr reading: 12

Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? (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.

If applicable, was the client contacted? YES / NO / (NA) Contact: _____ Date/Time: _____

Project Manager Signature / Date: 3/6/15

*IR Gun #2: Oakton, SN 29922500201-0066
*IR Gun #4: Oakton, SN 2372220101-0002

1503069

From: (616) 298-1033
Nick Martinez
ALS Environmental
127 E. 1st Street

PARACHUTE, CO 81635
US

FedEx Ground

Ship Date: 05MAR15
ActWgt: 44.0 LB
CAD: 2264840/INET3610

Dims: 24 X 15 X 15 IN

Ref # 030515-1
Invoice #
PO # Parachute
Dept #
Ship ID

SHIP TO: (970) 490-1511 BILL RECIPIENT

Sample receiving
ALS Laboratory Group

225 Commerce Drive

FORT COLLINS, CO 80524
US

TRK# **7730 5826 0446**

80524

9622 0422 1 (000 041 4790) 1 00 7730 5826 0446

0.6°

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: IMPORTANT: TRANSMIT YOUR SHIPPING DATA AND PRINT A MANIFEST:
At the end of each shipping day, you should perform the FedEx Ground End of Day Close procedure to transmit your shipping data to FedEx. To do so, click on the Ground End of Day Close Button. If required, print the pickup manifest that appears. A printed manifest is required to be tendered along with your packages if they are being picked up by FedEx Ground. If you are dropping your packages off at a FedEx drop off location, the manifest is not required.
Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide and applicable tariff, available upon request. FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations, including limitations on our liability, can be found in the current FedEx Service Guide and applicable tariff apply. In no event shall FedEx Ground be liable for any special, incidental, or consequential damages, including, without limitation, loss of profit, loss to the intrinsic value of the package, loss of sale, interest income or attorney's fees. Recovery cannot exceed actual documented loss. Items of extraordinary value are subject to separate limitations of liability set forth in the Service Guide and tariff. Written claims must be filed within strict time limits, see current FedEx Service Guide.

Client: Western Water and Land, Inc. **Date:** *18-Mar-15*
Project: BWQ RU 11-7 **Work Order:** 1503069
Sample ID: Yellow Jacket Spg **Lab ID:** 1503069-1
Legal Location: **Matrix:** WATER
Collection Date: 3/5/2015 08:40 **Percent Moisture:**

