ATTACHMENT E

Laboratory Analytical Summary Report

1310292

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.

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.

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
Nitrate/nitrite as N	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: 1310292
Client Name: Western Water and Land, Inc.
Client Project Name: GV 86-2 BWQ
Client Project Number:
Client PO Number:

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
Mitchell 149891	1310292-1		WATER	16-Oct-13	12:35
Trip Blank	1310292-2		WATER	16-Oct-13	

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 # 1310292

PAGE 1 of 1

DISPOSAL By Lab or Return to Client

PROJECT NAME	GV 8L-2 BWG	SAMPLER	NWS
FACILITY NAME		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 Danforth
CITY / STATE / ZIP	Grand Jct, CO 81506	ADDRESS	1058 CR 215
PHONE	970-242-0170	CITY / STATE / ZIP	Parachute, CO 81635
FAX		PHONE	970-285-2792
E-MAIL	bsmith@westernwaterland.com	FAX	
		E-MAIL	

DATE 10-16-13

TURNAROUND Standard

Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC	NM	BART	BTEX	GRO gases	Diss metals MET	DRO	Diss. metals	Iron filter	Anions alk, tds,	PH, conde	Total gross metals
1	Mitchell 149891	W	10-16-13	1235	15	1,3	IV	✓	✓	✓	✓	✓	✓	✓		✓		✓
2 TB																		

*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:	QC PACKAGE (check below)	
Dissolved metals are iron filtered		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	10/16/13	1700
RECEIVED BY		Lauren Schmitz	10/17/13	1040
RELINQUISHED BY				
RECEIVED BY				
RELINQUISHED BY				
RECEIVED BY				

ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: Western Water Workorder No: 1310292

Project Manager: ARW Initials: LAS Date: 10/17/13

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):	1.6							
No. of custody seals on cooler:	2							
DOT Survey/ Acceptance Information — External µR/hr reading:	11							
Background µR/hr reading:	11							

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: 10/17/13

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

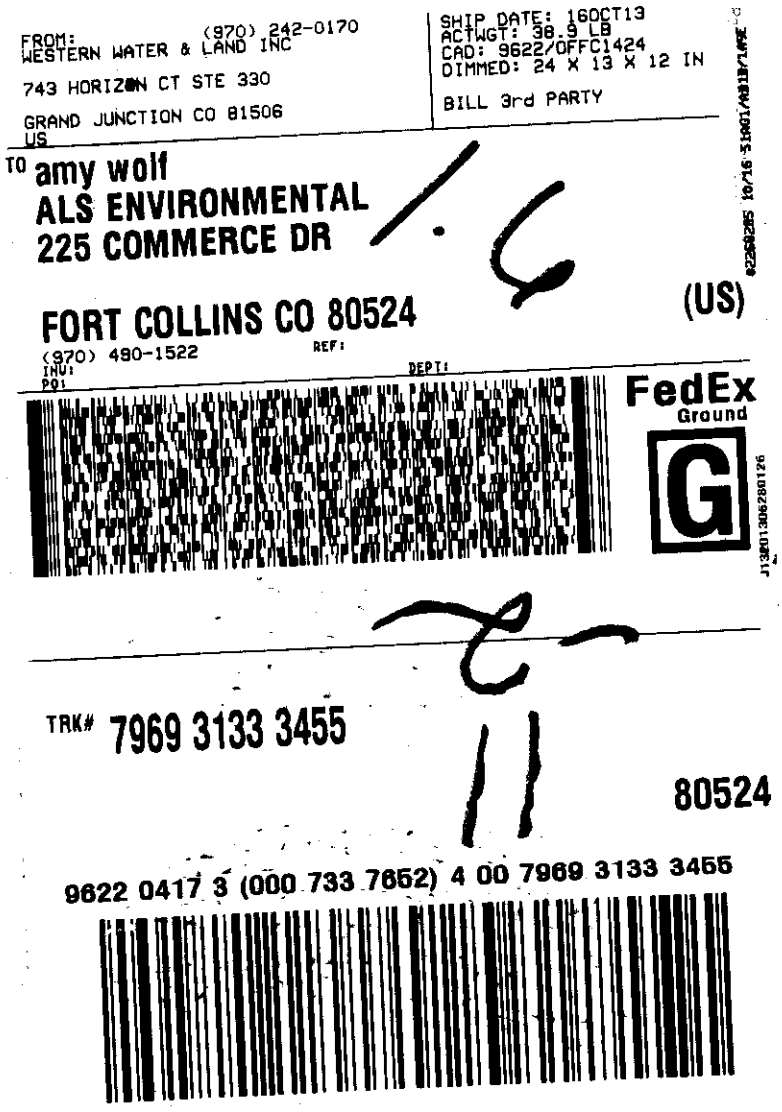
1310292

318 zip CO

Sender's Name Blue Smith Phone (970) 242-1

Company Western Water and Land

Address 743 Horizon Ct Suite 330



Client: Western Water and Land, Inc. **Date:** *12-Nov-13*
Project: GV 86-2 BWQ **Work Order:** 1310292
Sample ID: Mitchell 149891 **Lab ID:** 1310292-1
Legal Location: **Matrix:** WATER
Collection Date: 10/16/2013 12:35 **Percent Moisture:**

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
ALKALINITY AS CALCIUM CARBONATE			**SM2320B**		Prep Date: **10/23/2013**	PrepBy: **KMP**
BICARBONATE AS CaCO3	**280**		**20**	**MG/L**	1	10/23/2013
CARBONATE AS CaCO3	ND		20	MG/L	1	10/23/2013
TOTAL ALKALINITY AS CaCO3	**280**		**20**	**MG/L**	1	10/23/2013
BIOLOGICAL ACTIVITY REACTION TEST			**BART**		Prep Date: **11/4/2013**	PrepBy: **BAS**
IRON RELATED BACTERIA	**1**		**1**	**NU**	1	11/12/2013
SLIME FORMING BACTERIA	ND		1	NU	1	11/12/2013
SULFATE REDUCING BACTERIA	ND		1	NU	1	11/12/2013
DIESEL RANGE ORGANICS			**SW8015M**		Prep Date: **10/18/2013**	PrepBy: **JAC**
Diesel Range Organics	ND		0.5	MG/L	1	10/18/2013 17:26
Surr: O-TERPHENYL	*93*		*54-123*	*%REC*	1	10/18/2013 17:26
DISSOLVED GASSES			**RSK175**		Prep Date: **10/21/2013**	PrepBy: **JFN**
METHANE	ND		1	UG/L	1	10/21/2013 17:53
ETHANE	ND		2	UG/L	1	10/21/2013 17:53
PROPANE	ND		1	UG/L	1	10/21/2013 17:53
GC/MS VOLATILES			**SW8260_25**		Prep Date: **10/23/2013**	PrepBy: **SDW**
BENZENE	ND		1	UG/L	1	10/23/2013 15:53
TOLUENE	ND		1	UG/L	1	10/23/2013 15:53
ETHYLBENZENE	ND		1	UG/L	1	10/23/2013 15:53
M+P-XYLENE	ND		1	UG/L	1	10/23/2013 15:53
O-XYLENE	ND		1	UG/L	1	10/23/2013 15:53
GASOLINE RANGE ORGANICS	ND		100	UG/L	1	10/23/2013 15:53
TOTAL XYLENES	ND		1	UG/L	1	10/23/2013 15:53
Surr: DIBROMOFLUOROMETHANE	*97*		*84-118*	*%REC*	1	10/23/2013 15:53
Surr: TOLUENE-D8	*97*		*85-115*	*%REC*	1	10/23/2013 15:53
Surr: 4-BROMOFLUOROBENZENE	*103*		*85-115*	*%REC*	1	10/23/2013 15:53
ION CHROMATOGRAPHY			**EPA300.0**		Prep Date: **10/17/2013**	PrepBy: **AJD**
BROMIDE	ND		0.2	MG/L	1	10/17/2013 18:34
CHLORIDE	**2.7**		**0.2**	**MG/L**	1	10/17/2013 18:34
FLUORIDE	**0.4**		**0.1**	**MG/L**	1	10/17/2013 18:34
NITRATE/NITRITE AS N	**0.89**		**0.1**	**MG/L**	1	10/17/2013 18:34
NITRITE AS N	ND		0.1	MG/L	1	10/17/2013 18:34
NITRATE AS N	**0.89**		**0.2**	**MG/L**	1	10/17/2013 18:34
SULFATE	**34**		**1**	**MG/L**	1	10/17/2013 18:34
METALS BY 200.8			**EPA200.8**		Prep Date: **10/22/2013**	PrepBy: **NAQ**
BARIUM	**41**		**1**	**UG/L**	10	10/23/2013 14:26
BORON	**72**		**50**	**UG/L**	10	10/23/2013 14:26
CALCIUM	**15000**		**1000**	**UG/L**	10	10/23/2013 14:26
IRON	ND		100	UG/L	10	10/23/2013 14:26
MAGNESIUM	**25000**		**100**	**UG/L**	10	10/23/2013 14:26
MANGANESE	ND		2	UG/L	10	10/23/2013 14:26

Client:	Western Water and Land, Inc.	**Date:**	*12-Nov-13*
Project:	GV 86-2 BWQ	**Work Order:**	1310292
Sample ID:	Mitchell 149891	**Lab ID:**	1310292-1
Legal Location:		**Matrix:**	WATER
Collection Date:	10/16/2013 12:35	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
POTASSIUM	**1400**		**1000**	**UG/L**	10	10/23/2013 14:26
SELENIUM	ND		1	UG/L	10	10/23/2013 14:26
SODIUM	**64000**		**1000**	**UG/L**	10	10/23/2013 14:26
STRONTIUM	**450**		**1**	**UG/L**	10	10/23/2013 14:26
PH			**SM4500-H**		Prep Date: **10/18/2013**	PrepBy: **KMP**
PH	**8.14**		**0.1**	**pH**	1	10/18/2013
SPECIFIC CONDUCTANCE IN WATER			**SM2510B**		Prep Date: **10/21/2013**	PrepBy: **KMP**
SPECIFIC CONDUCTIVITY	**570**		**1**	**umhos/cm**	1	10/21/2013
TOTAL DISSOLVED SOLIDS			**SM2540C**		Prep Date: **10/18/2013**	PrepBy: **KMP**
TOTAL DISSOLVED SOLIDS	**350**		**20**	**MG/L**	1	10/21/2013
TOTAL PHOSPHORUS AS P			**EPA365.2**		Prep Date: **10/31/2013**	PrepBy: **AJD**
TOTAL PHOSPHORUS	**0.066**		**0.05**	**MG/L**	1	10/31/2013

Client: Western Water and Land, Inc. **Date:** *12-Nov-13*
Project: GV 86-2 BWQ **Work Order:** 1310292
Sample ID: Trip Blank **Lab ID:** 1310292-2
Legal Location: **Matrix:** WATER
Collection Date: 10/16/2013 **Percent Moisture:**

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
GC/MS VOLATILES			**SW8260_25**		Prep Date: **10/23/2013**	PrepBy: **SDW**
BENZENE	ND		1	UG/L	1	10/23/2013 16:15
TOLUENE	ND		1	UG/L	1	10/23/2013 16:15
ETHYLBENZENE	ND		1	UG/L	1	10/23/2013 16:15
M+P-XYLENE	ND		1	UG/L	1	10/23/2013 16:15
O-XYLENE	ND		1	UG/L	1	10/23/2013 16:15
GASOLINE RANGE ORGANICS	ND		100	UG/L	1	10/23/2013 16:15
TOTAL XYLENES	ND		1	UG/L	1	10/23/2013 16:15
Surr: DIBROMOFLUOROMETHANE	*96*		*84-118*	*%REC*	1	10/23/2013 16:15
Surr: TOLUENE-D8	*99*		*85-115*	*%REC*	1	10/23/2013 16:15
Surr: 4-BROMOFLUOROBENZENE	*104*		*85-115*	*%REC*	1	10/23/2013 16:15

Client:	Western Water and Land, Inc.	**Date:**	*12-Nov-13*
Project:	GV 86-2 BWQ	**Work Order:**	1310292
Sample ID:	Trip Blank	**Lab ID:**	1310292-2
Legal Location:		**Matrix:**	WATER
Collection Date:	10/16/2013	**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:**	*12-Nov-13*
Project:	GV 86-2 BWQ	**Work Order:**	1310292
Sample ID:	Trip Blank	**Lab ID:**	1310292-2
Legal Location:		**Matrix:**	WATER
Collection Date:	10/16/2013	**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: **EX131018-3-1** Instrument ID **FUELS-1** Method: **SW8015M**

LCS Sample ID: **EX131018-3** Units: **MG/L** Analysis Date: **10/18/2013 18:48**

Client ID: Run ID: **HC131018-3A** Prep Date: **10/18/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
Diesel Range Organics	10.3	0.5	10		103	36-150			20	
Surr: O-TERPHENYL	1.24		1.25		99	54-123				

LCSD Sample ID: **EX131018-3** Units: **MG/L** Analysis Date: **10/18/2013 19:16**

Client ID: Run ID: **HC131018-3A** Prep Date: **10/18/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
Diesel Range Organics	9.9	0.5	10		99	36-150	10.3	4	20	
Surr: O-TERPHENYL	1.12		1.25		90	54-123		10		

