1311394 Case Narrative

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.

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 with the following exception:

The sample had a pH > 2 at the time of analysis.

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.

BART:
The Biological Activity Reaction Test was completed with the Iron-Related Bacteria, Sulfate-Reducing Bacteria, and Slime-Forming Bacteria kit manufactured by Hach Company. The analysis was performed following the manufacturer provided instructions. If the target analyte is not detected (absent), then the sample will be reported with “ND” in the result field and a “U” flag. If the target analyte is detected (present), then the sample will be reported with a “1” for a result without a flag.

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 two prior to analysis.

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
Specific conductance	SM2510B	1128
Total phosphorus	365.2	1119
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: 1311394
Client Name: Western Water and Land, Inc.
Client Project Name: SG 44-23 BWQ
Client Project Number:
Client PO Number:

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
Palmer-276-703	1311394-1		WATER	20-Nov-13	15:56

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 # 1311344

PAGE 1 of 1

DISPOSAL (By Lab) or Return to Client

PROJECT NAME	SG 44-23 BWG	SAMPLER	NWS
FACILITY NAME	SG 44-23	PROJECT NO.	
FACILITY ID (API)		EDD FORMAT	
COMPANY NAME	Western Water + Land	PURCHASE ORDER	
SEND REPORT TO	Bruce Smith	BILL TO COMPANY	WPX Energy
ADDRESS	743 Horizon Ct. Suite 330	INVOICE ATTN TO	Brandon Dunforth
CITY / STATE / ZIP	Grand Junction, CO 81506	ADDRESS	1058 CR 215
PHONE	970-242-0170	CITY / STATE / ZIP	Parachute, CO 81635
FAX		PHONE	970-263-2792
E-MAIL	bsmith@westernwaterandland.com	FAX	
		E-MAIL	

DATE 11-20-13

TURNAROUND Standard

Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC	NGL	BART	BTEX	GRO	Dis. Gasses MEP	DRO	Dis. Metals	Lab Filter	Anions, Alk, TDS, pH, Cond.	Total Phosphorus
(1)	Palmer-276-703	W	11-20-13	1550	15	1,3	IV	1	1	1	1	1	1	1		1	1
	~~Lantz-26S-250~~	~~W~~	~~11-20-13~~		~~15~~	1,3	IV	1	1	1	1	1	1	1		1	1

*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: Dis. Metals Lab Filtered

4 of 19

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		Shelby Goodwin	11-2013	1630
RECEIVED BY		Jacob Roddy	11/21/13	1110
RELINQUISHED BY				
RECEIVED BY				
RELINQUISHED BY				
RECEIVED BY				

ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: Western Water Workorder No: 1311394

Project Manager: ARW Initials: JLR Date: 11/21/13

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):	1°							
No. of custody seals on cooler:	2							
DOT Survey/ Acceptance Information — External µR/hr reading:	11							
Background µR/hr reading:	10							

Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? (YES) / NO / NA (If no, see Form 008.)