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	MDL	Date Analyzed
ALKALINITY AS CALCIUM CARBONATE			**SM2320B**		Prep Date: **3/10/2015**		PrepBy: **JAC**
BICARBONATE AS CaCO3	**310**		**20**	**MG/L**	1		3/10/2015
CARBONATE AS CaCO3	ND		20	MG/L	1		3/10/2015
TOTAL ALKALINITY AS CaCO3	**310**		**20**	**MG/L**	1		3/10/2015
BIOLOGICAL ACTIVITY REACTION TEST			**BART**		Prep Date: **3/9/2015**		PrepBy: **CDR**
IRON RELATED BACTERIA	**35000**		**1**	**cfu/ml**	1		3/17/2015
SLIME FORMING BACTERIA	**66500**		**1**	**cfu/ml**	1		3/17/2015
SULFATE REDUCING BACTERIA	**1200**		**1**	**cfu/ml**	1		3/17/2015
DIESEL RANGE ORGANICS			**SW8015M**		Prep Date: **3/9/2015**		PrepBy: **TWK**
Diesel Range Organics	ND		0.5	MG/L	1	0.15	3/10/2015 03:10
Surr: O-TERPHENYL	*108*		*54-123*	*%REC*	1		3/10/2015 03:10
DISSOLVED GASSES			**RSK175**		Prep Date: **3/13/2015**		PrepBy: **JFN**
METHANE	ND		1	UG/L	1	1	3/13/2015 12:55
ETHANE	ND		2	UG/L	1	2	3/13/2015 12:55
PROPANE	ND		1	UG/L	1	1	3/13/2015 12:55
GASOLINE RANGE ORGANICS			**SW8015**		Prep Date: **3/9/2015**		PrepBy: **TWK**
GASOLINE RANGE ORGANICS	ND		0.1	MG/L	1	0.01	3/9/2015 15:38
Surr: 2,3,4-TRIFLUOROTOLUENE	*98*		*74-129*	*%REC*	1		3/9/2015 15:38
GC/MS VOLATILES			**SW8260_25**		Prep Date: **3/9/2015**		PrepBy: **SDW**
BENZENE	ND		1	UG/L	1	0.3	3/9/2015 17:55
TOLUENE	ND		1	UG/L	1	0.3	3/9/2015 17:55
ETHYLBENZENE	ND		1	UG/L	1	0.3	3/9/2015 17:55
M+P-XYLENE	ND		1	UG/L	1	0.3	3/9/2015 17:55
O-XYLENE	ND		1	UG/L	1	0.3	3/9/2015 17:55
TOTAL XYLENES	ND		1	UG/L	1		3/9/2015 17:55
Surr: 4-BROMOFLUOROBENZENE	*113*		*85-115*	*%REC*	1		3/9/2015 17:55
Surr: DIBROMOFLUOROMETHANE	*97*		*84-118*	*%REC*	1		3/9/2015 17:55
Surr: TOLUENE-D8	*96*		*85-115*	*%REC*	1		3/9/2015 17:55
ION CHROMATOGRAPHY			**EPA300.0**		Prep Date: **3/6/2015**		PrepBy: **AJD**
BROMIDE	**0.1**	J	**0.2**	**MG/L**	1	0.06	3/6/2015 16:44
CHLORIDE	**9.9**		**0.2**	**MG/L**	1	0.062	3/6/2015 16:44
FLUORIDE	**0.19**		**0.1**	**MG/L**	1	0.03	3/6/2015 16:44
NITRATE/NITRITE AS N	**0.15**	J	**0.1**	**MG/L**	1		3/6/2015 16:44
NITRATE AS N	**0.15**	J	**0.2**	**MG/L**	1	0.06	3/6/2015 16:44
NITRITE AS N	ND		0.1	MG/L	1	0.03	3/6/2015 16:44
SULFATE	**10**		**1**	**MG/L**	1	0.3	3/6/2015 16:44
METALS BY 200.8			**EPA200.8**		Prep Date: **3/9/2015**		PrepBy: **CDR**
BARIUM	**0.1**		**0.001**	**MG/L**	10	0.00035	3/10/2015 15:02
BORON	**0.019**	J	**0.05**	**MG/L**	10	0.008	3/10/2015 15:02
CALCIUM	**90**		**1**	**MG/L**	10	0.076	3/10/2015 15:02
IRON	**0.013**	J	**0.1**	**MG/L**	10	0.012	3/10/2015 15:02

Client: Western Water and Land, Inc. **Date:** *18-Mar-15*
Project: BWQ RU 11-7 **Work Order:** 1503069
Sample ID: Yellow Jacket Spg **Lab ID:** 1503069-1
Legal Location: **Matrix:** WATER
Collection Date: 3/5/2015 08:40 **Percent Moisture:**

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	MDL	Date Analyzed
MAGNESIUM	**18**		**0.1**	**MG/L**	10	0.035	3/10/2015 15:02
MANGANESE	**0.66**		**0.002**	**MG/L**	10	0.00052	3/10/2015 15:02
POTASSIUM	**1.4**		**1**	**MG/L**	10	0.15	3/10/2015 15:02
SELENIUM	**0.0016**		**0.001**	**MG/L**	10	0.00068	3/10/2015 15:02
SODIUM	**13**		**1**	**MG/L**	10	0.13	3/10/2015 15:02
STRONTIUM	**0.42**		**0.001**	**MG/L**	10	0.00036	3/10/2015 15:02
PH			**SM4500-H**		Prep Date: **3/9/2015**		PrepBy: **AJD**
PH	**7.4**		**0.1**	**pH**	1		3/9/2015
SPECIFIC CONDUCTANCE IN WATER			**SM2510B**		Prep Date: **3/9/2015**		PrepBy: **AJD**
SPECIFIC CONDUCTIVITY	**609**		**1**	**umhos/cm**	1		3/9/2015
TOTAL DISSOLVED SOLIDS			**SM2540C**		Prep Date: **3/9/2015**		PrepBy: **JAC**
TOTAL DISSOLVED SOLIDS	**360**		**20**	**MG/L**	1		3/10/2015
TOTAL PHOSPHORUS AS P			**EPA365.2**		Prep Date: **3/13/2015**		PrepBy: **AJD**
TOTAL PHOSPHORUS	**0.13**		**0.05**	**MG/L**	1	0.015	3/13/2015