MB Sample ID: **EX131018-3** Units: **MG/L** Analysis Date: **10/18/2013 16:59**

Client ID: Run ID: **HC131018-3A** Prep Date: **10/18/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
Diesel Range Organics	ND	0.5								
Surr: O-TERPHENYL	1.17		1.25		93	54-123				

MS Sample ID: **1310292-1** Units: **MG/L** Analysis Date: **10/18/2013 17:53**

Client ID: **Mitchell 149891** Run ID: **HC131018-3A** Prep Date: **10/18/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
Diesel Range Organics	10	0.5	10	0.5	100	36-150			20	
Surr: O-TERPHENYL	1.21		1.25		97	54-123				

MSD Sample ID: **1310292-1** Units: **MG/L** Analysis Date: **10/18/2013 18:21**

Client ID: **Mitchell 149891** Run ID: **HC131018-3A** Prep Date: **10/18/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
Diesel Range Organics	9.83	0.5	10	0.5	98	36-150	10	2	20	
Surr: O-TERPHENYL	1.17		1.25		94	54-123		3		

The following samples were analyzed in this batch: 1310292-1

QC BATCH REPORT

Batch ID: **HC131021-9-2** Instrument ID **MEE-1** Method: **RSK175**

DUP Sample ID: **1310292-1** Units: **UG/L** Analysis Date: **10/21/2013 17:58**
Client ID: **Mitchell 149891** Run ID: **HC131021-9A** Prep Date: **10/21/2013** DF: **1**

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

LCS Sample ID: **HC131021-9** Units: **UG/L** Analysis Date: **10/21/2013 17:26**
Client ID: Run ID: **HC131021-9A** Prep Date: **10/21/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
METHANE	130	1	142		91	80-120			25	
ETHANE	243	2	267		91	80-120			25	
PROPANE	348	1	391		89	80-120			25	

LCSD Sample ID: **HC131021-9** Units: **UG/L** Analysis Date: **10/21/2013 18:21**
Client ID: Run ID: **HC131021-9A** Prep Date: **10/21/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
METHANE	128	1	142		90	80-120	130	2	25	
ETHANE	237	2	267		89	80-120	243	2	25	
PROPANE	337	1	391		86	80-120	348	3	25	

MB Sample ID: **HC131021-9** Units: **UG/L** Analysis Date: **10/21/2013 17:32**
Client ID: Run ID: **HC131021-9A** Prep Date: **10/21/2013** 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: 1310292-1

QC BATCH REPORT

Batch ID: **IP131022-5-3** Instrument ID **ICPMS2** Method: **EPA200.8**

LCS Sample ID: **FM131022-5** Units: **UG/L** Analysis Date: **10/23/2013 14:49**

Client ID: Run ID: **IM131023-10A4** Prep Date: **10/22/2013** DF: **10**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
BARIUM	95.8	1	100		96	85-115			20	
BORON	1000	50	1000		100	85-115			20	
CALCIUM	10400	1000	10000		104	85-115			20	
IRON	5120	100	5000		102	85-115			20	
MAGNESIUM	9190	100	10000		92	85-115			20	
MANGANESE	194	2	200		97	85-115			20	
POTASSIUM	4870	1000	5000		97	85-115			20	
SELENIUM	95.2	1	100		95	85-115			20	
SODIUM	9940	1000	10000		99	85-115			20	
STRONTIUM	94.4	1	100		94	85-115			20	

MB Sample ID: **FP131022-5** Units: **UG/L** Analysis Date: **10/23/2013 14:57**

Client ID: Run ID: **IM131023-10A4** Prep Date: **10/22/2013** 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: 1310292-1

Batch ID: **VL131023-4-1** Instrument ID **HPV1** Method: **SW8260_25**

LCS Sample ID: **VL131023-4** Units: **UG/L** Analysis Date: **10/23/2013 13:14**
Client ID: Run ID: **VL131023-4A** Prep Date: **10/23/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
BENZENE	8.97	1	10		90	83-117			20	
TOLUENE	9.1	1	10		91	82-113			20	
ETHYLBENZENE	9.23	1	10		92	81-113			20	
M+P-XYLENE	18.8	1	20		94	82-115			20	
O-XYLENE	9.57	1	10		96	81-115			20	
Surr: DIBROMOFLUOROMETHA	24.3		25		97	84-118				
Surr: TOLUENE-D8	24.1		25		96	85-115				
Surr: 4-BROMOFLUOROBENZE	25.2		25		101	85-115				

LCS Sample ID: **VL131023-7** Units: **UG/L** Analysis Date: **10/23/2013 11:57**
Client ID: Run ID: **VL131023-4A** Prep Date: **10/23/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
GASOLINE RANGE ORGANICS	504	100	500		101	80-120			20	

LCSD Sample ID: **VL131023-4** Units: **UG/L** Analysis Date: **10/23/2013 13:36**
Client ID: Run ID: **VL131023-4A** Prep Date: **10/23/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
BENZENE	9	1	10		90	83-117	8.97	0	20	
TOLUENE	9.32	1	10		93	82-113	9.1	2	20	
ETHYLBENZENE	9.27	1	10		93	81-113	9.23	0	20	
M+P-XYLENE	19.2	1	20		96	82-115	18.8	2	20	
O-XYLENE	9.41	1	10		94	81-115	9.57	2	20	
Surr: DIBROMOFLUOROMETHA	24.9		25		99	84-118		2		
Surr: TOLUENE-D8	24.8		25		99	85-115		3		
Surr: 4-BROMOFLUOROBENZE	25.9		25		103	85-115		2		

LCSD Sample ID: **VL131023-7** Units: **UG/L** Analysis Date: **10/23/2013 12:21**
Client ID: Run ID: **VL131023-4A** Prep Date: **10/23/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
GASOLINE RANGE ORGANICS	488	100	500		98	80-120	504	3	20	

QC BATCH REPORT

Batch ID: **VL131023-4-1** Instrument ID **HPV1** Method: **SW8260_25**

MB Sample ID: **VL131023-4** Units: **UG/L** Analysis Date: **10/23/2013 13:59**

Client ID: Run ID: **VL131023-4A** Prep Date: **10/23/2013** 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	23.8		25		95	84-118				
Surr: TOLUENE-D8	24.7		25		99	85-115				
Surr: 4-BROMOFLUOROBENZE	25.8		25		103	85-115				

The following samples were analyzed in this batch: 1310292-1 1310292-2

QC BATCH REPORT

Batch ID: **AK131023-1-1** Instrument ID **NONE** Method: **SM2320B**

LCS Sample ID: **AK131023-1** Units: **MG/L** Analysis Date: **10/23/2013**
Client ID: Run ID: **AK131023-1A** Prep Date: **10/23/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
TOTAL ALKALINITY AS CaCO3	96.6	5	100		96	85-115			15	

MB Sample ID: **AK131023-1** Units: **MG/L** Analysis Date: **10/23/2013**
Client ID: Run ID: **AK131023-1A** Prep Date: **10/23/2013** 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: 1310292-1

QC BATCH REPORT

Batch ID: **IC131017-1-2** Instrument ID **IC** Method: **EPA300.0**

LCS Sample ID: **IC131017-1** Units: **MG/L** Analysis Date: **10/17/2013 17:10**

Client ID: Run ID: **IC131017-1A1** Prep Date: **10/17/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
FLUORIDE	2.02	0.1	2		101	90-110			15	
CHLORIDE	5.14	0.2	5		103	90-110			15	
NITRITE AS N	1.99	0.1	2		99	90-110			15	
BROMIDE	5.34	0.2	5		107	90-110			15	
NITRATE AS N	5.28	0.2	5		106	90-110			15	
SULFATE	20.1	1	20		101	90-110			15	

MB Sample ID: **IC131017-1** Units: **MG/L** Analysis Date: **10/17/2013 17:24**

Client ID: Run ID: **IC131017-1A1** Prep Date: **10/17/2013** 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: 1310292-1

QC BATCH REPORT

Batch ID: **pH131018-1-2** Instrument ID **pH-1** Method: **SM4500-H**

CCV Sample ID: **CCV** Units: **pH** Analysis Date: **10/18/2013**

Client ID: Run ID: **pH131018-1A** Prep Date: **10/18/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
PH	6.98	0.1	7			6.9-7.1				

ICV Sample ID: **ICV** Units: **pH** Analysis Date: **10/18/2013**

Client ID: Run ID: **pH131018-1A** Prep Date: **10/18/2013** DF: **1**

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

The following samples were analyzed in this batch: 1310292-1

QC BATCH REPORT

Batch ID: **TD131018-1-1** Instrument ID **Balance** Method: **SM2540C**

LCS Sample ID: **TD131018-1** Units: **MG/L** Analysis Date: **10/21/2013**
Client ID: Run ID: **TD131021-1A** Prep Date: **10/18/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
TOTAL DISSOLVED SOLIDS	419	20	400		105	85-115			5	

MB Sample ID: **TD131018-1** Units: **MG/L** Analysis Date: **10/21/2013**
Client ID: Run ID: **TD131021-1A** Prep Date: **10/18/2013** 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: 1310292-1

QC BATCH REPORT

Batch ID: **TP131031-1-1** Instrument ID **Spec** Method: **EPA365.2**

LCS Sample ID: **TP131031-1** Units: **MG/L** Analysis Date: **10/31/2013**
Client ID: Run ID: **TP131031-1A** Prep Date: **10/31/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
TOTAL PHOSPHORUS	0.484	0.05	0.5		97	80-120			20	

MB Sample ID: **TP131031-1** Units: **MG/L** Analysis Date: **10/31/2013**
Client ID: Run ID: **TP131031-1A** Prep Date: **10/31/2013** 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: 1310292-1

1310307

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.

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.

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
Nitrate/nitrite as N	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: 1310307
Client Name: Western Water and Land, Inc.
Client Project Name: WPX BWQ GV 86-2
Client Project Number: 30000.01.71
Client PO Number:

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
Schuette-273609	1310307-1		WATER	17-Oct-13	12:16
Trip Blank	1310307-2		WATER	17-Oct-13	

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 # 1310307

PAGE 1 of 1

DISPOSAL (By Lab) or Return to Client

PROJECT NAME	WPX BWQ GV86-2	SAMPLER	Nick Solawetz
FACILITY NAME	GV 86-2	PROJECT NO.	30000.01.71
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 Darforth
CITY / STATE / ZIP	Grand Junction, CO 81506	ADDRESS	1058 CR 215
PHONE	970-242-0170	CITY / STATE / ZIP	Parachute, CO 81635
FAX		PHONE	970-263-2712
E-MAIL	bSmith@westernwaterand Land.com	FAX	
		E-MAIL	

DATE 10-17-13

TURNAROUND Standard

Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC	NG1	BART	BTEX	GRO	Dis. Gasses	DRO	Dis. Metals Lab Filter	Anions, Alk, TDS, pH, Cond.	Total Phosphorus
(1)	Schuette-273609	W	10-17-13	1216	15	1,3		\	\	\	\	\	\	\	\	\
(2)	TB1, TB2															

*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 Filter
	Isotech contained small bubbles - ≤ pea size

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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		Nick Solawetz	10-17-13	1600
RECEIVED BY		LaurenSchmitz	10/18/13	0955
RELINQUISHED BY				
RECEIVED BY				
RELINQUISHED BY				
RECEIVED BY				

ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: W. Water Workorder No: 1310307

Project Manager: ARW Initials: LLS Date: 10/18/13

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):	1.6							
No. of custody seals on cooler:	2							
DOT Survey Acceptance Information: External µR/hr reading:	10							
Background µR/hr reading:	11							

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

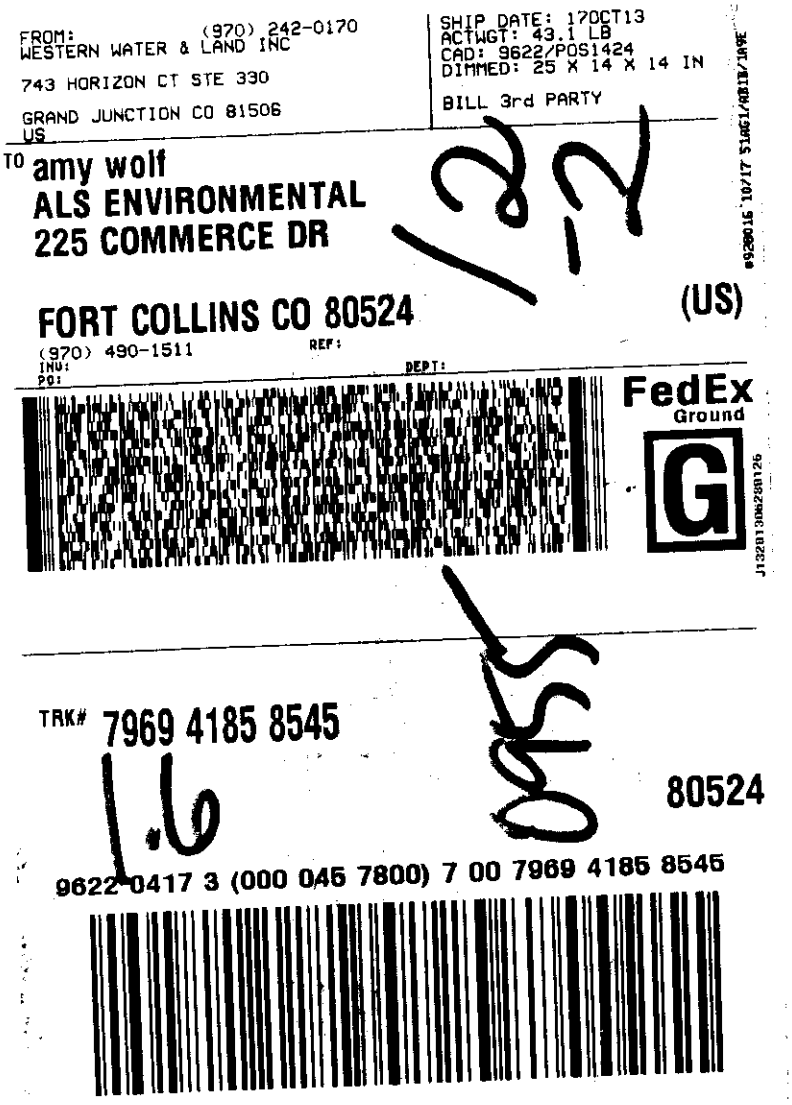
Additional Information: PROVIDE DETAILS BELOW FOR A NO RESPONSE TO ANY QUESTION ABOVE, EXCEPT #1 AND #16.

