



1306419

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, Standard Method procedures for the current revisions of the following SOPs and methods:

<u>Analyte</u>	<u>Method</u>	<u>SOP #</u>
Alkalinity	SM2320B	1106
Bicarbonate	SM2320B	1106
Carbonate	SM2320B	1106
pH	SM4500-H ⁺ B	1126
Total phosphorus	365.2	1119
Specific conductance	SM2510B	1128
TDS	SM2540C	1101
Bromide	300.0 Revision 2.1	1113
Chloride	300.0 Revision 2.1	1113
Fluoride	300.0 Revision 2.1	1113
Nitrate as N	300.0 Revision 2.1	1113
Nitrite as N	300.0 Revision 2.1	1113
Sulfate	300.0 Revision 2.1	1113

The samples were prepared and analyzed within the established hold time for each analysis with the exception of nitrate as N and nitrite as N. Due to a power outage that occurred on the evening of 06/28/13 that disrupted laboratory operations the samples were analyzed on 06/29/13, out of hold. (See NCR #13940).

All remaining acceptance criteria were met.

ALS Environmental -- FC

Sample Number(s) Cross-Reference Table

OrderNum: 1306419

Client Name: Western Water and Land, Inc.

Client Project Name: WPX Baseline Water Quality

Client Project Number: RU 11-7

Client PO Number:

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
RU-11-7-Yellow Jacket Spg	1306419-1		WATER	27-Jun-13	10:00
RU-11-7-Beaver Creek	1306419-2		WATER	27-Jun-13	11:00
Trip Blank	1306419-3		WATER	27-Jun-13	



ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: Western Water

Workorder No: 1306419

Project Manager: ARW

Initials: LAS

Date: 6/28/13

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

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

* Trip Blank not listed on client COC.
Added as sample 1306419-3

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

Project Manager Signature / Date: [Signature] 6/29/13

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

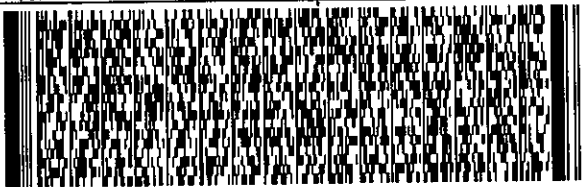
SHIP DATE: 27JUN13
ACT WT: 49.7 LB
CAD: 9622/OFFC1400
DIMMED: 25 X 13 X 13 IN
BILL 3rd PARTY

TO amy wolf
ALS ENVIRONMENTAL
225 COMMERCE DR

1306419
[Handwritten signature]

FORT COLLINS CO 80524 (US)

(970) 490-1511 REF: INU1 DEPT: P01



FedEx
Ground



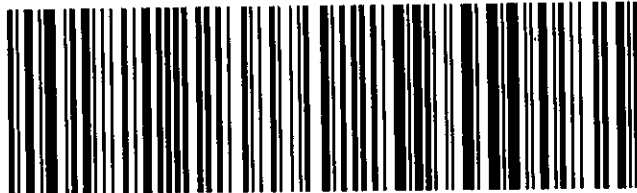
J13111302120126

1 of 2
TRK# 7957 9379 8725
MASTER

4.4

80524

9622 0417 3 (000 733 7652) 4 00 7957 9379 8725



ALS Environmental -- FC

SAMPLE SUMMARY REPORT

Client: Western Water and Land, Inc.
Project: RU 11-7 WPX Baseline Water Quality
Sample ID: RU-11-7-Yellow Jacket Spg
Legal Location:
Collection Date: 6/27/2013 10:00