Client:	Western Water and Land, Inc.	**Date:**	*18-Mar-15*
Project:	BWQ RU 11-7	**Work Order:**	1503069
Sample ID:	Yellow Jacket Spg	**Lab ID:**	1503069-1
Legal Location:		**Matrix:**	WATER
Collection Date:	3/5/2015 08:40	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	MDL	Date Analyzed

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

Batch ID: **HC150309-6-1** Instrument ID **FUELS-1** Method: **SW8015**

LCS Sample ID: **HC150309-6** Units: **MG/L** Analysis Date: **3/9/2015 13:12**

Client ID: Run ID: **HC150309-6A** Prep Date: **3/9/2015** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
GASOLINE RANGE ORGANICS	0.494	0.1	0.5		99	79-118				20	
Surr: 2,3,4-TRIFLUOROTOLUENE	0.112		0.1		112	74-129					

LCSD Sample ID: **HC150309-6** Units: **MG/L** Analysis Date: **3/9/2015 15:58**

Client ID: Run ID: **HC150309-6A** Prep Date: **3/9/2015** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
GASOLINE RANGE ORGANICS	0.505	0.1	0.5		101	79-118		0.494	2	20	
Surr: 2,3,4-TRIFLUOROTOLUENE	0.107		0.1		107	74-129			5		

MB Sample ID: **HC150309-6** Units: **MG/L** Analysis Date: **3/9/2015 13:33**

Client ID: Run ID: **HC150309-6A** Prep Date: **3/9/2015** 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	0.1									
Surr: 2,3,4-TRIFLUOROTOLUENE	0.0992		0.1		99	74-129					

The following samples were analyzed in this batch: 1503069-1

QC BATCH REPORT

Batch ID: **EX150309-18-1** Instrument ID **FUELS-1** Method: **SW8015M**

LCS Sample ID: **EX150309-8** Units: **MG/L** Analysis Date: **3/9/2015 22:58**

Client ID: Run ID: **HC150309-8A** Prep Date: **3/9/2015** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
Diesel Range Organics	5.35	0.504	5.6		95	36-150				20	
Surr: O-TERPHENYL	0.293		0.28		105	54-123					

LCSD Sample ID: **EX150309-8** Units: **MG/L** Analysis Date: **3/9/2015 23:34**

Client ID: Run ID: **HC150309-8A** Prep Date: **3/9/2015** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
Diesel Range Organics	5.03	0.496	5.51		91	36-150		5.35	6	20	
Surr: O-TERPHENYL	0.269		0.275		98	54-123			8		

MB Sample ID: **EX150309-8** Units: **MG/L** Analysis Date: **3/9/2015 21:47**

Client ID: Run ID: **HC150309-8A** Prep Date: **3/9/2015** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
Diesel Range Organics	ND	0.5									
Surr: O-TERPHENYL	0.291		0.279		104	54-123					

The following samples were analyzed in this batch: 1503069-1

Client: Western Water and Land, Inc.
Work Order: 1503069
Project: BWQ RU 11-7

QC BATCH REPORT

Batch ID: **HC150313-9-1** Instrument ID **MEE-1** Method: **RSK175**

LCS Sample ID: **HC150313-9** Units: **UG/L** Analysis Date: **3/13/2015 12:36**
Client ID: Run ID: **HC150313-9AA** Prep Date: **3/13/2015** 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	80-120				25	
ETHANE	247	2	267		92	80-120				25	
PROPANE	347	1	391		89	80-120				25	

LCSD Sample ID: **HC150313-9** Units: **UG/L** Analysis Date: **3/13/2015 13:59**
Client ID: Run ID: **HC150313-9AA** Prep Date: **3/13/2015** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
METHANE	125	1	142		88	80-120		127	2	25	
ETHANE	236	2	267		89	80-120		247	4	25	
PROPANE	324	1	391		83	80-120		347	7	25	

MB Sample ID: **HC150313-9** Units: **UG/L** Analysis Date: **3/13/2015 12:42**
Client ID: Run ID: **HC150313-9AA** Prep Date: **3/13/2015** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
METHANE	ND	1									
ETHANE	ND	2									
PROPANE	ND	1									