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

Project Manager Signature / Date: 10/21/13

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

1310307



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

SHIP DATE: 17OCT13
ACTWGT: 43.1 LB
CAD: 9622/POS1424
DIMMED: 25 X 14 X 14 IN
BILL 3rd PARTY

TO amy wolf
ALS ENVIRONMENTAL
225 COMMERCE DR
FORT COLLINS CO 80524 (US)
(970) 490-1511
INV:
PO:
REF:
DEPT:

FedEx Ground

TRK# 7969 4185 8545

80524

9622 0417 3 (000 045 7800) 7 00 7969 4185 8545

Client:	Western Water and Land, Inc.	**Date:**	*12-Nov-13*
Project:	30000.01.71 WPX BWQ GV 86-2	**Work Order:**	1310307
Sample ID:	Schuette-273609	**Lab ID:**	1310307-1
Legal Location:		**Matrix:**	WATER
Collection Date:	10/17/2013 12:16	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
ALKALINITY AS CALCIUM CARBONATE			**SM2320B**		Prep Date: **10/23/2013**	PrepBy: **KMP**
BICARBONATE AS CaCO3	**390**		**20**	**MG/L**	1	10/23/2013
CARBONATE AS CaCO3	ND		20	MG/L	1	10/23/2013
TOTAL ALKALINITY AS CaCO3	**390**		**20**	**MG/L**	1	10/23/2013
BIOLOGICAL ACTIVITY REACTION TEST			**BART**		Prep Date: **11/4/2013**	PrepBy: **BAS**
IRON RELATED BACTERIA	**1**		**1**	**NU**	1	11/12/2013
SLIME FORMING BACTERIA	**1**		**1**	**NU**	1	11/12/2013
SULFATE REDUCING BACTERIA	ND		1	NU	1	11/12/2013
DIESEL RANGE ORGANICS			**SW8015M**		Prep Date: **10/22/2013**	PrepBy: **BCH**
Diesel Range Organics	ND		0.5	MG/L	1	10/22/2013 20:32
Surr: O-TERPHENYL	*98*		*54-123*	*%REC*	1	10/22/2013 20:32
DISSOLVED GASSES			**RSK175**		Prep Date: **10/21/2013**	PrepBy: **JFN**
METHANE	ND		1	UG/L	1	10/21/2013 18:02
ETHANE	ND		2	UG/L	1	10/21/2013 18:02
PROPANE	ND		1	UG/L	1	10/21/2013 18:02
GC/MS VOLATILES			**SW8260_25**		Prep Date: **10/23/2013**	PrepBy: **SDW**
BENZENE	ND		1	UG/L	1	10/23/2013 16:38
TOLUENE	ND		1	UG/L	1	10/23/2013 16:38
ETHYLBENZENE	ND		1	UG/L	1	10/23/2013 16:38
M+P-XYLENE	ND		1	UG/L	1	10/23/2013 16:38
O-XYLENE	ND		1	UG/L	1	10/23/2013 16:38
GASOLINE RANGE ORGANICS	ND		100	UG/L	1	10/23/2013 16:38
TOTAL XYLENES	ND		1	UG/L	1	10/23/2013 16:38
Surr: DIBROMOFLUOROMETHANE	*96*		*84-118*	*%REC*	1	10/23/2013 16:38
Surr: TOLUENE-D8	*98*		*85-115*	*%REC*	1	10/23/2013 16:38
Surr: 4-BROMOFLUOROBENZENE	*104*		*85-115*	*%REC*	1	10/23/2013 16:38
ION CHROMATOGRAPHY			**EPA300.0**		Prep Date: **10/18/2013**	PrepBy: **AJD**
BROMIDE	ND		0.2	MG/L	1	10/18/2013 17:20
CHLORIDE	**4.5**		**0.2**	**MG/L**	1	10/18/2013 17:20
FLUORIDE	**0.21**		**0.1**	**MG/L**	1	10/18/2013 17:20
NITRATE/NITRITE AS N	**1.8**		**0.1**	**MG/L**	1	10/18/2013 17:20
NITRITE AS N	ND		0.1	MG/L	1	10/18/2013 17:20
NITRATE AS N	**1.8**		**0.2**	**MG/L**	1	10/18/2013 17:20
SULFATE	**33**		**1**	**MG/L**	1	10/18/2013 17:20
METALS BY 200.8			**EPA200.8**		Prep Date: **10/22/2013**	PrepBy: **NAQ**
BARIUM	**120**		**1**	**UG/L**	10	10/23/2013 14:29
BORON	**78**		**50**	**UG/L**	10	10/23/2013 14:29
CALCIUM	**39000**		**1000**	**UG/L**	10	10/23/2013 14:29
IRON	ND		100	UG/L	10	10/23/2013 14:29
MAGNESIUM	**37000**		**100**	**UG/L**	10	10/23/2013 14:29
MANGANESE	**4**		**2**	**UG/L**	10	10/23/2013 14:29

Client:	Western Water and Land, Inc.	**Date:**	*12-Nov-13*
Project:	30000.01.71 WPX BWQ GV 86-2	**Work Order:**	1310307
Sample ID:	Schuette-273609	**Lab ID:**	1310307-1
Legal Location:		**Matrix:**	WATER
Collection Date:	10/17/2013 12:16	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
POTASSIUM	**1100**		**1000**	**UG/L**	10	10/23/2013 14:29
SELENIUM	ND		1	UG/L	10	10/23/2013 14:29
SODIUM	**61000**		**1000**	**UG/L**	10	10/23/2013 14:29
STRONTIUM	**720**		**1**	**UG/L**	10	10/23/2013 14:29
PH			**SM4500-H**		Prep Date: **10/21/2013**	PrepBy: **KMP**
PH	**7.91**		**0.1**	**pH**	1	10/21/2013
SPECIFIC CONDUCTANCE IN WATER			**SM2510B**		Prep Date: **10/21/2013**	PrepBy: **KMP**
SPECIFIC CONDUCTIVITY	**758**		**1**	**umhos/cm**	1	10/21/2013
TOTAL DISSOLVED SOLIDS			**SM2540C**		Prep Date: **10/22/2013**	PrepBy: **KMP**
TOTAL DISSOLVED SOLIDS	**460**		**20**	**MG/L**	1	10/23/2013
TOTAL PHOSPHORUS AS P			**EPA365.2**		Prep Date: **10/31/2013**	PrepBy: **AJD**
TOTAL PHOSPHORUS	ND		0.05	MG/L	1	10/31/2013

Client:	Western Water and Land, Inc.	**Date:**	*12-Nov-13*
Project:	30000.01.71 WPX BWQ GV 86-2	**Work Order:**	1310307
Sample ID:	Trip Blank	**Lab ID:**	1310307-2
Legal Location:		**Matrix:**	WATER
Collection Date:	10/17/2013	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
GC/MS VOLATILES			**SW8260_25**		Prep Date: **10/23/2013**	PrepBy: **SDW**
BENZENE	ND		1	UG/L	1	10/23/2013 17:01
TOLUENE	ND		1	UG/L	1	10/23/2013 17:01
ETHYLBENZENE	ND		1	UG/L	1	10/23/2013 17:01
M+P-XYLENE	ND		1	UG/L	1	10/23/2013 17:01
O-XYLENE	ND		1	UG/L	1	10/23/2013 17:01
GASOLINE RANGE ORGANICS	ND		100	UG/L	1	10/23/2013 17:01
TOTAL XYLENES	ND		1	UG/L	1	10/23/2013 17:01
Surr: DIBROMOFLUOROMETHANE	*98*		*84-118*	*%REC*	1	10/23/2013 17:01
Surr: TOLUENE-D8	*99*		*85-115*	*%REC*	1	10/23/2013 17:01
Surr: 4-BROMOFLUOROBENZENE	*105*		*85-115*	*%REC*	1	10/23/2013 17:01

Client:	Western Water and Land, Inc.	**Date:**	*12-Nov-13*
Project:	30000.01.71 WPX BWQ GV 86-2	**Work Order:**	1310307
Sample ID:	Trip Blank	**Lab ID:**	1310307-2
Legal Location:		**Matrix:**	WATER
Collection Date:	10/17/2013	**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:**	*12-Nov-13*
Project:	30000.01.71 WPX BWQ GV 86-2	**Work Order:**	1310307
Sample ID:	Trip Blank	**Lab ID:**	1310307-2
Legal Location:		**Matrix:**	WATER
Collection Date:	10/17/2013	**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: **HC131021-9-2** Instrument ID **MEE-1** Method: **RSK175**

LCS Sample ID: **HC131021-9** Units: **UG/L** Analysis Date: **10/21/2013 17:26**

Client ID: Run ID: **HC131021-9A** Prep Date: **10/21/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
METHANE	130	1	142		91	80-120			25	
ETHANE	243	2	267		91	80-120			25	
PROPANE	348	1	391		89	80-120			25	

LCSD Sample ID: **HC131021-9** Units: **UG/L** Analysis Date: **10/21/2013 18:21**

Client ID: Run ID: **HC131021-9A** Prep Date: **10/21/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
METHANE	128	1	142		90	80-120	130	2	25	
ETHANE	237	2	267		89	80-120	243	2	25	
PROPANE	337	1	391		86	80-120	348	3	25	

MB Sample ID: **HC131021-9** Units: **UG/L** Analysis Date: **10/21/2013 17:32**

Client ID: Run ID: **HC131021-9A** Prep Date: **10/21/2013** 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: 1310307-1

QC BATCH REPORT

Batch ID: **EX131022-3-1** Instrument ID **FUELS-1** Method: **SW8015M**

LCS Sample ID: **EX131022-3** Units: **MG/L** Analysis Date: **10/22/2013 19:36**

Client ID: Run ID: **HC131022-3A** Prep Date: **10/22/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
Diesel Range Organics	9.91	0.5	10		99	36-150			20	
Surr: O-TERPHENYL	1.29		1.25		103	54-123				

LCSD Sample ID: **EX131022-3** Units: **MG/L** Analysis Date: **10/22/2013 20:04**

Client ID: Run ID: **HC131022-3A** Prep Date: **10/22/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
Diesel Range Organics	10.3	0.5	10		103	36-150	9.91	4	20	
Surr: O-TERPHENYL	1.35		1.25		108	54-123		5		

MB Sample ID: **EX131022-3** Units: **MG/L** Analysis Date: **10/22/2013 19:09**

Client ID: Run ID: **HC131022-3A** Prep Date: **10/22/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
Diesel Range Organics	ND	0.5								
Surr: O-TERPHENYL	1.17		1.25		94	54-123				

The following samples were analyzed in this batch: 1310307-1

QC BATCH REPORT

Batch ID: **IP131022-5-3** Instrument ID **ICPMS2** Method: **EPA200.8**

LCS Sample ID: **FM131022-5** Units: **UG/L** Analysis Date: **10/23/2013 14:49**

Client ID: Run ID: **IM131023-10A4** Prep Date: **10/22/2013** DF: **10**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
BARIUM	95.8	1	100		96	85-115			20	
BORON	1000	50	1000		100	85-115			20	
CALCIUM	10400	1000	10000		104	85-115			20	
IRON	5120	100	5000		102	85-115			20	
MAGNESIUM	9190	100	10000		92	85-115			20	
MANGANESE	194	2	200		97	85-115			20	
POTASSIUM	4870	1000	5000		97	85-115			20	
SELENIUM	95.2	1	100		95	85-115			20	
SODIUM	9940	1000	10000		99	85-115			20	
STRONTIUM	94.4	1	100		94	85-115			20	

MB Sample ID: **FP131022-5** Units: **UG/L** Analysis Date: **10/23/2013 14:57**

Client ID: Run ID: **IM131023-10A4** Prep Date: **10/22/2013** 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: 1310307-1