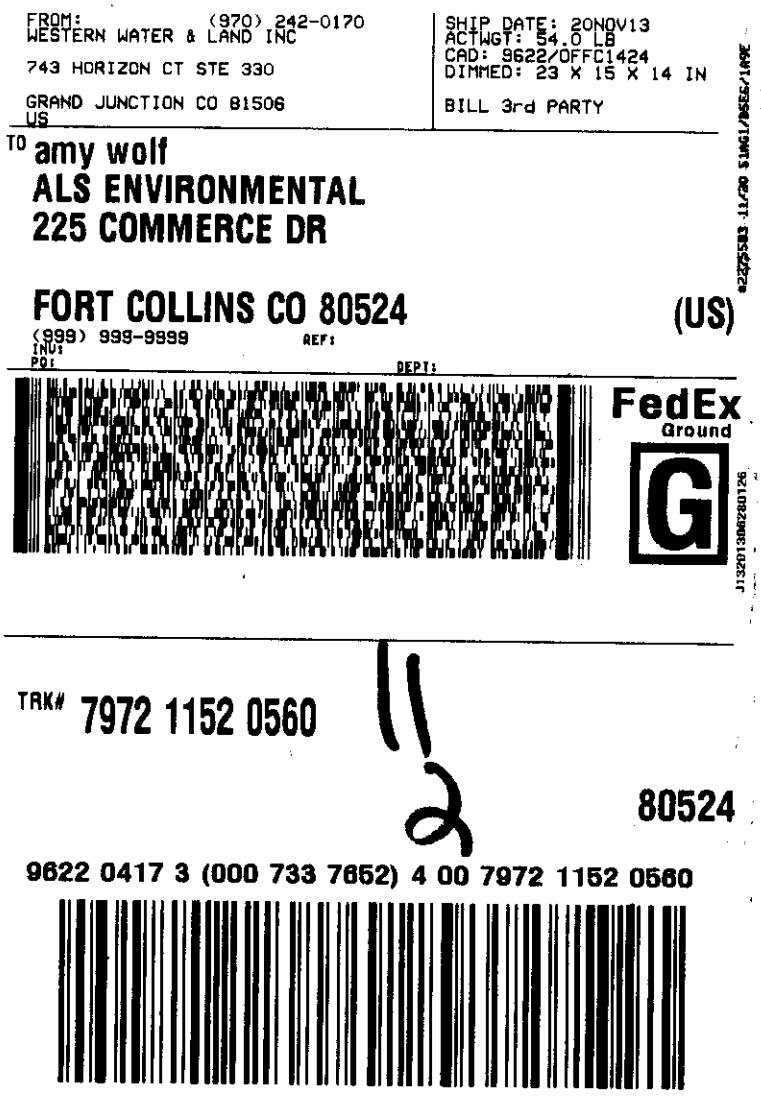
Additional Information: PROVIDE DETAILS BELOW FOR A NO RESPONSE TO ANY QUESTION ABOVE, EXCEPT #1 AND #16.

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

Project Manager Signature / Date: 11/21/13

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

311394



FROM:
(970) 242-0170
WESTERN WATER & LAND INC
743 HORIZON CT STE 330
GRAND JUNCTION CO 81506
US

SHIP DATE: 20NOV13
ACTWGT: 54.0 LB
CAD: 9622/OFFC1424
DIMMED: 23 X 15 X 14 IN
BILL 3rd PARTY

TO amy wolf
ALS ENVIRONMENTAL
225 COMMERCE DR

FORT COLLINS CO 80524 (US)
(999) 999-9999 REF:
INV:
PO: DEPT:

FedEx Ground

TRK# 7972 1152 0560

80524

9622 0417 3 (000 733 7652) 4 00 7972 1152 0560

Temp = 1°C

Client: Western Water and Land, Inc. **Date:** *30-Nov-13*
Project: SG 44-23 BWQ **Work Order:** 1311394
Sample ID: Palmer-276-703 **Lab ID:** 1311394-1
Legal Location: **Matrix:** WATER
Collection Date: 11/20/2013 15:56 **Percent Moisture:**