Date: 28-Aug-13
Work Order: 1306419
Lab ID: 1306419-1
Matrix: WATER
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
ALKALINITY AS CALCIUM CARBONATE			SM2320B		Prep Date: 7/2/2013	PrepBy: AJD
BICARBONATE AS CaCO3	330		20	MG/L	1	7/2/2013
CARBONATE AS CaCO3	ND		20	MG/L	1	7/2/2013
TOTAL ALKALINITY AS CaCO3	330		20	MG/L	1	7/2/2013
BIOLOGICAL ACTIVITY REACTION TEST			BART		Prep Date: 7/2/2013	PrepBy: BAS
IRON RELATED BACTERIA	1			NU	1	7/10/2013
SLIME FORMING BACTERIA	1			NU	1	7/10/2013
SULFATE REDUCING BACTERIA	1			NU	1	7/10/2013
DIESEL RANGE ORGANICS			SW8015M		Prep Date: 7/2/2013	PrepBy: JAC
Diesel Range Organics	ND		0.5	MG/L	1	7/3/2013 22:08
Surr: O-TERPHENYL	76		51-97	%REC	1	7/3/2013 22:08
DISSOLVED GASSES			RSK175		Prep Date: 7/1/2013	PrepBy: JFN
METHANE	93		1	UG/L	1	7/1/2013 12:36
ETHANE	ND		2	UG/L	1	7/1/2013 12:36
PROPANE	ND		1	UG/L	1	7/1/2013 12:36
GC/MS VOLATILES			SW8260_25		Prep Date: 7/2/2013	PrepBy: SDW
BENZENE	ND		1	UG/L	1	7/2/2013 16:59
TOLUENE	0.41	J	1	UG/L	1	7/2/2013 16:59
ETHYLBENZENE	ND		1	UG/L	1	7/2/2013 16:59
M+P-XYLENE	ND		1	UG/L	1	7/2/2013 16:59
O-XYLENE	ND		1	UG/L	1	7/2/2013 16:59
GASOLINE RANGE ORGANICS	ND		100	UG/L	1	7/2/2013 16:59
Surr: DIBROMOFLUOROMETHANE	103		84-118	%REC	1	7/2/2013 16:59
Surr: TOLUENE-D8	99		85-115	%REC	1	7/2/2013 16:59
Surr: 4-BROMOFLUOROBENZENE	97		85-115	%REC	1	7/2/2013 16:59
ION CHROMATOGRAPHY			EPA300.0		Prep Date: 6/28/2013	PrepBy: AJD
BROMIDE	0.22		0.2	MG/L	1	6/30/2013 04:14
CHLORIDE	9.1		1	MG/L	5	7/3/2013 17:16
FLUORIDE	0.33		0.1	MG/L	1	6/30/2013 04:14
NITRATE AS N	0.21		0.2	MG/L	1	6/30/2013 04:14
NITRITE AS N	ND		0.1	MG/L	1	6/30/2013 04:14
SULFATE	11		1	MG/L	1	8/22/2013 23:04
METALS BY 200.8			EPA200.8		Prep Date: 7/9/2013	PrepBy: BAS
BORON	ND		50	UG/L	10	7/10/2013 12:17
BARIUM	120		1	UG/L	10	7/10/2013 12:17
CALCIUM	94000		1000	UG/L	10	7/10/2013 12:17
IRON	180		100	UG/L	10	7/10/2013 12:17
POTASSIUM	2400		1000	UG/L	10	7/10/2013 12:17
MAGNESIUM	17000		100	UG/L	10	7/10/2013 12:17
MANGANESE	770		2	UG/L	10	7/10/2013 12:17
SODIUM	14000		1000	UG/L	10	7/10/2013 12:17

ALS Environmental -- FC

SAMPLE SUMMARY REPORT

Client: Western Water and Land, Inc.
Project: RU 11-7 WPX Baseline Water Quality
Sample ID: RU-11-7-Yellow Jacket Spg
Legal Location:
Collection Date: 6/27/2013 10:00

Date: 28-Aug-13
Work Order: 1306419
Lab ID: 1306419-1
Matrix: WATER
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SELENIUM	ND		1	UG/L	10	7/10/2013 12:17
STRONTIUM	450		1	UG/L	10	7/10/2013 12:17
PH			SM4500-H		Prep Date: 7/1/2013	PrepBy: AJD
PH	7.42		0.1	pH	1	7/1/2013
SPECIFIC CONDUCTANCE IN WATER			SM2510B		Prep Date: 7/1/2013	PrepBy: AJD
SPECIFIC CONDUCTIVITY	640		1	umhos/cm	1	7/1/2013
TOTAL DISSOLVED SOLIDS			SM2540C		Prep Date: 7/2/2013	PrepBy: AJD
TOTAL DISSOLVED SOLIDS	340		20	MG/L	1	7/3/2013
TOTAL PHOSPHORUS AS P			EPA365.2		Prep Date: 7/5/2013	PrepBy: TWK
TOTAL PHOSPHORUS	0.25		0.05	MG/L	1	7/5/2013