QC BATCH REPORT

Batch ID: **VL131023-4-1** Instrument ID **HPV1** Method: **SW8260_25**

LCS Sample ID: **VL131023-4** Units: **UG/L** Analysis Date: **10/23/2013 13:14**
Client ID: Run ID: **VL131023-4A** Prep Date: **10/23/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
BENZENE	8.97	1	10		90	83-117			20	
TOLUENE	9.1	1	10		91	82-113			20	
ETHYLBENZENE	9.23	1	10		92	81-113			20	
M+P-XYLENE	18.8	1	20		94	82-115			20	
O-XYLENE	9.57	1	10		96	81-115			20	
Surr: DIBROMOFLUOROMETHA	24.3		25		97	84-118				
Surr: TOLUENE-D8	24.1		25		96	85-115				
Surr: 4-BROMOFLUOROBENZE	25.2		25		101	85-115				

LCS Sample ID: **VL131023-7** Units: **UG/L** Analysis Date: **10/23/2013 11:57**
Client ID: Run ID: **VL131023-4A** Prep Date: **10/23/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
GASOLINE RANGE ORGANICS	504	100	500		101	80-120			20	

LCSD Sample ID: **VL131023-4** Units: **UG/L** Analysis Date: **10/23/2013 13:36**
Client ID: Run ID: **VL131023-4A** Prep Date: **10/23/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
BENZENE	9	1	10		90	83-117	8.97	0	20	
TOLUENE	9.32	1	10		93	82-113	9.1	2	20	
ETHYLBENZENE	9.27	1	10		93	81-113	9.23	0	20	
M+P-XYLENE	19.2	1	20		96	82-115	18.8	2	20	
O-XYLENE	9.41	1	10		94	81-115	9.57	2	20	
Surr: DIBROMOFLUOROMETHA	24.9		25		99	84-118		2		
Surr: TOLUENE-D8	24.8		25		99	85-115		3		
Surr: 4-BROMOFLUOROBENZE	25.9		25		103	85-115		2		

LCSD Sample ID: **VL131023-7** Units: **UG/L** Analysis Date: **10/23/2013 12:21**
Client ID: Run ID: **VL131023-4A** Prep Date: **10/23/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
GASOLINE RANGE ORGANICS	488	100	500		98	80-120	504	3	20	

QC BATCH REPORT

Batch ID: **VL131023-4-1** Instrument ID **HPV1** Method: **SW8260_25**

MB Sample ID: **VL131023-4** Units: **UG/L** Analysis Date: **10/23/2013 13:59**

Client ID: Run ID: **VL131023-4A** Prep Date: **10/23/2013** 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	23.8		25		95	84-118				
Surr: TOLUENE-D8	24.7		25		99	85-115				
Surr: 4-BROMOFLUOROBENZE	25.8		25		103	85-115				

The following samples were analyzed in this batch: 1310307-1 1310307-2

QC BATCH REPORT

Batch ID: **AK131023-1-1** Instrument ID **NONE** Method: **SM2320B**

LCS Sample ID: **AK131023-1** Units: **MG/L** Analysis Date: **10/23/2013**
Client ID: Run ID: **AK131023-1A** Prep Date: **10/23/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
TOTAL ALKALINITY AS CaCO3	96.6	5	100		96	85-115			15	

MB Sample ID: **AK131023-1** Units: **MG/L** Analysis Date: **10/23/2013**
Client ID: Run ID: **AK131023-1A** Prep Date: **10/23/2013** 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: 1310307-1

QC BATCH REPORT

Batch ID: **IC131018-1-1** Instrument ID **IC** Method: **EPA300.0**

LCS Sample ID: **IC131018-1** Units: **MG/L** Analysis Date: **10/18/2013 16:37**

Client ID: Run ID: **IC131018-1A1** Prep Date: **10/18/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
FLUORIDE	2.03	0.1	2		101	90-110			15	
CHLORIDE	5.1	0.2	5		102	90-110			15	
NITRITE AS N	1.97	0.1	2		99	90-110			15	
BROMIDE	5.37	0.2	5		107	90-110			15	
NITRATE AS N	5.29	0.2	5		106	90-110			15	
SULFATE	20.3	1	20		102	90-110			15	

MB Sample ID: **IC131018-1** Units: **MG/L** Analysis Date: **10/18/2013 16:52**

Client ID: Run ID: **IC131018-1A1** Prep Date: **10/18/2013** 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								

MS Sample ID: **1310307-1** Units: **MG/L** Analysis Date: **10/18/2013 17:34**

Client ID: **Schuette-273609** Run ID: **IC131018-1A1** Prep Date: **10/18/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
FLUORIDE	2.31	0.1	2	0.21	105	85-115			15	
CHLORIDE	9.47	0.2	5	4.5	100	85-115			15	
NITRITE AS N	1.89	0.1	2	0.1	94	85-115			15	
BROMIDE	5.31	0.2	5	0.2	106	85-115			15	
NITRATE AS N	7.17	0.2	5	1.8	107	85-115			15	
SULFATE	53.2	1	20	33	103	85-115			15	

MSD Sample ID: **1310307-1** Units: **MG/L** Analysis Date: **10/18/2013 17:48**

Client ID: **Schuette-273609** Run ID: **IC131018-1A1** Prep Date: **10/18/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
FLUORIDE	2.3	0.1	2	0.21	105	85-115	2.31	0	15	
CHLORIDE	9.47	0.2	5	4.5	100	85-115	9.47	0	15	
NITRITE AS N	1.9	0.1	2	0.1	95	85-115	1.89	1	15	
BROMIDE	5.3	0.2	5	0.2	106	85-115	5.31	0	15	
NITRATE AS N	7.17	0.2	5	1.8	107	85-115	7.17	0	15	
SULFATE	53.3	1	20	33	103	85-115	53.2	0	15	

QC BATCH REPORT

The following samples were analyzed in this batch: 1310307-1

QC BATCH REPORT

Batch ID: **pH131021-1-2** Instrument ID **pH-1** Method: **SM4500-H**

DUP Sample ID: **1310307-1** Units: **pH** Analysis Date: **10/21/2013**

Client ID: **Schuette-273609** Run ID: **pH131021-1A** Prep Date: **10/21/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
PH	7.86	0.1					7.91		0.2	

The following samples were analyzed in this batch: 1310307-1

QC BATCH REPORT

Batch ID: **SC131021-1-1** Instrument ID **pH-1** Method: **SM2510B**

DUP Sample ID: **1310307-1** Units: **umhos/cm** Analysis Date: **10/21/2013**

Client ID: **Schuette-273609** Run ID: **SC131021-1A** Prep Date: **10/21/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
SPECIFIC CONDUCTIVITY	766	1					758	1	10	

The following samples were analyzed in this batch: 1310307-1

QC BATCH REPORT

Batch ID: **TD131022-1-1** Instrument ID **Balance** Method: **SM2540C**

LCS Sample ID: **TD131022-1** Units: **MG/L** Analysis Date: **10/23/2013**
Client ID: Run ID: **TD131023-1A** Prep Date: **10/22/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
TOTAL DISSOLVED SOLIDS	402	20	400		101	85-115			5	

MB Sample ID: **TD131022-1** Units: **MG/L** Analysis Date: **10/23/2013**
Client ID: Run ID: **TD131023-1A** Prep Date: **10/22/2013** 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: 1310307-1

QC BATCH REPORT

Batch ID: **TP131031-1-1** Instrument ID **Spec** Method: **EPA365.2**

LCS Sample ID: **TP131031-1** Units: **MG/L** Analysis Date: **10/31/2013**
Client ID: Run ID: **TP131031-1A** Prep Date: **10/31/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
TOTAL PHOSPHORUS	0.484	0.05	0.5		97	80-120			20	

MB Sample ID: **TP131031-1** Units: **MG/L** Analysis Date: **10/31/2013**
Client ID: Run ID: **TP131031-1A** Prep Date: **10/31/2013** 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: 1310307-1

1310347

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.

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

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.

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 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 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
Nitrate/nitrite as N	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: 1310347
Client Name: Western Water and Land, Inc.
Client Project Name: GV 86-2 BWQ
Client Project Number: 30000.01.71
Client PO Number:

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
Firth 112927	1310347-1		WATER	21-Oct-13	9:42
Hanson Well	1310347-2		WATER	21-Oct-13	11:45
Trip Blank	1310347-3		WATER	21-Oct-13	
Hanson Well	1310347-4		WATER	21-Oct-13	11:45

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 #	1310347		
SAMPLER	SLG, NWS	DATE	10-21-13
PAGE	1 of 1		
PROJECT NAME	GV 86-2 BING	PROJECT NO.	30000.01.71
TURNAROUND	Standard	DISPOSAL	(By Lab) or Return to Client
FACILITY NAME	GV 86-2	EDD FORMAT	
FACILITY ID (API)		PURCHASE ORDER	
COMPANY NAME	Western Water + Land	BILL TO COMPANY	WPX Energy
SEND REPORT TO	Bruce Smith	INVOICE ATTN TO	Brandon Danforth
ADDRESS	743 Horizon Ct. Suite 330	ADDRESS	1058 CR 215
CITY / STATE / ZIP	Grand Junction, CO 81506	CITY / STATE / ZIP	Parachute, CO 81635
PHONE	970-242-0170	PHONE	970-263-2792
FAX		FAX	
E-MAIL	bsmith@westernwaterandland.com	E-MAIL	

Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC	NGI	BART	BTEX	GRO	Dissolved gasses	MEP (No HCl)	DRO	Dissolved metals (lab filter)	[illegible]	Anions, alk, tds	pH, cond	Total phosphorus	Dis. Gasses (HCl)
1	Firth 112927	W	10-21-13	0942	15	1,3	IV	✓	✓	✓	✓	✓		✓	✓		✓		✓	
2	Hanson Well	W	10-21-13	1145	18	1,3	IV	✓	✓	✓	✓	✓		✓	✓		✓		✓	✓
3	TB1, TB2																			

*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: Call WWL Before analysis.
Dissolved metals need to be lab filtered.
Hanson well effervescent

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

	SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY	[signature]	Shelby Goodwin	10-21-13	1400
RECEIVED BY	[signature]	Lauren Schmitz	10/22/13	1045
RELINQUISHED BY				
RECEIVED BY				
RELINQUISHED BY				
RECEIVED BY				

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

ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: W. Water Workorder No: 1310347

Project Manager: ARW Initials: LAS Date: 10/22/13

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):	1.6								
No. of custody seals on cooler:	2								
DOT Survey/ Acceptance Information — External µR/hr reading:	12								
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.)

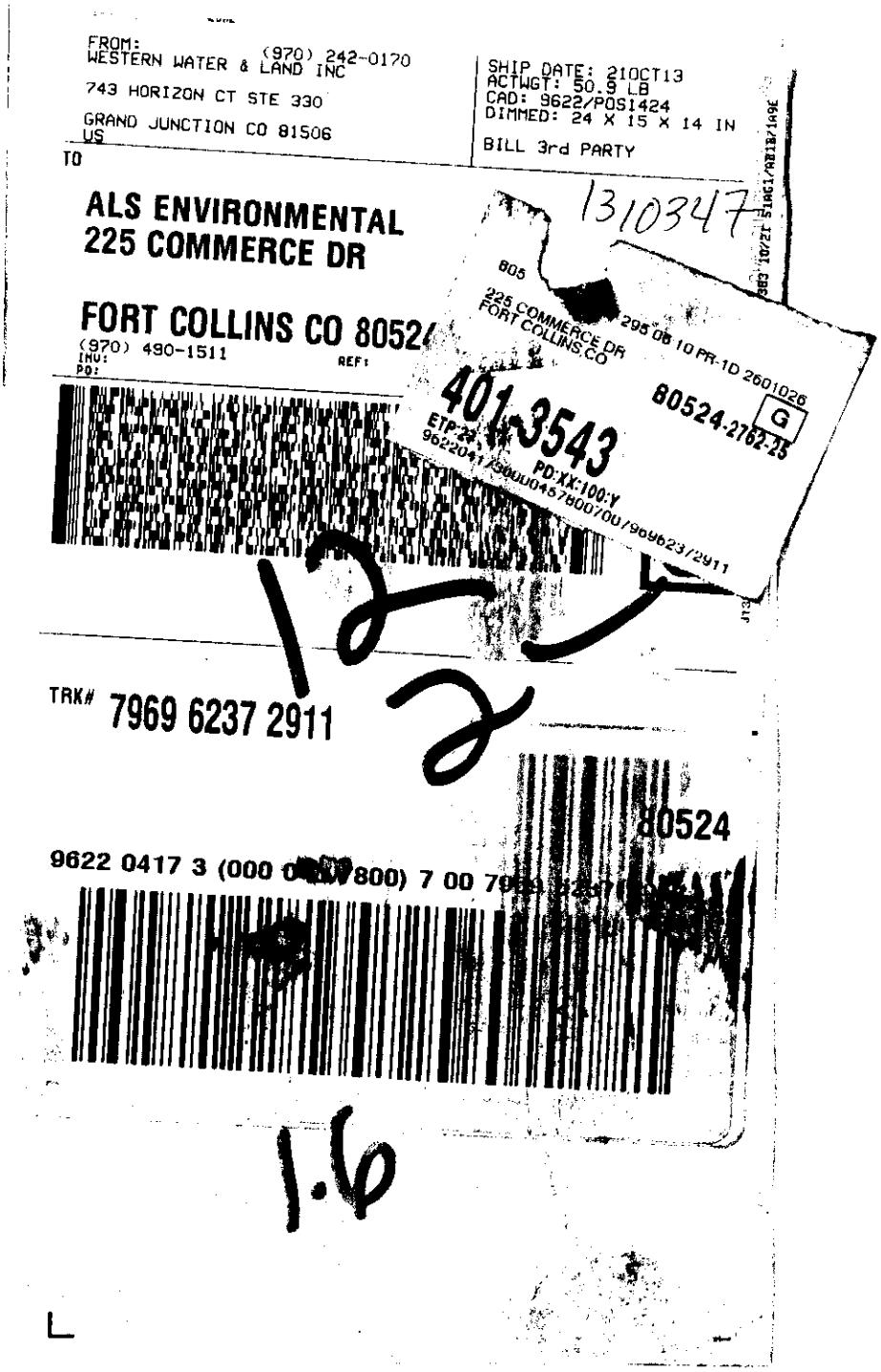
Additional Information: PROVIDE DETAILS BELOW FOR A NO RESPONSE TO ANY QUESTION ABOVE, EXCEPT #1 AND #16.