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
ALKALINITY AS CALCIUM CARBONATE			**SM2320B**		Prep Date: **11/25/2013**	PrepBy: **KMP**
BICARBONATE AS CaCO3	**510**		**20**	**MG/L**	1	11/25/2013
CARBONATE AS CaCO3	ND		20	MG/L	1	11/25/2013
TOTAL ALKALINITY AS CaCO3	**510**		**20**	**MG/L**	1	11/25/2013
BIOLOGICAL ACTIVITY REACTION TEST			**BART**		Prep Date: **11/22/2013**	PrepBy: **BAS**
IRON RELATED BACTERIA	**1**		**1**	**NU**	1	11/30/2013
SLIME FORMING BACTERIA	ND		1	NU	1	11/30/2013
SULFATE REDUCING BACTERIA	**1**		**1**	**NU**	1	11/30/2013
DIESEL RANGE ORGANICS			**SW8015M**		Prep Date: **11/22/2013**	PrepBy: **JAC**
Diesel Range Organics	ND		0.47	MG/L	1	11/25/2013 15:34
Surr: O-TERPHENYL	*95*		*54-123*	*%REC*	1	11/25/2013 15:34
DISSOLVED GASSES			**RSK175**		Prep Date: **11/22/2013**	PrepBy: **JFN**
METHANE	**24**		**1**	**UG/L**	1	11/22/2013 16:34
ETHANE	ND		2	UG/L	1	11/22/2013 16:34
PROPANE	ND		1	UG/L	1	11/22/2013 16:34
GC/MS VOLATILES			**SW8260_25**		Prep Date: **11/23/2013**	PrepBy: **SDW**
BENZENE	ND		1	UG/L	1	11/23/2013 16:01
TOLUENE	ND		1	UG/L	1	11/23/2013 16:01
ETHYLBENZENE	ND		1	UG/L	1	11/23/2013 16:01
M+P-XYLENE	ND		1	UG/L	1	11/23/2013 16:01
O-XYLENE	ND		1	UG/L	1	11/23/2013 16:01
GASOLINE RANGE ORGANICS	ND		100	UG/L	1	11/23/2013 16:01
TOTAL XYLENES	ND		1	UG/L	1	11/23/2013 16:01
Surr: DIBROMOFLUOROMETHANE	*99*		*84-118*	*%REC*	1	11/23/2013 16:01
Surr: TOLUENE-D8	*98*		*85-115*	*%REC*	1	11/23/2013 16:01
Surr: 4-BROMOFLUOROBENZENE	*107*		*85-115*	*%REC*	1	11/23/2013 16:01
ION CHROMATOGRAPHY			**EPA300.0**		Prep Date: **11/21/2013**	PrepBy: **AJD**
BROMIDE	ND		1	MG/L	5	11/21/2013 21:51
CHLORIDE	**120**		**10**	**MG/L**	50	11/21/2013 22:05
FLUORIDE	**0.63**		**0.5**	**MG/L**	5	11/21/2013 21:51
NITRATE/NITRITE AS N	ND		0.1	MG/L	1	11/21/2013 21:51
NITRITE AS N	ND		0.5	MG/L	5	11/21/2013 21:51
NITRATE AS N	ND		1	MG/L	5	11/21/2013 21:51
SULFATE	**170**		**50**	**MG/L**	50	11/21/2013 22:05
METALS BY 200.8			**EPA200.8**		Prep Date: **11/23/2013**	PrepBy: **NAQ**
BARIUM	**28**		**1**	**UG/L**	10	11/25/2013 12:28
BORON	**280**		**50**	**UG/L**	10	11/25/2013 12:28
CALCIUM	**180000**		**1000**	**UG/L**	10	11/25/2013 12:28
IRON	**290**		**100**	**UG/L**	10	11/25/2013 12:28
MAGNESIUM	**160000**		**100**	**UG/L**	10	11/25/2013 12:28
MANGANESE	**350**		**2**	**UG/L**	10	11/25/2013 12:28

Client:	Western Water and Land, Inc.	**Date:**	*30-Nov-13*
Project:	SG 44-23 BWQ	**Work Order:**	1311394
Sample ID:	Palmer-276-703	**Lab ID:**	1311394-1
Legal Location:		**Matrix:**	WATER
Collection Date:	11/20/2013 15:56	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
POTASSIUM	**4200**		**1000**	**UG/L**	10	11/25/2013 12:28
SELENIUM	ND		1	UG/L	10	11/25/2013 12:28
SODIUM	**640000**		**1000**	**UG/L**	10	11/25/2013 12:28
STRONTIUM	**2100**		**1**	**UG/L**	10	11/25/2013 12:28
PH			**SM4500-H**		Prep Date: **11/22/2013**	PrepBy: **KMP**
PH	**7.73**		**0.1**	**pH**	1	11/22/2013
SPECIFIC CONDUCTANCE IN WATER			**SM2510B**		Prep Date: **11/22/2013**	PrepBy: **KMP**
SPECIFIC CONDUCTIVITY	**4290**		**1**	**umhos/cm**	1	11/22/2013
TOTAL DISSOLVED SOLIDS			**SM2540C**		Prep Date: **11/22/2013**	PrepBy: **AJD**
TOTAL DISSOLVED SOLIDS	**3300**		**80**	**MG/L**	1	11/25/2013
TOTAL PHOSPHORUS AS P			**EPA365.2**		Prep Date: **11/24/2013**	PrepBy: **AJD**
TOTAL PHOSPHORUS	ND		0.05	MG/L	1	11/24/2013