The following samples were analyzed in this batch: 1503069-1

QC BATCH REPORT

Batch ID: **IP150309-1-8** Instrument ID **ICPMS2** Method: **EPA200.8**

LCS Sample ID: **FM150309-1** Units: **MG/L** Analysis Date: **3/10/2015 14:08**

Client ID: Run ID: **IM150310-10A7** Prep Date: **3/9/2015** DF: **10**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
BARIUM	0.101	0.001	0.1		101	85-115				20	
BORON	0.906	0.05	1		91	85-115				20	
CALCIUM	9.57	1	10		96	85-115				20	
IRON	5.02	0.1	5		100	85-115				20	
MAGNESIUM	9.59	0.1	10		96	85-115				20	
MANGANESE	0.101	0.002	0.1		101	85-115				20	
POTASSIUM	4.83	1	5		97	85-115				20	
SELENIUM	0.106	0.001	0.1		106	85-115				20	
SODIUM	9.71	1	10		97	85-115				20	
STRONTIUM	0.102	0.001	0.1		102	85-115				20	

MB Sample ID: **FP150309-1** Units: **MG/L** Analysis Date: **3/10/2015 13:59**

Client ID: Run ID: **IM150310-10A7** Prep Date: **3/9/2015** DF: **10**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
BARIUM	ND	0.001									
BORON	ND	0.05									
CALCIUM	ND	1									
IRON	ND	0.1									
MAGNESIUM	ND	0.1									
MANGANESE	ND	0.002									
POTASSIUM	0.2	1									J
SELENIUM	ND	0.001									
SODIUM	ND	1									
STRONTIUM	ND	0.001									

The following samples were analyzed in this batch: 1503069-1

Batch ID: **VL150309-3-2** Instrument ID **HPV1** Method: **SW8260_25**

LCS Sample ID: **VL150309-3** Units: **%REC** Analysis Date: **3/9/2015 10:59**

Client ID: Run ID: **VL150309-3A** Prep Date: **3/9/2015** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
Surr: 4-BROMOFLUOROBENZENE	26.5		25		106	85-115					
Surr: DIBROMOFLUOROMETHANE	24.3		25		97	84-118					
Surr: TOLUENE-D8	24		25		96	85-115					
BENZENE	10.5	1	10		105	83-117				20	
TOLUENE	10.3	1	10		103	82-113				20	
ETHYLBENZENE	10.5	1	10		105	81-113				20	
M+P-XYLENE	20	1	20		100	82-115				20	
O-XYLENE	10.1	1	10		101	81-115				20	

LCSD Sample ID: **VL150309-3** Units: **%REC** Analysis Date: **3/9/2015 11:20**

Client ID: Run ID: **VL150309-3A** Prep Date: **3/9/2015** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
Surr: 4-BROMOFLUOROBENZENE	26.7		25		107	85-115			1		
Surr: DIBROMOFLUOROMETHANE	24.7		25		99	84-118			2		
Surr: TOLUENE-D8	24.2		25		97	85-115			1		
BENZENE	10.2	1	10		102	83-117		10.5	2	20	
TOLUENE	9.89	1	10		99	82-113		10.3	4	20	
ETHYLBENZENE	10.1	1	10		101	81-113		10.5	4	20	
M+P-XYLENE	19.5	1	20		97	82-115		20	3	20	
O-XYLENE	9.86	1	10		99	81-115		10.1	2	20	

MB Sample ID: **VL150309-3** Units: **%REC** Analysis Date: **3/9/2015 12:28**

Client ID: Run ID: **VL150309-3A** Prep Date: **3/9/2015** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
Surr: 4-BROMOFLUOROBENZENE	28.1		25		112	85-115					
Surr: DIBROMOFLUOROMETHANE	24.5		25		98	84-118					
Surr: TOLUENE-D8	24		25		96	85-115					
BENZENE	ND	1									
TOLUENE	ND	1									
ETHYLBENZENE	ND	1									
M+P-XYLENE	ND	1									
O-XYLENE	ND	1									
TOTAL XYLENES	ND	1									

The following samples were analyzed in this batch: 1503069-1

QC BATCH REPORT

Batch ID: **AK150310-1-1** Instrument ID **Balance** Method: **SM2320B**

LCS Sample ID: **AK150310-1** Units: **MG/L** Analysis Date: **3/10/2015**

Client ID: Run ID: **AK150310-1A1** Prep Date: **3/10/2015** 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	