ALS Environmental -- FC

SAMPLE SUMMARY REPORT

Client: Western Water and Land, Inc.
Project: RU 11-7 WPX Baseline Water Quality
Sample ID: RU-11-7-Beaver Creek
Legal Location:
Collection Date: 6/27/2013 11:00

Date: 28-Aug-13
Work Order: 1306419
Lab ID: 1306419-2
Matrix: WATER

Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
ALKALINITY AS CALCIUM CARBONATE			SM2320B		Prep Date: 7/2/2013	PrepBy: AJD
BICARBONATE AS CaCO3	120		20	MG/L	1	7/2/2013
CARBONATE AS CaCO3	ND		20	MG/L	1	7/2/2013
TOTAL ALKALINITY AS CaCO3	120		20	MG/L	1	7/2/2013
BIOLOGICAL ACTIVITY REACTION TEST			BART		Prep Date: 7/2/2013	PrepBy: BAS
IRON RELATED BACTERIA	1			NU	1	7/10/2013
SLIME FORMING BACTERIA	ND			NU	1	7/10/2013
SULFATE REDUCING BACTERIA	1			NU	1	7/10/2013
DIESEL RANGE ORGANICS			SW8015M		Prep Date: 7/2/2013	PrepBy: JAC
Diesel Range Organics	ND		0.5	MG/L	1	7/3/2013 22:39
Surr: O-TERPHENYL	76		51-97	%REC	1	7/3/2013 22:39
DISSOLVED GASSES			RSK175		Prep Date: 7/1/2013	PrepBy: JFN
METHANE	ND		1	UG/L	1	7/1/2013 12:39
ETHANE	ND		2	UG/L	1	7/1/2013 12:39
PROPANE	ND		1	UG/L	1	7/1/2013 12:39
GC/MS VOLATILES			SW8260_25		Prep Date: 7/2/2013	PrepBy: SDW
BENZENE	ND		1	UG/L	1	7/2/2013 17:23
TOLUENE	ND		1	UG/L	1	7/2/2013 17:23
ETHYLBENZENE	ND		1	UG/L	1	7/2/2013 17:23
M+P-XYLENE	ND		1	UG/L	1	7/2/2013 17:23
O-XYLENE	ND		1	UG/L	1	7/2/2013 17:23
GASOLINE RANGE ORGANICS	ND		100	UG/L	1	7/2/2013 17:23
Surr: DIBROMOFLUOROMETHANE	101		84-118	%REC	1	7/2/2013 17:23
Surr: TOLUENE-D8	101		85-115	%REC	1	7/2/2013 17:23
Surr: 4-BROMOFLUOROBENZENE	99		85-115	%REC	1	7/2/2013 17:23
ION CHROMATOGRAPHY			EPA300.0		Prep Date: 6/28/2013	PrepBy: AJD
BROMIDE	ND		0.2	MG/L	1	6/30/2013 04:28
CHLORIDE	0.8		0.2	MG/L	1	7/3/2013 17:30
FLUORIDE	0.16		0.1	MG/L	1	6/30/2013 04:28
NITRATE AS N	0.23		0.2	MG/L	1	6/30/2013 04:28
NITRITE AS N	ND		0.1	MG/L	1	6/30/2013 04:28
SULFATE	12		1	MG/L	1	6/30/2013 04:28
METALS BY 200.8			EPA200.8		Prep Date: 7/9/2013	PrepBy: BAS
BORON	ND		50	UG/L	10	7/10/2013 12:20
BARIUM	37		1	UG/L	10	7/10/2013 12:20
CALCIUM	31000		1000	UG/L	10	7/10/2013 12:20
IRON	ND		100	UG/L	10	7/10/2013 12:20
POTASSIUM	ND		1000	UG/L	10	7/10/2013 12:20
MAGNESIUM	5600		100	UG/L	10	7/10/2013 12:20
MANGANESE	ND		2	UG/L	10	7/10/2013 12:20
SODIUM	11000		1000	UG/L	10	7/10/2013 12:20