Client:	Western Water and Land, Inc.	**Date:**	*30-Nov-13*
Project:	SG 44-23 BWQ	**Work Order:**	1311394
Sample ID:	Palmer-276-703	**Lab ID:**	1311394-1
Legal Location:		**Matrix:**	WATER
Collection Date:	11/20/2013 15:56	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	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.

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.

Diesel Range Organics:

Client:	Western Water and Land, Inc.	**Date:**	*30-Nov-13*
Project:	SG 44-23 BWQ	**Work Order:**	1311394
Sample ID:	Palmer-276-703	**Lab ID:**	1311394-1
Legal Location:		**Matrix:**	WATER
Collection Date:	11/20/2013 15:56	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed

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: **HC131122-9-1** Instrument ID **MEE-1** Method: **RSK175**

DUP Sample ID: **1311394-1** Units: **UG/L** Analysis Date: **11/22/2013 16:38**

Client ID: **Palmer-276-703** Run ID: **HC131122-9A** Prep Date: **11/22/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
METHANE	25	1					24	5	25	
ETHANE	ND	2					2		25	
PROPANE	ND	1					1		25	

LCS Sample ID: **HC131122-9** Units: **UG/L** Analysis Date: **11/22/2013 16:18**

Client ID: Run ID: **HC131122-9A** Prep Date: **11/22/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
METHANE	140	1	142		99	80-120			25	
ETHANE	267	2	267		100	80-120			25	
PROPANE	384	1	391		98	80-120			25	

LCSD Sample ID: **HC131122-9** Units: **UG/L** Analysis Date: **11/22/2013 16:50**

Client ID: Run ID: **HC131122-9A** Prep Date: **11/22/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
METHANE	140	1	142		98	80-120	140	0	25	
ETHANE	261	2	267		98	80-120	267	2	25	
PROPANE	378	1	391		97	80-120	384	2	25	

MB Sample ID: **HC131122-9** Units: **UG/L** Analysis Date: **11/22/2013 16:21**

Client ID: Run ID: **HC131122-9A** Prep Date: **11/22/2013** DF: **1**

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

The following samples were analyzed in this batch: 1311394-1

QC BATCH REPORT

Batch ID: **EX131122-2-1** Instrument ID **FUELS-1** Method: **SW8015M**

LCS Sample ID: **EX131122-2** Units: **MG/L** Analysis Date: **11/25/2013 13:55**
Client ID: Run ID: **HC131125-7A** Prep Date: **11/22/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
Diesel Range Organics	9.6	0.478	11		87	36-150			20	
Surr: O-TERPHENYL	1.27		1.38		92	54-123				

LCSD Sample ID: **EX131122-2** Units: **MG/L** Analysis Date: **11/25/2013 14:20**
Client ID: Run ID: **HC131125-7A** Prep Date: **11/22/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
Diesel Range Organics	9.16	0.475	11		84	36-150	9.6	5	20	
Surr: O-TERPHENYL	1.29		1.37		94	54-123		2		

MB Sample ID: **EX131122-2** Units: **MG/L** Analysis Date: **11/25/2013 13:06**
Client ID: Run ID: **HC131125-7A** Prep Date: **11/22/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
Diesel Range Organics	ND	0.48								
Surr: O-TERPHENYL	1.42		1.37		103	54-123				