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

Project Manager Signature / Date: [signature] 10/22/13

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

Form 201r24.xls (06/04/2012)


FROM:
WESTERN WATER & LAND INC
(970) 242-0170
743 HORIZON CT STE 330
GRAND JUNCTION CO 81506
US
SHIP DATE: 21OCT13
ACTWGT: 50.9 LB
CAD: 9622/POS1424
DIMMED: 24 X 15 X 14 IN
BILL 3rd PARTY
TO
ALS ENVIRONMENTAL
225 COMMERCE DR
FORT COLLINS CO 80524
(970) 490-1511
INV:
PO:
REF:
1310347
225 COMMERCE DR
FORT COLLINS,CO
80524-2762 25
G
401-3543
PO:XX:100:Y
TRK# 7969 6237 2911
80524
1.6

Client:	Western Water and Land, Inc.	**Date:**	*12-Nov-13*
Project:	30000.01.71 GV 86-2 BWQ	**Work Order:**	1310347
Sample ID:	Firth 112927	**Lab ID:**	1310347-1
Legal Location:		**Matrix:**	WATER
Collection Date:	10/21/2013 09:42	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
ALKALINITY AS CALCIUM CARBONATE			**SM2320B**		Prep Date: **10/23/2013**	PrepBy: **KMP**
BICARBONATE AS CaCO3	**330**		**20**	**MG/L**	1	10/23/2013
CARBONATE AS CaCO3	ND		20	MG/L	1	10/23/2013
TOTAL ALKALINITY AS CaCO3	**330**		**20**	**MG/L**	1	10/23/2013
BIOLOGICAL ACTIVITY REACTION TEST			**BART**		Prep Date: **11/4/2013**	PrepBy: **BAS**
IRON RELATED BACTERIA	**1**		**1**	**NU**	1	11/12/2013
SLIME FORMING BACTERIA	ND		1	NU	1	11/12/2013
SULFATE REDUCING BACTERIA	ND		1	NU	1	11/12/2013
DIESEL RANGE ORGANICS			**SW8015M**		Prep Date: **10/28/2013**	PrepBy: **JAC**
Diesel Range Organics	ND		0.5	MG/L	1	10/28/2013 14:30
Surr: O-TERPHENYL	*101*		*54-123*	*%REC*	1	10/28/2013 14:30
DISSOLVED GASSES			**RSK175**		Prep Date: **10/28/2013**	PrepBy: **JFN**
METHANE	ND		1	UG/L	1	10/28/2013 17:08
ETHANE	ND		2	UG/L	1	10/28/2013 17:08
PROPANE	ND		1	UG/L	1	10/28/2013 17:08
GC/MS VOLATILES			**SW8260_25**		Prep Date: **10/23/2013**	PrepBy: **SDW**
BENZENE	ND		1	UG/L	1	10/23/2013 17:24
TOLUENE	ND		1	UG/L	1	10/23/2013 17:24
ETHYLBENZENE	ND		1	UG/L	1	10/23/2013 17:24
M+P-XYLENE	ND		1	UG/L	1	10/23/2013 17:24
O-XYLENE	ND		1	UG/L	1	10/23/2013 17:24
GASOLINE RANGE ORGANICS	ND		100	UG/L	1	10/23/2013 17:24
TOTAL XYLENES	ND		1	UG/L	1	10/23/2013 17:24
Surr: DIBROMOFLUOROMETHANE	*94*		*84-118*	*%REC*	1	10/23/2013 17:24
Surr: TOLUENE-D8	*99*		*85-115*	*%REC*	1	10/23/2013 17:24
Surr: 4-BROMOFLUOROBENZENE	*103*		*85-115*	*%REC*	1	10/23/2013 17:24
ION CHROMATOGRAPHY			**EPA300.0**		Prep Date: **10/22/2013**	PrepBy: **AJD**
BROMIDE	ND		0.2	MG/L	1	10/22/2013 17:02
CHLORIDE	**6.5**		**0.2**	**MG/L**	1	10/22/2013 17:02
FLUORIDE	**0.25**		**0.1**	**MG/L**	1	10/22/2013 17:02
NITRATE/NITRITE AS N	**1.3**		**0.1**	**MG/L**	1	10/22/2013 17:02
NITRITE AS N	ND		0.1	MG/L	1	10/22/2013 17:02
NITRATE AS N	**1.3**		**0.2**	**MG/L**	1	10/22/2013 17:02
SULFATE	**20**		**1**	**MG/L**	1	10/22/2013 17:02
METALS BY 200.8			**EPA200.8**		Prep Date: **10/25/2013**	PrepBy: **NAQ**
BARIUM	**92**		**1**	**UG/L**	10	10/28/2013 12:15
BORON	**110**		**50**	**UG/L**	10	10/28/2013 12:15
CALCIUM	**26000**		**1000**	**UG/L**	10	10/28/2013 12:15
IRON	ND		100	UG/L	10	10/28/2013 12:15
MAGNESIUM	**31000**		**100**	**UG/L**	10	10/28/2013 12:15
MANGANESE	ND		2	UG/L	10	10/28/2013 12:15

Client:	Western Water and Land, Inc.	**Date:**	*12-Nov-13*
Project:	30000.01.71 GV 86-2 BWQ	**Work Order:**	1310347
Sample ID:	Firth 112927	**Lab ID:**	1310347-1
Legal Location:		**Matrix:**	WATER
Collection Date:	10/21/2013 09:42	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
POTASSIUM	**1800**		**1000**	**UG/L**	10	10/28/2013 12:15
SELENIUM	ND		1	UG/L	10	10/28/2013 12:15
SODIUM	**65000**		**1000**	**UG/L**	10	10/28/2013 12:15
STRONTIUM	**670**		**1**	**UG/L**	10	10/28/2013 12:15
PH			**SM4500-H**		Prep Date: **10/24/2013**	PrepBy: **KMP**
PH	**7.88**		**0.1**	**pH**	1	10/24/2013
SPECIFIC CONDUCTANCE IN WATER			**SM2510B**		Prep Date: **10/24/2013**	PrepBy: **KMP**
SPECIFIC CONDUCTIVITY	**635**		**1**	**umhos/cm**	1	10/24/2013
TOTAL DISSOLVED SOLIDS			**EPA160.1**		Prep Date: **10/25/2013**	PrepBy: **KMP**
TOTAL DISSOLVED SOLIDS	**390**		**20**	**MG/L**	1	10/28/2013
TOTAL PHOSPHORUS AS P			**EPA365.2**		Prep Date: **10/31/2013**	PrepBy: **AJD**
TOTAL PHOSPHORUS	ND		0.05	MG/L	1	10/31/2013

Client:	Western Water and Land, Inc.	**Date:**	*12-Nov-13*
Project:	30000.01.71 GV 86-2 BWQ	**Work Order:**	1310347
Sample ID:	Hanson Well	**Lab ID:**	1310347-2
Legal Location:		**Matrix:**	WATER
Collection Date:	10/21/2013 11:45	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
ALKALINITY AS CALCIUM CARBONATE			**SM2320B**		Prep Date: **10/23/2013**	PrepBy: **KMP**
BICARBONATE AS CaCO3	**420**		**20**	**MG/L**	1	10/23/2013
CARBONATE AS CaCO3	ND		20	MG/L	1	10/23/2013
TOTAL ALKALINITY AS CaCO3	**420**		**20**	**MG/L**	1	10/23/2013
BIOLOGICAL ACTIVITY REACTION TEST			**BART**		Prep Date: **11/4/2013**	PrepBy: **BAS**
IRON RELATED BACTERIA	**1**		**1**	**NU**	1	11/12/2013
SLIME FORMING BACTERIA	**1**		**1**	**NU**	1	11/12/2013
SULFATE REDUCING BACTERIA	ND		1	NU	1	11/12/2013
DIESEL RANGE ORGANICS			**SW8015M**		Prep Date: **10/28/2013**	PrepBy: **JAC**
Diesel Range Organics	ND		0.5	MG/L	1	10/28/2013 15:52
Surr: O-TERPHENYL	*98*		*54-123*	*%REC*	1	10/28/2013 15:52
DISSOLVED GASSES			**RSK175**		Prep Date: **10/28/2013**	PrepBy: **JFN**
METHANE	ND		1	UG/L	1	10/28/2013 17:13
ETHANE	ND		2	UG/L	1	10/28/2013 17:13
PROPANE	ND		1	UG/L	1	10/28/2013 17:13
GC/MS VOLATILES			**SW8260_25**		Prep Date: **10/23/2013**	PrepBy: **SDW**
BENZENE	ND		1	UG/L	1	10/23/2013 17:48
TOLUENE	ND		1	UG/L	1	10/23/2013 17:48
ETHYLBENZENE	ND		1	UG/L	1	10/23/2013 17:48
M+P-XYLENE	ND		1	UG/L	1	10/23/2013 17:48
O-XYLENE	ND		1	UG/L	1	10/23/2013 17:48
GASOLINE RANGE ORGANICS	ND		100	UG/L	1	10/23/2013 17:48
TOTAL XYLENES	ND		1	UG/L	1	10/23/2013 17:48
Surr: DIBROMOFLUOROMETHANE	*96*		*84-118*	*%REC*	1	10/23/2013 17:48
Surr: TOLUENE-D8	*98*		*85-115*	*%REC*	1	10/23/2013 17:48
Surr: 4-BROMOFLUOROBENZENE	*102*		*85-115*	*%REC*	1	10/23/2013 17:48
ION CHROMATOGRAPHY			**EPA300.0**		Prep Date: **10/22/2013**	PrepBy: **AJD**
BROMIDE	ND		0.2	MG/L	1	10/22/2013 17:16
CHLORIDE	**11**		**0.2**	**MG/L**	1	10/22/2013 17:16
FLUORIDE	**0.36**		**0.1**	**MG/L**	1	10/22/2013 17:16
NITRATE/NITRITE AS N	**2.1**		**0.1**	**MG/L**	1	10/22/2013 17:16
NITRITE AS N	ND		0.1	MG/L	1	10/22/2013 17:16
NITRATE AS N	**2.1**		**0.2**	**MG/L**	1	10/22/2013 17:16
SULFATE	**64**		**1**	**MG/L**	1	10/22/2013 17:16
METALS BY 200.8			**EPA200.8**		Prep Date: **10/25/2013**	PrepBy: **NAQ**
BARIUM	**32**		**1**	**UG/L**	10	10/28/2013 12:40
BORON	**210**		**50**	**UG/L**	10	10/28/2013 12:40
CALCIUM	**18000**		**1000**	**UG/L**	10	10/28/2013 12:40
IRON	ND		100	UG/L	10	10/28/2013 12:40
MAGNESIUM	**31000**		**100**	**UG/L**	10	10/28/2013 12:40
MANGANESE	ND		2	UG/L	10	10/28/2013 12:40

Client:	Western Water and Land, Inc.	**Date:**	*12-Nov-13*
Project:	30000.01.71 GV 86-2 BWQ	**Work Order:**	1310347
Sample ID:	Hanson Well	**Lab ID:**	1310347-2
Legal Location:		**Matrix:**	WATER
Collection Date:	10/21/2013 11:45	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
POTASSIUM	**2100**		**1000**	**UG/L**	10	10/28/2013 12:40
SELENIUM	**2.8**		**1**	**UG/L**	10	10/28/2013 12:40
SODIUM	**130000**		**1000**	**UG/L**	10	10/28/2013 12:40
STRONTIUM	**430**		**1**	**UG/L**	10	10/28/2013 12:40
PH			**SM4500-H**		Prep Date: **10/24/2013**	PrepBy: **KMP**
PH	**7.94**		**0.1**	**pH**	1	10/24/2013
SPECIFIC CONDUCTANCE IN WATER			**SM2510B**		Prep Date: **10/24/2013**	PrepBy: **KMP**
SPECIFIC CONDUCTIVITY	**878**		**1**	**umhos/cm**	1	10/24/2013
TOTAL DISSOLVED SOLIDS			**EPA160.1**		Prep Date: **10/25/2013**	PrepBy: **KMP**
TOTAL DISSOLVED SOLIDS	**550**		**20**	**MG/L**	1	10/28/2013
TOTAL PHOSPHORUS AS P			**EPA365.2**		Prep Date: **10/31/2013**	PrepBy: **AJD**
TOTAL PHOSPHORUS	ND		0.05	MG/L	1	10/31/2013