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SAMPLE SUMMARY REPORT

Client: Western Water and Land, Inc.
Project: RU 11-7 WPX Baseline Water Quality
Sample ID: RU-11-7-Beaver Creek
Legal Location:
Collection Date: 6/27/2013 11:00

Date: 28-Aug-13
Work Order: 1306419
Lab ID: 1306419-2
Matrix: WATER
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SELENIUM	ND		1	UG/L	10	7/10/2013 12:20
STRONTIUM	190		1	UG/L	10	7/10/2013 12:20
PH			SM4500-H		Prep Date: 7/1/2013	PrepBy: AJD
PH	8.37		0.1	pH	1	7/1/2013
SPECIFIC CONDUCTANCE IN WATER			SM2510B		Prep Date: 7/1/2013	PrepBy: AJD
SPECIFIC CONDUCTIVITY	247		1	umhos/cm	1	7/1/2013
TOTAL DISSOLVED SOLIDS			SM2540C		Prep Date: 7/2/2013	PrepBy: AJD
TOTAL DISSOLVED SOLIDS	150		20	MG/L	1	7/3/2013
TOTAL PHOSPHORUS AS P			EPA365.2		Prep Date: 7/5/2013	PrepBy: TWK
TOTAL PHOSPHORUS	ND		0.05	MG/L	1	7/5/2013

Client: Western Water and Land, Inc.
Project: RU 11-7 WPX Baseline Water Quality
Sample ID: Trip Blank
Legal Location:
Collection Date: 6/27/2013

Date: 28-Aug-13
Work Order: 1306419
Lab ID: 1306419-3
Matrix: WATER
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
GC/MS VOLATILES			SW8260_25		Prep Date: 7/2/2013	PrepBy: SDW
BENZENE	ND		1	UG/L	1	7/2/2013 17:46
TOLUENE	ND		1	UG/L	1	7/2/2013 17:46
ETHYLBENZENE	ND		1	UG/L	1	7/2/2013 17:46
M+P-XYLENE	ND		1	UG/L	1	7/2/2013 17:46
O-XYLENE	ND		1	UG/L	1	7/2/2013 17:46
GASOLINE RANGE ORGANICS	ND		100	UG/L	1	7/2/2013 17:46
Surr: DIBROMOFLUOROMETHANE	104		84-118	%REC	1	7/2/2013 17:46
Surr: TOLUENE-D8	102		85-115	%REC	1	7/2/2013 17:46
Surr: 4-BROMOFLUOROBENZENE	99		85-115	%REC	1	7/2/2013 17:46

Client: Western Water and Land, Inc.
Project: RU 11-7 WPX Baseline Water Quality
Sample ID: Trip Blank
Legal Location:
Collection Date: 6/27/2013

Date: 28-Aug-13
Work Order: 1306419
Lab ID: 1306419-3
Matrix: WATER
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
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Explanation of Qualifiers

Radiochemistry:

- U or ND - Result is less than the sample specific MDC.
- Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
- Y2 - Chemical Yield outside default limits.
- W - DER is greater than Warning Limit of 1.42
- * - Aliquot Basis is 'As Received' while the Report Basis is 'Dry Weight'.
- # - Aliquot Basis is 'Dry Weight' while the Report Basis is 'As Received'.
- G - Sample density differs by more than 15% of LCS density.
- D - DER is greater than Control Limit
- M - Requested MDC not met.
- LT - Result is less than requested MDC but greater than achieved MDC.
- M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
- L - LCS Recovery below lower control limit.
- H - LCS Recovery above upper control limit.
- P - LCS, Matrix Spike Recovery within control limits.
- N - Matrix Spike Recovery outside control limits
- NC - Not Calculated for duplicate results less than 5 times MDC
- B - Analyte concentration greater than MDC.
- B3 - Analyte concentration greater than MDC but less than Requested MDC.

Inorganics:

- B - Result is less than the requested reporting limit but greater than the instrument method detection limit (MDL).
- U or ND - Indicates that the compound was analyzed for but not detected.
- E - The reported value is estimated because of the presence of interference. An explanatory note may be included in the narrative.
- M - Duplicate injection precision was not met.
- N - Spiked sample recovery not within control limits. A post spike is analyzed for all ICP analyses when the matrix spike and or spike duplicate fail and the native sample concentration is less than four times the spike added concentration.
- Z - Spiked recovery not within control limits. An explanatory note may be included in the narrative.
- * - Duplicate analysis (relative percent difference) not within control limits.