MB Sample ID: **AK150310-1** Units: **MG/L** Analysis Date: **3/10/2015**

Client ID: Run ID: **AK150310-1A1** Prep Date: **3/10/2015** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
BICARBONATE AS CaCO3	ND	5									
CARBONATE AS CaCO3	ND	5									
TOTAL ALKALINITY AS CaCO3	ND	5									

The following samples were analyzed in this batch: 1503069-1

QC BATCH REPORT

Batch ID: **IC150306-1-2** Instrument ID **IC** Method: **EPA300.0**

LCS Sample ID: **IC150306-1** Units: **MG/L** Analysis Date: **3/6/2015 15:33**

Client ID: Run ID: **IC150306-1A3** Prep Date: **3/6/2015** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
BROMIDE	5.06	0.2	5		101	90-110				15	
CHLORIDE	4.93	0.2	5		99	90-110				15	
FLUORIDE	1.91	0.1	2		96	90-110				15	
NITRATE AS N	4.92	0.2	5		98	90-110				15	
NITRITE AS N	1.96	0.1	2		98	90-110				15	
SULFATE	19.4	1	20		97	90-110				15	

MB Sample ID: **IC150306-1** Units: **MG/L** Analysis Date: **3/6/2015 15:48**

Client ID: Run ID: **IC150306-1A3** Prep Date: **3/6/2015** 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: 1503069-1

QC BATCH REPORT

Batch ID: **PH150309-1-1** Instrument ID **pH-1** Method: **SM4500-H**

CCV Sample ID: **CCV1** Units: **pH** Analysis Date: **3/9/2015**

Client ID: Run ID: **PH150309-1A1** Prep Date: **3/9/2015** DF: **1**

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

ICV Sample ID: **ICV** Units: **pH** Analysis Date: **3/9/2015**

Client ID: Run ID: **PH150309-1A1** Prep Date: **3/9/2015** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
PH	7	0.1	7			6.95-7.05					

The following samples were analyzed in this batch: 1503069-1

QC BATCH REPORT

Batch ID: **SC150309-1-1** Instrument ID **pH-2** Method: **SM2510B**

CCV Sample ID: **CCV1** Units: **umhos/cm** Analysis Date: **3/9/2015**
Client ID: Run ID: **SC150309-1A1** Prep Date: **3/9/2015** 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	?71.7-1554					

ICV Sample ID: **ICV** Units: **umhos/cm** Analysis Date: **3/9/2015**
Client ID: Run ID: **SC150309-1A1** Prep Date: **3/9/2015** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
SPECIFIC CONDUCTIVITY	716	1	718		100	646.2-789.7					

The following samples were analyzed in this batch: 1503069-1

QC BATCH REPORT

Batch ID: **TD150309-1-1** Instrument ID **Balance** Method: **SM2540C**

LCS Sample ID: **TD150309-1** Units: **MG/L** Analysis Date: **3/10/2015**

Client ID: Run ID: **TD150310-1A1** Prep Date: **3/9/2015** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
TOTAL DISSOLVED SOLIDS	409	20	400		102	85-115				5	

MB Sample ID: **TD150309-1** Units: **MG/L** Analysis Date: **3/10/2015**

Client ID: Run ID: **TD150310-1A1** Prep Date: **3/9/2015** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
TOTAL DISSOLVED SOLIDS	ND	20									

The following samples were analyzed in this batch: 1503069-1

Client: Western Water and Land, Inc.
Work Order: 1503069
Project: BWQ RU 11-7

QC BATCH REPORT

Batch ID: **TP150313-1-2** Instrument ID **Spec** Method: **EPA365.2**

LCS Sample ID: **TP150313-1** Units: **MG/L** Analysis Date: **3/13/2015**

Client ID: Run ID: **TP150313-1A2** Prep Date: **3/13/2015** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
TOTAL PHOSPHORUS	0.519	0.05	0.5		104	80-120				20	

MB Sample ID: **TP150313-1** Units: **MG/L** Analysis Date: **3/13/2015**

Client ID: Run ID: **TP150313-1A2** Prep Date: **3/13/2015** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
TOTAL PHOSPHORUS	ND	0.05									

The following samples were analyzed in this batch: 1503069-1