Client:	Western Water and Land, Inc.	**Date:**	*12-Nov-13*
Project:	30000.01.71 GV 86-2 BWQ	**Work Order:**	1310347
Sample ID:	Trip Blank	**Lab ID:**	1310347-3
Legal Location:		**Matrix:**	WATER
Collection Date:	10/21/2013	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
GC/MS VOLATILES			**SW8260_25**		Prep Date: **10/23/2013**	PrepBy: **SDW**
BENZENE	ND		1	UG/L	1	10/23/2013 18:11
TOLUENE	ND		1	UG/L	1	10/23/2013 18:11
ETHYLBENZENE	ND		1	UG/L	1	10/23/2013 18:11
M+P-XYLENE	ND		1	UG/L	1	10/23/2013 18:11
O-XYLENE	ND		1	UG/L	1	10/23/2013 18:11
GASOLINE RANGE ORGANICS	**64**	J	**100**	**UG/L**	1	10/23/2013 18:11
TOTAL XYLENES	ND		1	UG/L	1	10/23/2013 18:11
Surr: DIBROMOFLUOROMETHANE	*94*		*84-118*	*%REC*	1	10/23/2013 18:11
Surr: TOLUENE-D8	*101*		*85-115*	*%REC*	1	10/23/2013 18:11
Surr: 4-BROMOFLUOROBENZENE	*101*		*85-115*	*%REC*	1	10/23/2013 18:11

Client:	Western Water and Land, Inc.	**Date:**	*12-Nov-13*
Project:	30000.01.71 GV 86-2 BWQ	**Work Order:**	1310347
Sample ID:	Hanson Well	**Lab ID:**	1310347-4
Legal Location:		**Matrix:**	WATER
Collection Date:	10/21/2013 11:45	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DISSOLVED GASSES			**RSK175**		Prep Date: **10/28/2013**	PrepBy: **JFN**
METHANE	ND		1	UG/L	1	10/28/2013 17:17
ETHANE	ND		2	UG/L	1	10/28/2013 17:17
PROPANE	ND		1	UG/L	1	10/28/2013 17:17

Client:	Western Water and Land, Inc.	**Date:**	*12-Nov-13*
Project:	30000.01.71 GV 86-2 BWQ	**Work Order:**	1310347
Sample ID:	Hanson Well	**Lab ID:**	1310347-4
Legal Location:		**Matrix:**	WATER
Collection Date:	10/21/2013 11:45	**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:**	*12-Nov-13*
Project:	30000.01.71 GV 86-2 BWQ	**Work Order:**	1310347
Sample ID:	Hanson Well	**Lab ID:**	1310347-4
Legal Location:		**Matrix:**	WATER
Collection Date:	10/21/2013 11:45	**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: **EX131028-1-1** Instrument ID **FUELS-1** Method: **SW8015M**

LCS Sample ID: **EX131028-1** Units: **MG/L** Analysis Date: **10/28/2013 13:08**

Client ID: Run ID: **HC131028-3A** Prep Date: **10/28/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
Diesel Range Organics	10.7	0.5	10		107	36-150			20	
Surr: O-TERPHENYL	1.26		1.25		101	54-123				

LCSD Sample ID: **EX131028-1** Units: **MG/L** Analysis Date: **10/28/2013 13:35**

Client ID: Run ID: **HC131028-3A** Prep Date: **10/28/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
Diesel Range Organics	11	0.5	10		110	36-150	10.7	3	20	
Surr: O-TERPHENYL	1.3		1.25		104	54-123		3		

MB Sample ID: **EX131028-1** Units: **MG/L** Analysis Date: **10/28/2013 12:40**

Client ID: Run ID: **HC131028-3A** Prep Date: **10/28/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
Diesel Range Organics	ND	0.5								
Surr: O-TERPHENYL	1.36		1.25		108	54-123				

MS Sample ID: **1310347-1** Units: **MG/L** Analysis Date: **10/28/2013 14:57**

Client ID: **Firth 112927** Run ID: **HC131028-3A** Prep Date: **10/28/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
Diesel Range Organics	10.5	0.5	10	0.5	105	36-150			20	
Surr: O-TERPHENYL	1.24		1.25		99	54-123				

MSD Sample ID: **1310347-1** Units: **MG/L** Analysis Date: **10/28/2013 15:25**

Client ID: **Firth 112927** Run ID: **HC131028-3A** Prep Date: **10/28/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
Diesel Range Organics	10.6	0.5	10	0.5	106	36-150	10.5	1	20	
Surr: O-TERPHENYL	1.24		1.25		99	54-123		0		

The following samples were analyzed in this batch: 1310347-1 1310347-2

Batch ID: **HC131028-9-1** Instrument ID **MEE-1** Method: **RSK175**

LCS Sample ID: **HC131028-9** Units: **UG/L** Analysis Date: **10/28/2013 16:56**
Client ID: Run ID: **HC131028-9A** Prep Date: **10/28/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
METHANE	133	1	142		94	80-120			25	
ETHANE	247	2	267		93	80-120			25	
PROPANE	355	1	391		91	80-120			25	

LCSD Sample ID: **HC131028-9** Units: **UG/L** Analysis Date: **10/28/2013 18:11**
Client ID: Run ID: **HC131028-9A** Prep Date: **10/28/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
METHANE	132	1	142		93	80-120	133	1	25	
ETHANE	246	2	267		92	80-120	247	1	25	
PROPANE	351	1	391		90	80-120	355	1	25	

MB Sample ID: **HC131028-9** Units: **UG/L** Analysis Date: **10/28/2013 16:59**
Client ID: Run ID: **HC131028-9A** Prep Date: **10/28/2013** 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								

MS Sample ID: **1310347-1** Units: **UG/L** Analysis Date: **10/28/2013 17:11**
Client ID: **Firth 112927** Run ID: **HC131028-9A** Prep Date: **10/28/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
METHANE	111	1	142	1	78	70-130			25	
ETHANE	205	2	267	2	77	70-130			25	
PROPANE	293	1	391	1	75	70-130			25	

The following samples were analyzed in this batch: 1310347-1 1310347-2 1310347-4

QC BATCH REPORT

Batch ID: **IP131025-5-1** Instrument ID **ICPMS2** Method: **EPA200.8**

DUP Sample ID: **1310347-1** Units: **UG/L** Analysis Date: **10/28/2013 12:18**

Client ID: **Firth 112927** Run ID: **IM131028-10A2** Prep Date: **10/25/2013** DF: **10**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
BARIUM	95.7	1					92	4	30	
BORON	90.6	50					110		30	
CALCIUM	26700	1000					26000	4	30	
IRON	ND	100					100		30	
MAGNESIUM	31700	100					31000	1	30	
MANGANESE	ND	2					2		30	
POTASSIUM	1660	1000					1800		30	
SELENIUM	ND	1					1		30	
SODIUM	64900	1000					65000	0	30	
STRONTIUM	684	1					670	2	30	

LCS Sample ID: **FP131025-5** Units: **UG/L** Analysis Date: **10/28/2013 12:12**

Client ID: Run ID: **IM131028-10A2** Prep Date: **10/25/2013** DF: **10**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
BARIUM	95.4	1	100		95	85-115			20	
BORON	897	50	1000		90	85-115			20	
CALCIUM	9380	1000	10000		94	85-115			20	
IRON	5140	100	5000		103	85-115			20	
MAGNESIUM	9300	100	10000		93	85-115			20	
MANGANESE	191	2	200		96	85-115			20	
POTASSIUM	4960	1000	5000		99	85-115			20	
SELENIUM	97	1	100		97	85-115			20	
SODIUM	9920	1000	10000		99	85-115			20	
STRONTIUM	94.4	1	100		94	85-115			20	

MB Sample ID: **FP131025-5** Units: **UG/L** Analysis Date: **10/28/2013 12:09**

Client ID: Run ID: **IM131028-10A2** Prep Date: **10/25/2013** 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								

QC BATCH REPORT

Batch ID: **IP131025-5-1** Instrument ID **ICPMS2** Method: **EPA200.8**

MS Sample ID: **1310347-1** Units: **UG/L** Analysis Date: **10/28/2013 12:23**

Client ID: **Firth 112927** Run ID: **IM131028-10A2** Prep Date: **10/25/2013** DF: **10**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
BARIUM	200	1	100	92	108	70-130			20	
BORON	1040	50	1000	110	93	70-130			20	
CALCIUM	36900	1000	10000	26000	112	70-130			20	
IRON	5320	100	5000	100	106	70-130			20	
MAGNESIUM	41700	100	10000	31000	104	70-130			20	
MANGANESE	196	2	200	2	98	70-130			20	
POTASSIUM	6810	1000	5000	1800	101	70-130			20	
SELENIUM	97.6	1	100	1	98	70-130			20	
SODIUM	75600	1000	10000	65000	110	70-130			20	
STRONTIUM	790	1	100	670	117	70-130			20	

MSD Sample ID: **1310347-1** Units: **UG/L** Analysis Date: **10/28/2013 12:26**

Client ID: **Firth 112927** Run ID: **IM131028-10A2** Prep Date: **10/25/2013** DF: **10**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
BARIUM	191	1	100	92	98.8	70-130	200	5	20	
BORON	1030	50	1000	110	92.7	70-130	1040	0	20	
CALCIUM	36500	1000	10000	26000	107.5	70-130	36900	1	20	
IRON	5310	100	5000	100	106	70-130	5320	0	20	
MAGNESIUM	41100	100	10000	31000	97.7	70-130	41700	2	20	
MANGANESE	195	2	200	2	98	70-130	196	1	20	
POTASSIUM	6960	1000	5000	1800	104.2	70-130	6810	2	20	
SELENIUM	97.5	1	100	1	98	70-130	97.6	0	20	
SODIUM	74400	1000	10000	65000	97.4	70-130	75600	2	20	
STRONTIUM	783	1	100	670	109.8	70-130	790	1	20	

The following samples were analyzed in this batch: 1310347-1 1310347-2

Batch ID: **VL131023-4-1** Instrument ID **HPV1** Method: **SW8260_25**

LCS Sample ID: **VL131023-4** Units: **UG/L** Analysis Date: **10/23/2013 13:14**
Client ID: Run ID: **VL131023-4A** Prep Date: **10/23/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
BENZENE	8.97	1	10		90	83-117			20	
TOLUENE	9.1	1	10		91	82-113			20	
ETHYLBENZENE	9.23	1	10		92	81-113			20	
M+P-XYLENE	18.8	1	20		94	82-115			20	
O-XYLENE	9.57	1	10		96	81-115			20	
Surr: DIBROMOFLUOROMETHA	24.3		25		97	84-118				
Surr: TOLUENE-D8	24.1		25		96	85-115				
Surr: 4-BROMOFLUOROBENZE	25.2		25		101	85-115				

LCS Sample ID: **VL131023-7** Units: **UG/L** Analysis Date: **10/23/2013 11:57**
Client ID: Run ID: **VL131023-4A** Prep Date: **10/23/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
GASOLINE RANGE ORGANICS	504	100	500		101	80-120			20	

LCSD Sample ID: **VL131023-4** Units: **UG/L** Analysis Date: **10/23/2013 13:36**
Client ID: Run ID: **VL131023-4A** Prep Date: **10/23/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
BENZENE	9	1	10		90	83-117	8.97	0	20	
TOLUENE	9.32	1	10		93	82-113	9.1	2	20	
ETHYLBENZENE	9.27	1	10		93	81-113	9.23	0	20	
M+P-XYLENE	19.2	1	20		96	82-115	18.8	2	20	
O-XYLENE	9.41	1	10		94	81-115	9.57	2	20	
Surr: DIBROMOFLUOROMETHA	24.9		25		99	84-118		2		
Surr: TOLUENE-D8	24.8		25		99	85-115		3		
Surr: 4-BROMOFLUOROBENZE	25.9		25		103	85-115		2		

LCSD Sample ID: **VL131023-7** Units: **UG/L** Analysis Date: **10/23/2013 12:21**
Client ID: Run ID: **VL131023-4A** Prep Date: **10/23/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
GASOLINE RANGE ORGANICS	488	100	500		98	80-120	504	3	20	

QC BATCH REPORT

Batch ID: **VL131023-4-1** Instrument ID **HPV1** Method: **SW8260_25**

MB Sample ID: **VL131023-4** Units: **UG/L** Analysis Date: **10/23/2013 13:59**

Client ID: Run ID: **VL131023-4A** Prep Date: **10/23/2013** 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	23.8		25		95	84-118				
Surr: TOLUENE-D8	24.7		25		99	85-115				
Surr: 4-BROMOFLUOROBENZE	25.8		25		103	85-115				

The following samples were analyzed in this batch: 1310347-1 1310347-2 1310347-3

QC BATCH REPORT

Batch ID: **AK131023-1-1** Instrument ID **NONE** Method: **SM2320B**

LCS Sample ID: **AK131023-1** Units: **MG/L** Analysis Date: **10/23/2013**
Client ID: Run ID: **AK131023-1A** Prep Date: **10/23/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
TOTAL ALKALINITY AS CaCO3	96.6	5	100		96	85-115			15	