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.
Project: RU 11-7 WPX Baseline Water Quality
Sample ID: Trip Blank
Legal Location:
Collection Date: 6/27/2013

Date: 28-Aug-13
Work Order: 1306419
Lab ID: 1306419-3
Matrix: WATER
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<p>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</p>						

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Date: 8/28/2013 9:09:

Client: Western Water and Land, Inc.

QC BATCH REPORT

Work Order: 1306419

Project: RU 11-7 WPX Baseline Water Quality

Batch ID: HC130701-9-1

Instrument ID: MEE-1

Method: RSK175

DUP Sample ID: 1306419-2 Units: UG/L Analysis Date: 7/1/2013 12:44

Client ID: RU-11-7-Beaver Creek Run ID: HC130701-9A Prep Date: 7/1/2013 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: HC130701-9 Units: UG/L Analysis Date: 7/1/2013 12:00

Client ID: Run ID: HC130701-9A Prep Date: 7/1/2013 DF: 1

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
METHANE	129	1	142		91	80-120			25	
ETHANE	247	2	267		93	80-120			25	
PROPANE	356	1	391		91	80-120			25	

LCSD Sample ID: HC130701-9 Units: UG/L Analysis Date: 7/1/2013 12:54

Client ID: Run ID: HC130701-9A Prep Date: 7/1/2013 DF: 1

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
METHANE	143	1	142		101	80-120	129	10	25	
ETHANE	272	2	267		102	80-120	247	10	25	
PROPANE	392	1	391		100	80-120	356	9	25	

MB Sample ID: HC130701-9 Units: UG/L Analysis Date: 7/1/2013 12:04

Client ID: Run ID: HC130701-9A Prep Date: 7/1/2013 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:

1306419-1	1306419-2
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Client: Western Water and Land, Inc.
 Work Order: 1306419
 Project: RU 11-7 WPX Baseline Water Quality

QC BATCH REPORT

Batch ID: **EX130702-1-1** Instrument ID: **FUELS-1** Method: **SW8015M**

LCS		Sample ID: EX130702-1					Units: MG/L	Analysis Date: 7/3/2013 20:35			
Client ID:		Run ID: HCD130703-3A				Prep Date: 7/2/2013		DF: 1			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual	
Diesel Range Organics	10.4	0.5	10		104	36-150			20		
Surr: O-TERPHENYL	1.14		1.25		91	51-97					

LCSD		Sample ID: EX130702-1					Units: MG/L	Analysis Date: 7/3/2013 21:06			
Client ID:		Run ID: HCD130703-3A				Prep Date: 7/2/2013		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		105	36-150	10.4	1	20		
Surr: O-TERPHENYL	1.17		1.25		94	51-97		2			

MB		Sample ID: EX130702-1					Units: MG/L	Analysis Date: 7/3/2013 20:04			
Client ID:		Run ID: HCD130703-3A				Prep Date: 7/2/2013		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	0.898		1.25		72	51-97					

The following samples were analyzed in this batch: 1306419-1 1306419-2

Client: Western Water and Land, Inc.
 Work Order: 1306419
 Project: RU 11-7 WPX Baseline Water Quality

QC BATCH REPORT

Batch ID: **IP130709-1-2** Instrument ID: **ICPMS2** Method: **EPA200.8**

LCS		Sample ID: FM130708-1			Units: UG/L		Analysis Date: 7/10/2013 12:30			
Client ID:		Run ID: IM130710-10A2			Prep Date: 7/9/2013		DF: 10			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
BARIUM	95.9	1	100		96	85-115			20	
BORON	857	50	1000		86	85-115			20	
CALCIUM	9140	1000	10000		91	85-115			20	
IRON	5080	100	5000		102	85-115			20	
MAGNESIUM	9180	100	10000		92	85-115			20	
MANGANESE	192	2	200		96	85-115			20	
POTASSIUM	5340	1000	5000		107	85-115			20	
SELENIUM	99.5	1	100		99	85-115			20	
SODIUM	10200	1000	10000		102	85-115			20	
STRONTIUM	93.9	1	100		94	85-115			20	