The following samples were analyzed in this batch: 1311394-1

QC BATCH REPORT

Batch ID: **IP131123-1-3** Instrument ID **ICPMS2** Method: **EPA200.8**

LCS Sample ID: **FM131123-1** Units: **UG/L** Analysis Date: **11/25/2013 12:04**

Client ID: Run ID: **IM131125-10A3** Prep Date: **11/23/2013** DF: **10**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
BARIUM	98.2	1	100		98	85-115			20	
BORON	932	50	1000		93	85-115			20	
CALCIUM	10500	1000	10000		105	85-115			20	
IRON	5020	100	5000		100	85-115			20	
MAGNESIUM	9320	100	10000		93	85-115			20	
MANGANESE	194	2	200		97	85-115			20	
POTASSIUM	5110	1000	5000		102	85-115			20	
SELENIUM	103	1	100		103	85-115			20	
SODIUM	10000	1000	10000		100	85-115			20	
STRONTIUM	98.2	1	100		98	85-115			20	

MB Sample ID: **FP131123-1** Units: **UG/L** Analysis Date: **11/25/2013 12:00**

Client ID: Run ID: **IM131125-10A3** Prep Date: **11/23/2013** DF: **10**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
BARIUM	ND	1								
BORON	ND	50								
CALCIUM	ND	1000								
IRON	ND	100								
MAGNESIUM	ND	100								
MANGANESE	ND	2								
POTASSIUM	ND	1000								
SELENIUM	ND	1								
SODIUM	ND	1000								
STRONTIUM	ND	1								

The following samples were analyzed in this batch: 1311394-1

Batch ID: **VL131123-3-1** Instrument ID **HPV1** Method: **SW8260_25**

LCS Sample ID: **VL131123-3** Units: **UG/L** Analysis Date: **11/23/2013 14:56**
Client ID: Run ID: **VL131123-3A** Prep Date: **11/23/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
BENZENE	10.4	1	10		104	83-117			20	
TOLUENE	10.2	1	10		102	82-113			20	
ETHYLBENZENE	10.3	1	10		103	81-113			20	
M+P-XYLENE	20.8	1	20		104	82-115			20	
O-XYLENE	10.4	1	10		104	81-115			20	
Surr: DIBROMOFLUOROMETHA	24.8		25		99	84-118				
Surr: TOLUENE-D8	24.3		25		97	85-115				
Surr: 4-BROMOFLUOROBENZE	25.6		25		103	85-115				

LCS Sample ID: **VL131123-6** Units: **UG/L** Analysis Date: **11/23/2013 13:51**
Client ID: Run ID: **VL131123-3A** Prep Date: **11/23/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
GASOLINE RANGE ORGANICS	464	100	500		93	80-120			20	

LCSD Sample ID: **VL131123-3** Units: **UG/L** Analysis Date: **11/23/2013 15:18**
Client ID: Run ID: **VL131123-3A** Prep Date: **11/23/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
BENZENE	9.88	1	10		99	83-117	10.4	5	20	
TOLUENE	9.9	1	10		99	82-113	10.2	3	20	
ETHYLBENZENE	10	1	10		100	81-113	10.3	3	20	
M+P-XYLENE	19.7	1	20		99	82-115	20.8	5	20	
O-XYLENE	9.84	1	10		98	81-115	10.4	5	20	
Surr: DIBROMOFLUOROMETHA	24.8		25		99	84-118		0		
Surr: TOLUENE-D8	24.6		25		99	85-115		1		
Surr: 4-BROMOFLUOROBENZE	26.2		25		105	85-115		2		

LCSD Sample ID: **VL131123-6** Units: **UG/L** Analysis Date: **11/23/2013 14:13**
Client ID: Run ID: **VL131123-3A** Prep Date: **11/23/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
GASOLINE RANGE ORGANICS	452	100	500		90	80-120	464	3	20	