MB Sample ID: **AK131023-1** Units: **MG/L** Analysis Date: **10/23/2013**
Client ID: Run ID: **AK131023-1A** Prep Date: **10/23/2013** 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: 1310347-1 1310347-2

QC BATCH REPORT

Batch ID: **IC131022-1-2** Instrument ID **IC** Method: **EPA300.0**

LCS Sample ID: **IC131022-1** Units: **MG/L** Analysis Date: **10/22/2013 16:20**

Client ID: Run ID: **IC131022-1A1** Prep Date: **10/22/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
FLUORIDE	1.99	0.1	2		100	90-110			15	
CHLORIDE	5.11	0.2	5		102	90-110			15	
NITRITE AS N	1.99	0.1	2		99	90-110			15	
BROMIDE	5.35	0.2	5		107	90-110			15	
NITRATE AS N	5.28	0.2	5		106	90-110			15	
SULFATE	20.1	1	20		100	90-110			15	

MB Sample ID: **IC131022-1** Units: **MG/L** Analysis Date: **10/22/2013 16:34**

Client ID: Run ID: **IC131022-1A1** Prep Date: **10/22/2013** 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: 1310347-1 1310347-2

QC BATCH REPORT

Batch ID: **pH131024-1-1** Instrument ID **pH-1** Method: **SM4500-H**

CCV Sample ID: **CCV** Units: **pH** Analysis Date: **10/24/2013**
Client ID: Run ID: **PH131024-1A** Prep Date: **10/24/2013** DF: **1**

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

DUP Sample ID: **1310347-1** Units: **pH** Analysis Date: **10/24/2013**
Client ID: **Firth 112927** Run ID: **PH131024-1A** Prep Date: **10/24/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
PH	7.85	0.1					7.88		0.2	

ICV Sample ID: **ICV** Units: **pH** Analysis Date: **10/24/2013**
Client ID: Run ID: **PH131024-1A** Prep Date: **10/24/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
PH	6.99	0.1	7			6.95-7.05				

The following samples were analyzed in this batch: 1310347-1 1310347-2

QC BATCH REPORT

Batch ID: **SC131024-1-1** Instrument ID **pH-1** Method: **SM2510B**

DUP Sample ID: **1310347-1** Units: **umhos/cm** Analysis Date: **10/24/2013**

Client ID: **Firth 112927** Run ID: **SC131024-1A** Prep Date: **10/24/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
SPECIFIC CONDUCTIVITY	633	1					635	0	10	

The following samples were analyzed in this batch: 1310347-1 1310347-2

QC BATCH REPORT

Batch ID: **TD131025-1-1** Instrument ID **Balance** Method: **EPA160.1**

LCS Sample ID: **TD131025-1** Units: **MG/L** Analysis Date: **10/28/2013**
Client ID: Run ID: **TD131028-1A** Prep Date: **10/25/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
TOTAL DISSOLVED SOLIDS	402	20	400		101	85-115			5	

MB Sample ID: **TD131025-1** Units: **MG/L** Analysis Date: **10/28/2013**
Client ID: Run ID: **TD131028-1A** Prep Date: **10/25/2013** 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: 1310347-1 1310347-2

QC BATCH REPORT

Batch ID: **TP131031-1-1** Instrument ID **Spec** Method: **EPA365.2**

LCS Sample ID: **TP131031-1** Units: **MG/L** Analysis Date: **10/31/2013**
Client ID: Run ID: **TP131031-1A** Prep Date: **10/31/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
TOTAL PHOSPHORUS	0.484	0.05	0.5		97	80-120			20	

MB Sample ID: **TP131031-1** Units: **MG/L** Analysis Date: **10/31/2013**
Client ID: Run ID: **TP131031-1A** Prep Date: **10/31/2013** 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: 1310347-1 1310347-2

1310387

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 with the following exception:

The results for 1310387-2 (Trip Blank) indicate GRO in the sample. Further scrutinizing of the chromatogram for this sample revealed the presence of non-target peaks which were later identified as artifacts likely produced in the VOC vial (septa) manufacturing process. The vendor was contacted, and the contamination documented. There were no unique identifiers common to gasoline in the sample. No further action was taken.

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.

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
Nitrate/nitrite as N	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: 1310387
Client Name: Western Water and Land, Inc.
Client Project Name: GV 86-2 Courtesy
Client Project Number: 30000.01.71
Client PO Number:

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
Rice-Well	1310387-1		WATER	22-Oct-13	15:08
Trip Blank	1310387-2		WATER	22-Oct-13	

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 # 1310387

PAGE 1 of 1

DISPOSAL (By Lab) or Return to Client

PROJECT NAME	GV 86-2 Courtesy	SAMPLER	NWS
FACILITY NAME	GV 86-2	PROJECT NO.	30CCC01.71
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 Danforth
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	10-22-13
		TURNAROUND	Standard

Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC	VOA	BART	BTEX	GRO	Dis. Gasses	DRO	Dis. Metals Lab Filter	Anions, Alk, TDS, pH, Cond.	Total Phosphorus
(1)	Rice-Well	W	10-22-13	1508	15	1,3	IV	✓	✓	✓	✓	✓	✓	✓	✓	✓
(2)	TB1, TB2															

*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 Filter
Highly effervescent sample

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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		Nick Solcwetz	10-22-13	1715
RECEIVED BY		Jacob Roddy	10/23/13	1012
RELINQUISHED BY				
RECEIVED BY				
RELINQUISHED BY				
RECEIVED BY				

ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: Western Water + Land Workorder No: 1310387

Project Manager: ARW Initials: JLR Date: 10/23/13

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):	3°							
No. of custody seals on cooler:	2							
DOT Survey/ Acceptance Information: External µR/hr reading:	10							
Background µR/hr reading:	11							

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

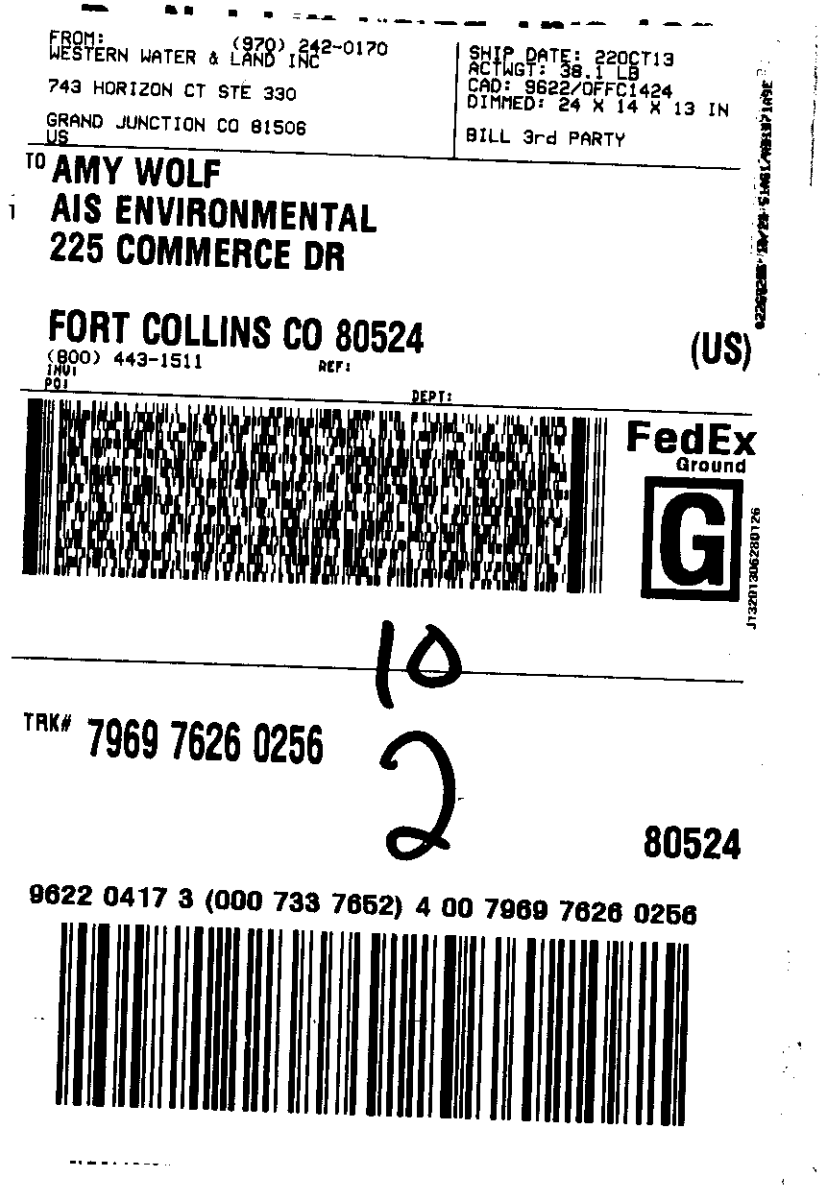
Additional Information: PROVIDE DETAILS BELOW FOR A NO RESPONSE TO ANY QUESTION ABOVE, EXCEPT #1 AND #16.

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

Project Manager Signature / Date: Dff for ARW 10/23/13

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

1310387



Temp = 3°C

Client: Western Water and Land, Inc. **Date:** *12-Nov-13*
Project: 30000.01.71 GV 86-2 Courtesy **Work Order:** 1310387
Sample ID: Rice-Well **Lab ID:** 1310387-1
Legal Location: **Matrix:** WATER
Collection Date: 10/22/2013 15:08 **Percent Moisture:**

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
ALKALINITY AS CALCIUM CARBONATE			**SM2320B**		Prep Date: **10/31/2013**	PrepBy: **KMP**
BICARBONATE AS CaCO3	**330**		**20**	**MG/L**	1	10/31/2013
CARBONATE AS CaCO3	ND		20	MG/L	1	10/31/2013
TOTAL ALKALINITY AS CaCO3	**330**		**20**	**MG/L**	1	10/31/2013
BIOLOGICAL ACTIVITY REACTION TEST			**BART**		Prep Date: **11/4/2013**	PrepBy: **BAS**
IRON RELATED BACTERIA	**1**		**1**	**NU**	1	11/12/2013
SLIME FORMING BACTERIA	ND		1	NU	1	11/12/2013
SULFATE REDUCING BACTERIA	ND		1	NU	1	11/12/2013
DIESEL RANGE ORGANICS			**SW8015M**		Prep Date: **10/28/2013**	PrepBy: **JAC**
Diesel Range Organics	ND		0.5	MG/L	1	10/28/2013 18:09
Surr: O-TERPHENYL	*94*		*54-123*	*%REC*	1	10/28/2013 18:09
DISSOLVED GASSES			**RSK175**		Prep Date: **10/28/2013**	PrepBy: **JFN**
METHANE	ND		1	UG/L	1	10/28/2013 17:46
ETHANE	ND		2	UG/L	1	10/28/2013 17:46
PROPANE	ND		1	UG/L	1	10/28/2013 17:46
GC/MS VOLATILES			**SW8260_25**		Prep Date: **10/23/2013**	PrepBy: **SDW**
BENZENE	ND		1	UG/L	1	10/23/2013 21:36
TOLUENE	ND		1	UG/L	1	10/23/2013 21:36
ETHYLBENZENE	ND		1	UG/L	1	10/23/2013 21:36
M+P-XYLENE	ND		1	UG/L	1	10/23/2013 21:36
O-XYLENE	ND		1	UG/L	1	10/23/2013 21:36
GASOLINE RANGE ORGANICS	ND		100	UG/L	1	10/23/2013 21:36
TOTAL XYLENES	ND		1	UG/L	1	10/23/2013 21:36
Surr: DIBROMOFLUOROMETHANE	*97*		*84-118*	*%REC*	1	10/23/2013 21:36
Surr: TOLUENE-D8	*101*		*85-115*	*%REC*	1	10/23/2013 21:36
Surr: 4-BROMOFLUOROBENZENE	*102*		*85-115*	*%REC*	1	10/23/2013 21:36
ION CHROMATOGRAPHY			**EPA300.0**		Prep Date: **10/23/2013**	PrepBy: **AJD**
BROMIDE	ND		0.2	MG/L	1	10/24/2013 15:06
CHLORIDE	**11**		**0.2**	**MG/L**	1	10/24/2013 15:06
FLUORIDE	**0.2**		**0.1**	**MG/L**	1	10/24/2013 15:06
NITRATE/NITRITE AS N	**0.72**		**0.1**	**MG/L**	1	10/24/2013 15:06
NITRITE AS N	ND		0.1	MG/L	1	10/24/2013 15:06
NITRATE AS N	**0.72**		**0.2**	**MG/L**	1	10/24/2013 15:06
SULFATE	**13**		**1**	**MG/L**	1	10/24/2013 15:06
METALS BY 200.8			**EPA200.8**		Prep Date: **10/25/2013**	PrepBy: **NAQ**
BARIUM	**79**		**1**	**UG/L**	10	10/28/2013 12:55
BORON	**130**		**50**	**UG/L**	10	10/28/2013 12:55
CALCIUM	**12000**		**1000**	**UG/L**	10	10/28/2013 12:55
IRON	ND		100	UG/L	10	10/28/2013 12:55
MAGNESIUM	**23000**		**100**	**UG/L**	10	10/28/2013 12:55
MANGANESE	ND		2	UG/L	10	10/28/2013 12:55