MB		Sample ID: F130708-1			Units: UG/L		Analysis Date: 7/10/2013 12:14			
Client ID:		Run ID: IM130710-10A2			Prep Date: 7/9/2013		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: 1306419-1 1306419-2

Client: Western Water and Land, Inc.
 Work Order: 1306419
 Project: RU 11-7 WPX Baseline Water Quality

QC BATCH REPORT

Batch ID: VL130702-4-1 Instrument ID: HPV1 Method: SW8260_25

LCS		Sample ID: VL130702-4			Units: UG/L			Analysis Date: 7/2/2013 12:43			
Client ID:		Run ID: VL130702-4A			Prep Date: 7/2/2013			DF: 1			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual	
BENZENE	10.8	1	10		108	83-117			20		
TOLUENE	10.7	1	10		107	82-113			20		
ETHYLBENZENE	10.7	1	10		107	81-113			20		
M+P-XYLENE	22.5	1	20		113	82-115			20		
O-XYLENE	11.1	1	10		111	81-115			20		
GASOLINE RANGE ORGANICS	504	100	500		100.72	80-120			20		
Surr: DIBROMOFLUOROMETHA	25.5		25		102	84-118					
Surr: TOLUENE-D8	25		25		100	85-115					
Surr: 4-BROMOFLUOROBENZE	25.1		25		101	85-115					

LCSD		Sample ID: VL130702-4			Units: UG/L			Analysis Date: 7/2/2013 13:06			
Client ID:		Run ID: VL130702-4A			Prep Date: 7/2/2013			DF: 1			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual	
BENZENE	10.4	1	10		104	83-117	10.8	4	20		
TOLUENE	10.5	1	10		105	82-113	10.7	1	20		
ETHYLBENZENE	10.4	1	10		104	81-113	10.7	3	20		
M+P-XYLENE	21.5	1	20		108	82-115	22.5	5	20		
O-XYLENE	10.5	1	10		105	81-115	11.1	6	20		
GASOLINE RANGE ORGANICS	499	100	500		99.956	80-120	504		20		
Surr: DIBROMOFLUOROMETHA	25.7		25		103	84-118		1			
Surr: TOLUENE-D8	25		25		100	85-115		0			
Surr: 4-BROMOFLUOROBENZE	25.5		25		102	85-115		1			

MB		Sample ID: VL130702-4			Units: UG/L			Analysis Date: 7/2/2013 13:30			
Client ID:		Run ID: VL130702-4A			Prep Date: 7/2/2013			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									
Surr: DIBROMOFLUOROMETHA	25.3		25		101	84-118					
Surr: TOLUENE-D8	25.4		25		101	85-115					
Surr: 4-BROMOFLUOROBENZE	24.2		25		97	85-115					

The following samples were analyzed in this batch: 1306419-1 1306419-2 1306419-3

Client: Western Water and Land, Inc.
Work Order: 1306419
Project: RU 11-7 WPX Baseline Water Quality

QC BATCH REPORT

Batch ID: **ak130702-1-1** Instrument ID: **NONE** Method: **SM2320B**

LCS		Sample ID: ak130702-1			Units: MG/L			Analysis Date: 7/2/2013		
Client ID:		Run ID: ak130702-1a			Prep Date: 7/2/2013			DF: 1		
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
TOTAL ALKALINITY AS CaCO3	98.7	5	100		99	85-115			15	

MB		Sample ID: ak130702-1			Units: MG/L			Analysis Date: 7/2/2013		
Client ID:		Run ID: ak130702-1a			Prep Date: 7/2/2013			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:

1306419-1	1306419-2
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Client: Western Water and Land, Inc.
 Work Order: 1306419
 Project: RU 11-7 WPX Baseline Water Quality