QC BATCH REPORT

Batch ID: **VL131123-3-1** Instrument ID **HPV1** Method: **SW8260_25**

MB Sample ID: **VL131123-3** Units: **UG/L** Analysis Date: **11/23/2013 15:40**

Client ID: Run ID: **VL131123-3A** Prep Date: **11/23/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
BENZENE	ND	1								
TOLUENE	ND	1								
ETHYLBENZENE	ND	1								
M+P-XYLENE	ND	1								
O-XYLENE	ND	1								
GASOLINE RANGE ORGANICS	ND	100								
TOTAL XYLENES	ND	1								
Surr: DIBROMOFLUOROMETHA	24.8		25		99	84-118				
Surr: TOLUENE-D8	24.1		25		97	85-115				
Surr: 4-BROMOFLUOROBENZE	26.9		25		107	85-115				

The following samples were analyzed in this batch: 1311394-1

QC BATCH REPORT

Batch ID: **AK131125-2-1** Instrument ID **NONE** Method: **SM2320B**

LCS Sample ID: **AK131125-2** Units: **MG/L** Analysis Date: **11/25/2013**
Client ID: Run ID: **AK131125-1A** Prep Date: **11/25/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
TOTAL ALKALINITY AS CaCO3	99.2	5	100		99	85-115			15	

MB Sample ID: **AK131125-2** Units: **MG/L** Analysis Date: **11/25/2013**
Client ID: Run ID: **AK131125-1A** Prep Date: **11/25/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	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: 1311394-1

QC BATCH REPORT

Batch ID: **IC131121-1-2** Instrument ID **IC** Method: **EPA300.0**

LCS Sample ID: **IC131121-1** Units: **MG/L** Analysis Date: **11/21/2013 17:37**

Client ID: Run ID: **IC131121-1A1** Prep Date: **11/21/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
FLUORIDE	2	0.1	2		100	90-110			15	
CHLORIDE	5.16	0.2	5		103	90-110			15	
NITRITE AS N	1.99	0.1	2		100	90-110			15	
BROMIDE	5.4	0.2	5		108	90-110			15	
NITRATE AS N	5.2	0.2	5		104	90-110			15	
SULFATE	20.3	1	20		102	90-110			15	

MB Sample ID: **IC131121-1** Units: **MG/L** Analysis Date: **11/21/2013 17:51**

Client ID: Run ID: **IC131121-1A1** Prep Date: **11/21/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
FLUORIDE	ND	0.1								
CHLORIDE	ND	0.2								
NITRITE AS N	ND	0.1								
BROMIDE	ND	0.2								
NITRATE AS N	ND	0.2								
SULFATE	ND	1								

The following samples were analyzed in this batch: 1311394-1

QC BATCH REPORT

Batch ID: **TD131122-1-2** Instrument ID **Balance** Method: **SM2540C**

LCS Sample ID: **TD131122-1** Units: **MG/L** Analysis Date: **11/25/2013**
Client ID: Run ID: **TD131125-1A** Prep Date: **11/22/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
TOTAL DISSOLVED SOLIDS	429	20	400		107	85-115			5	

MB Sample ID: **TD131122-1** Units: **MG/L** Analysis Date: **11/25/2013**
Client ID: Run ID: **TD131125-1A** Prep Date: **11/22/2013** DF: **1**

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

The following samples were analyzed in this batch: 1311394-1

QC BATCH REPORT

Batch ID: **TP131124-1-1** Instrument ID **Spec** Method: **EPA365.2**

LCS Sample ID: **TP131124-1** Units: **MG/L** Analysis Date: **11/24/2013**
Client ID: Run ID: **TP131124-1A** Prep Date: **11/24/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
TOTAL PHOSPHORUS	0.478	0.05	0.5		96	80-120			20	

MB Sample ID: **TP131124-1** Units: **MG/L** Analysis Date: **11/24/2013**
Client ID: Run ID: **TP131124-1A** Prep Date: **11/24/2013** DF: **1**

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

The following samples were analyzed in this batch: 1311394-1