Client:	Western Water and Land, Inc.	**Date:**	*12-Nov-13*
Project:	30000.01.71 GV 86-2 Courtesy	**Work Order:**	1310387
Sample ID:	Rice-Well	**Lab ID:**	1310387-1
Legal Location:		**Matrix:**	WATER
Collection Date:	10/22/2013 15:08	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
POTASSIUM	**1800**		**1000**	**UG/L**	10	10/28/2013 12:55
SELENIUM	ND		1	UG/L	10	10/28/2013 12:55
SODIUM	**100000**		**1000**	**UG/L**	10	10/28/2013 12:55
STRONTIUM	**540**		**1**	**UG/L**	10	10/28/2013 12:55
PH			**SM4500-H**		Prep Date: **10/24/2013**	PrepBy: **KMP**
PH	**8.05**		**0.1**	**pH**	1	10/24/2013
SPECIFIC CONDUCTANCE IN WATER			**SM2510B**		Prep Date: **10/24/2013**	PrepBy: **KMP**
SPECIFIC CONDUCTIVITY	**665**		**1**	**umhos/cm**	1	10/24/2013
TOTAL DISSOLVED SOLIDS			**EPA160.1**		Prep Date: **10/25/2013**	PrepBy: **KMP**
TOTAL DISSOLVED SOLIDS	**410**		**20**	**MG/L**	1	10/28/2013
TOTAL PHOSPHORUS AS P			**EPA365.2**		Prep Date: **10/31/2013**	PrepBy: **AJD**
TOTAL PHOSPHORUS	ND		0.05	MG/L	1	10/31/2013

Client:	Western Water and Land, Inc.	**Date:**	*12-Nov-13*
Project:	30000.01.71 GV 86-2 Courtesy	**Work Order:**	1310387
Sample ID:	Trip Blank	**Lab ID:**	1310387-2
Legal Location:		**Matrix:**	WATER
Collection Date:	10/22/2013	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
GC/MS VOLATILES			**SW8260_25**		Prep Date: **10/23/2013**	PrepBy: **SDW**
BENZENE	ND		1	UG/L	1	10/23/2013 21:58
TOLUENE	ND		1	UG/L	1	10/23/2013 21:58
ETHYLBENZENE	ND		1	UG/L	1	10/23/2013 21:58
M+P-XYLENE	ND		1	UG/L	1	10/23/2013 21:58
O-XYLENE	ND		1	UG/L	1	10/23/2013 21:58
GASOLINE RANGE ORGANICS	**260**		**100**	**UG/L**	1	10/23/2013 21:58
TOTAL XYLENES	ND		1	UG/L	1	10/23/2013 21:58
Surr: DIBROMOFLUOROMETHANE	*97*		*84-118*	*%REC*	1	10/23/2013 21:58
Surr: TOLUENE-D8	*99*		*85-115*	*%REC*	1	10/23/2013 21:58
Surr: 4-BROMOFLUOROBENZENE	*104*		*85-115*	*%REC*	1	10/23/2013 21:58

Client:	Western Water and Land, Inc.	**Date:**	*12-Nov-13*
Project:	30000.01.71 GV 86-2 Courtesy	**Work Order:**	1310387
Sample ID:	Trip Blank	**Lab ID:**	1310387-2
Legal Location:		**Matrix:**	WATER
Collection Date:	10/22/2013	**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:**	*12-Nov-13*
Project:	30000.01.71 GV 86-2 Courtesy	**Work Order:**	1310387
Sample ID:	Trip Blank	**Lab ID:**	1310387-2
Legal Location:		**Matrix:**	WATER
Collection Date:	10/22/2013	**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: **EX131028-1-1** Instrument ID **FUELS-1** Method: **SW8015M**

LCS Sample ID: **EX131028-1** Units: **MG/L** Analysis Date: **10/28/2013 13:08**

Client ID: Run ID: **HC131028-3A** Prep Date: **10/28/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
Diesel Range Organics	10.7	0.5	10		107	36-150			20	
Surr: O-TERPHENYL	1.26		1.25		101	54-123				

LCSD Sample ID: **EX131028-1** Units: **MG/L** Analysis Date: **10/28/2013 13:35**

Client ID: Run ID: **HC131028-3A** Prep Date: **10/28/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
Diesel Range Organics	11	0.5	10		110	36-150	10.7	3	20	
Surr: O-TERPHENYL	1.3		1.25		104	54-123		3		

MB Sample ID: **EX131028-1** Units: **MG/L** Analysis Date: **10/28/2013 12:40**

Client ID: Run ID: **HC131028-3A** Prep Date: **10/28/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
Diesel Range Organics	ND	0.5								
Surr: O-TERPHENYL	1.36		1.25		108	54-123				

The following samples were analyzed in this batch: 1310387-1

QC BATCH REPORT

Batch ID: **HC131028-9-1** Instrument ID **MEE-1** Method: **RSK175**

DUP Sample ID: **1310387-1** Units: **UG/L** Analysis Date: **10/28/2013 18:09**
Client ID: **Rice-Well** Run ID: **HC131028-9A** Prep Date: **10/28/2013** DF: **1**

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

LCS Sample ID: **HC131028-9** Units: **UG/L** Analysis Date: **10/28/2013 16:56**
Client ID: Run ID: **HC131028-9A** Prep Date: **10/28/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
METHANE	133	1	142		94	80-120			25	
ETHANE	247	2	267		93	80-120			25	
PROPANE	355	1	391		91	80-120			25	

LCSD Sample ID: **HC131028-9** Units: **UG/L** Analysis Date: **10/28/2013 18:11**
Client ID: Run ID: **HC131028-9A** Prep Date: **10/28/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
METHANE	132	1	142		93	80-120	133	1	25	
ETHANE	246	2	267		92	80-120	247	1	25	
PROPANE	351	1	391		90	80-120	355	1	25	

MB Sample ID: **HC131028-9** Units: **UG/L** Analysis Date: **10/28/2013 16:59**
Client ID: Run ID: **HC131028-9A** Prep Date: **10/28/2013** 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: 1310387-1

QC BATCH REPORT

Batch ID: **IP131025-5-1** Instrument ID **ICPMS2** Method: **EPA200.8**

LCS Sample ID: **FP131025-5** Units: **UG/L** Analysis Date: **10/28/2013 12:12**

Client ID: Run ID: **IM131028-10A2** Prep Date: **10/25/2013** DF: **10**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
BARIUM	95.4	1	100		95	85-115			20	
BORON	897	50	1000		90	85-115			20	
CALCIUM	9380	1000	10000		94	85-115			20	
IRON	5140	100	5000		103	85-115			20	
MAGNESIUM	9300	100	10000		93	85-115			20	
MANGANESE	191	2	200		96	85-115			20	
POTASSIUM	4960	1000	5000		99	85-115			20	
SELENIUM	97	1	100		97	85-115			20	
SODIUM	9920	1000	10000		99	85-115			20	
STRONTIUM	94.4	1	100		94	85-115			20	

MB Sample ID: **FP131025-5** Units: **UG/L** Analysis Date: **10/28/2013 12:09**

Client ID: Run ID: **IM131028-10A2** Prep Date: **10/25/2013** 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: 1310387-1

Batch ID: **VL131023-4-1** Instrument ID **HPV1** Method: **SW8260_25**

LCS Sample ID: **VL131023-4** Units: **UG/L** Analysis Date: **10/23/2013 13:14**
Client ID: Run ID: **VL131023-4A** Prep Date: **10/23/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
BENZENE	8.97	1	10		90	83-117			20	
TOLUENE	9.1	1	10		91	82-113			20	
ETHYLBENZENE	9.23	1	10		92	81-113			20	
M+P-XYLENE	18.8	1	20		94	82-115			20	
O-XYLENE	9.57	1	10		96	81-115			20	
Surr: DIBROMOFLUOROMETHA	24.3		25		97	84-118				
Surr: TOLUENE-D8	24.1		25		96	85-115				
Surr: 4-BROMOFLUOROBENZE	25.2		25		101	85-115				

LCS Sample ID: **VL131023-7** Units: **UG/L** Analysis Date: **10/23/2013 11:57**
Client ID: Run ID: **VL131023-4A** Prep Date: **10/23/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
GASOLINE RANGE ORGANICS	504	100	500		101	80-120			20	

LCSD Sample ID: **VL131023-4** Units: **UG/L** Analysis Date: **10/23/2013 13:36**
Client ID: Run ID: **VL131023-4A** Prep Date: **10/23/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
BENZENE	9	1	10		90	83-117	8.97	0	20	
TOLUENE	9.32	1	10		93	82-113	9.1	2	20	
ETHYLBENZENE	9.27	1	10		93	81-113	9.23	0	20	
M+P-XYLENE	19.2	1	20		96	82-115	18.8	2	20	
O-XYLENE	9.41	1	10		94	81-115	9.57	2	20	
Surr: DIBROMOFLUOROMETHA	24.9		25		99	84-118		2		
Surr: TOLUENE-D8	24.8		25		99	85-115		3		
Surr: 4-BROMOFLUOROBENZE	25.9		25		103	85-115		2		

LCSD Sample ID: **VL131023-7** Units: **UG/L** Analysis Date: **10/23/2013 12:21**
Client ID: Run ID: **VL131023-4A** Prep Date: **10/23/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
GASOLINE RANGE ORGANICS	488	100	500		98	80-120	504	3	20	

QC BATCH REPORT

Batch ID: **VL131023-4-1** Instrument ID **HPV1** Method: **SW8260_25**

MB Sample ID: **VL131023-4** Units: **UG/L** Analysis Date: **10/23/2013 13:59**

Client ID: Run ID: **VL131023-4A** Prep Date: **10/23/2013** 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	23.8		25		95	84-118				
Surr: TOLUENE-D8	24.7		25		99	85-115				
Surr: 4-BROMOFLUOROBENZE	25.8		25		103	85-115				

The following samples were analyzed in this batch: 1310387-1 1310387-2

QC BATCH REPORT

Batch ID: **AK131031-1-1** Instrument ID **NONE** Method: **SM2320B**

LCS Sample ID: **AK131031-1** Units: **MG/L** Analysis Date: **10/31/2013**
Client ID: Run ID: **AK131031-1A** Prep Date: **10/31/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
TOTAL ALKALINITY AS CaCO3	101	5	100		101	85-115			15	

MB Sample ID: **AK131031-1** Units: **MG/L** Analysis Date: **10/31/2013**
Client ID: Run ID: **AK131031-1A** Prep Date: **10/31/2013** 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: 1310387-1

QC BATCH REPORT

Batch ID: **IC131023-1-2** Instrument ID **IC** Method: **EPA300.0**

LCS Sample ID: **IC131023-1** Units: **MG/L** Analysis Date: **10/24/2013 12:03**

Client ID: Run ID: **IC131024-1A1** Prep Date: **10/23/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
FLUORIDE	2.05	0.1	2		103	90-110			15	
CHLORIDE	5.14	0.2	5		103	90-110			15	
NITRITE AS N	1.97	0.1	2		98	90-110			15	
BROMIDE	5.36	0.2	5		107	90-110			15	
NITRATE AS N	5.31	0.2	5		106	90-110			15	
SULFATE	20.3	1	20		102	90-110			15	

MB Sample ID: **IC131023-1** Units: **MG/L** Analysis Date: **10/24/2013 12:17**

Client ID: Run ID: **IC131024-1A1** Prep Date: **10/23/2013** 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: 1310387-1

QC BATCH REPORT

Batch ID: **pH131024-1-1** Instrument ID **pH-1** Method: **SM4500-H**

CCV Sample ID: **CCV** Units: **pH** Analysis Date: **10/24/2013**

Client ID: Run ID: **PH131024-1A** Prep Date: **10/24/2013** DF: **1**

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

ICV Sample ID: **ICV** Units: **pH** Analysis Date: **10/24/2013**

Client ID: Run ID: **PH131024-1A** Prep Date: **10/24/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
PH	6.99	0.1	7			6.95-7.05				

The following samples were analyzed in this batch: 1310387-1

QC BATCH REPORT

Batch ID: **TD131025-1-1** Instrument ID **Balance** Method: **EPA160.1**

LCS Sample ID: **TD131025-1** Units: **MG/L** Analysis Date: **10/28/2013**
Client ID: Run ID: **TD131028-1A** Prep Date: **10/25/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
TOTAL DISSOLVED SOLIDS	402	20	400		101	85-115			5	

MB Sample ID: **TD131025-1** Units: **MG/L** Analysis Date: **10/28/2013**
Client ID: Run ID: **TD131028-1A** Prep Date: **10/25/2013** 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: 1310387-1

Client: Western Water and Land, Inc.
Work Order: 1310387
Project: 30000.01.71 GV 86-2 Courtesy

QC BATCH REPORT

Batch ID: **TP131031-1-1** Instrument ID **Spec** Method: **EPA365.2**

LCS Sample ID: **TP131031-1** Units: **MG/L** Analysis Date: **10/31/2013**
Client ID: Run ID: **TP131031-1A** Prep Date: **10/31/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
TOTAL PHOSPHORUS	0.484	0.05	0.5		97	80-120			20	

MB Sample ID: **TP131031-1** Units: **MG/L** Analysis Date: **10/31/2013**
Client ID: Run ID: **TP131031-1A** Prep Date: **10/31/2013** 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: 1310387-1