QC BATCH REPORT

Batch ID: **IC130628-1-1** Instrument ID: **IC** Method: **EPA300.0**

LCS		Sample ID: IC130628-1			Units: MG/L			Analysis Date: 6/28/2013 14:29		
Client ID:		Run ID: IC130628-1A1			Prep Date: 6/28/2013			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		102	90-110			15	
CHLORIDE	5.21	0.2	5		104	90-110			15	
NITRITE AS N	2.03	0.1	2		102	90-110			15	
BROMIDE	5.43	0.2	5		109	90-110			15	
NITRATE AS N	5.31	0.2	5		106	90-110			15	
SULFATE	20	1	20		100	90-110			15	

MB		Sample ID: IC130628-1			Units: MG/L			Analysis Date: 6/28/2013 14:43		
Client ID:		Run ID: IC130628-1A1			Prep Date: 6/28/2013			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:

Client: Western Water and Land, Inc.
Work Order: 1306419
Project: RU 11-7 WPX Baseline Water Quality

QC BATCH REPORT

Batch ID: **IC130822-1-1** Instrument ID: **IC** Method: **EPA300.0**

LCS	Sample ID: IC130822-1			Units: MG/L	Analysis Date: 8/22/2013 15:20						
Client ID:	Run ID: IC130822-1A1						Prep Date: 8/22/2013	DF: 1			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual	
SULFATE	19.2	1	20		96	90-110			15		

MB	Sample ID: IC130822-1			Units: MG/L	Analysis Date: 8/22/2013 15:34						
Client ID:	Run ID: IC130822-1A1						Prep Date: 8/22/2013	DF: 1			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual	
SULFATE	ND	1									

The following samples were analyzed in this batch: 1306419-1

Client: Western Water and Land, Inc.
Work Order: 1306419
Project: RU 11-7 WPX Baseline Water Quality

QC BATCH REPORT

Batch ID: **ph130701-1-1** Instrument ID: **pH-1** Method: **SM4500-H**

DUP Sample ID: **1306419-1** Units: **pH** Analysis Date: **7/1/2013**
 Client ID: **RU-11-7-Yellow Jacket Spg** Run ID: **pH130701-1A** Prep Date: **7/1/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
PH	7.43	0.1					7.42		0.2	

The following samples were analyzed in this batch:

1306419-1	1306419-2
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Client: Western Water and Land, Inc.
Work Order: 1306419
Project: RU 11-7 WPX Baseline Water Quality

QC BATCH REPORT

Batch ID: **SC130701-1-1** Instrument ID: **pH-1** Method: **SM2510B**

DUP Sample ID: **1306419-1** Units: **umhos/cm** Analysis Date: **7/1/2013**
Client ID: **RU-11-7-Yellow Jacket Spg** Run ID: **SC130701-1A** Prep Date: **7/1/2013** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
SPECIFIC CONDUCTIVITY	639	1					640	0	10	

The following samples were analyzed in this batch:

1306419-1	1306419-2
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Client: Western Water and Land, Inc.
Work Order: 1306419
Project: RU 11-7 WPX Baseline Water Quality

QC BATCH REPORT

Batch ID: **TD130702-1-1** Instrument ID: **Balance** Method: **SM2540C**

LCS		Sample ID: TD130702-1			Units: MG/L			Analysis Date: 7/3/2013		
Client ID:		Run ID: TD130703-1A			Prep Date: 7/2/2013			DF: 1		
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
TOTAL DISSOLVED SOLIDS	390	20	400		98	85-115			5	

MB		Sample ID: TD130702-1			Units: MG/L			Analysis Date: 7/3/2013		
Client ID:		Run ID: TD130703-1A			Prep Date: 7/2/2013			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:
1306419-1 1306419-2

Client: Western Water and Land, Inc.
Work Order: 1306419
Project: RU 11-7 WPX Baseline Water Quality

QC BATCH REPORT

Batch ID: **TP130705-1-1** Instrument ID: **Spec** Method: **EPA365.2**

LCS		Sample ID: TP130705-1			Units: MG/L			Analysis Date: 7/5/2013		
Client ID:		Run ID: TP130705-1A			Prep Date: 7/5/2013			DF: 1		
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
TOTAL PHOSPHORUS	0.523	0.05	0.5		105	80-120			20	

MB		Sample ID: TP130705-1			Units: MG/L			Analysis Date: 7/5/2013		
Client ID:		Run ID: TP130705-1A			Prep Date: 7/5/2013			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:

1306419-1	1306419-2
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