



December 19, 2016

Mr. Mike Gardner
TEP Environmental Specialist
TEP Rocky Mountain, LLC
1058 County Road 215
Parachute, Colorado 81635

RE: Status Report: Drill Pad PA 21-9 COGCC Rule 317B Post July/August 2016 DCPS Operations Water Quality Sampling, September 2016

Dear Mr. Gardner,

Western Water and Land, Inc. (WWL) conducted field reconnaissance in support of surface water sampling for the TEP Rocky Mountain LLC (TEP), formerly WPX Energy Rocky Mountain LLC, Drilling, Completion, Production, and Storage (DCPS) Operations locations associated with Drill Pad PA 21-9. This work was done in accordance with COGCC Rule 317B. DCPS Operations Drill Pad PA 21-9 is located in NE $\frac{1}{4}$, NW $\frac{1}{4}$, Section 9, Township 7 South, Range 95 West, 6th P.M. Drill Pad PA 21-9 falls within the Rule 317B 0.5-mile buffer zone for the Parachute Surface Water Supply Area (PSWSA) and Battlement Mesa Surface Water Supply Area (BMSWSA). This status report addresses field activities, water chemistry results, and the quality control measures associated with the September 2016 sampling event for July/August 2016 DCPS Operations at Drill Pad PA 21-9.

Workover operations were completed for the following wells:

Pad Name	Well Name	API	Start Date	End Date
PA 21-9	PA 512-9	05-045-19219	7/5/2016	7/12/2016

Previously established sampling locations for the PSWSA and BMSWSA were provided to WWL by TEP. The sampling locations were established by HRL Compliance Solutions, Inc. (HCSI). Sampling locations downgradient of the referenced TEP DCPS Operations locations are shown in Figure 1. In September of 2015, WWL established a new sampling location on the Colorado River (B29, COGCC Facility ID 754438) as the nearest downgradient sampling location to the referenced TEP DCPS Operations location. This was done because the formerly established HCSI location was not seen as a practical down-gradient surface location.

SAMPLING LOCATIONS AND FIELD ACTIVITIES

Sampling location B29 was visited by WWL personnel on September 26, 2016 and sample “B29” was collected. The B29 site is located on Battlement Mesa Land Investment’s property. Sample B29 was collected as a grab sample from the Colorado River. The riverbed at the sampling location was comprised of boulders and cobbles. The sampling site is located on a riffled reach of the river. It was assumed river mixing was complete and that the grab sample was representative of the entire river channel. Discharge at the site was not measured; the discharge measurements from the USGS Cameo

and Glenwood Springs gage stations on the Colorado River were recorded on the field monitoring forms. No TEP representatives were present for the sampling event. See Figure 1 for the sampled location. Photographs of the sampling site are shown in Attachment A. Field monitoring forms are shown in Attachment B.

All sampling procedures followed the TEP Sampling and Analysis Plan (SAP). The sample was collected by direct filling using Sample Method 2 – top filling for surface water sampling procedures, as described by the TEP SAP.

Sample B29 was relinquished to the analytical laboratory's (ALS Environmental [ALS], Fort Collins, Colorado) courier in Parachute, Colorado, who packs them in coolers with ice for preservation and ships them to the analytical laboratory by way of FedEx™.

QUALITY CONTROL SUMMARY

WWL conducted a Tier 1 data validation quality control evaluation of the received analytical laboratory data report. Attachment C presents detailed information on the quality control evaluation for field sampling and laboratory analysis associated with the collected samples.

ALS reported that all analytes were within control criteria for matrix spikes (MS), matrix spike duplicates (MSD), duplicate relative percent difference (RPD), laboratory control samples (LCS), and method blanks (MB). ALS did not assign qualifiers to the analytical results based on the quality control summary.

ALS Laboratories assigned analytical results that were undetected with a “U” qualifier, and a “J” qualifier to results that were detected above the method detection limit but below the reporting limit to indicate the result value is estimated. WWL assigned an “H” qualifier to results that exceeded analytical holding times to indicate the result value is estimated. See Attachment C and Attachment D for individual parameters that were qualified.

ANALYTICAL RESULTS

Laboratory analysis was performed by ALS, in Fort Collins, Colorado in accordance with the analytical schedule described in Rule 317B. The analytical methods used are considered valid and provide quality results. The analytical results are summarized in Attachment D; the data are qualified as indicated. The full laboratory analytical report is presented in Attachment E.

If you have any questions or concerns, please contact me at (970) 242-0170.

Sincerely,



Bruce D. Smith
Principal Hydrogeologist
WESTERN WATER & LAND, INC.

Attachments

Figure 1- Sampling Location Map

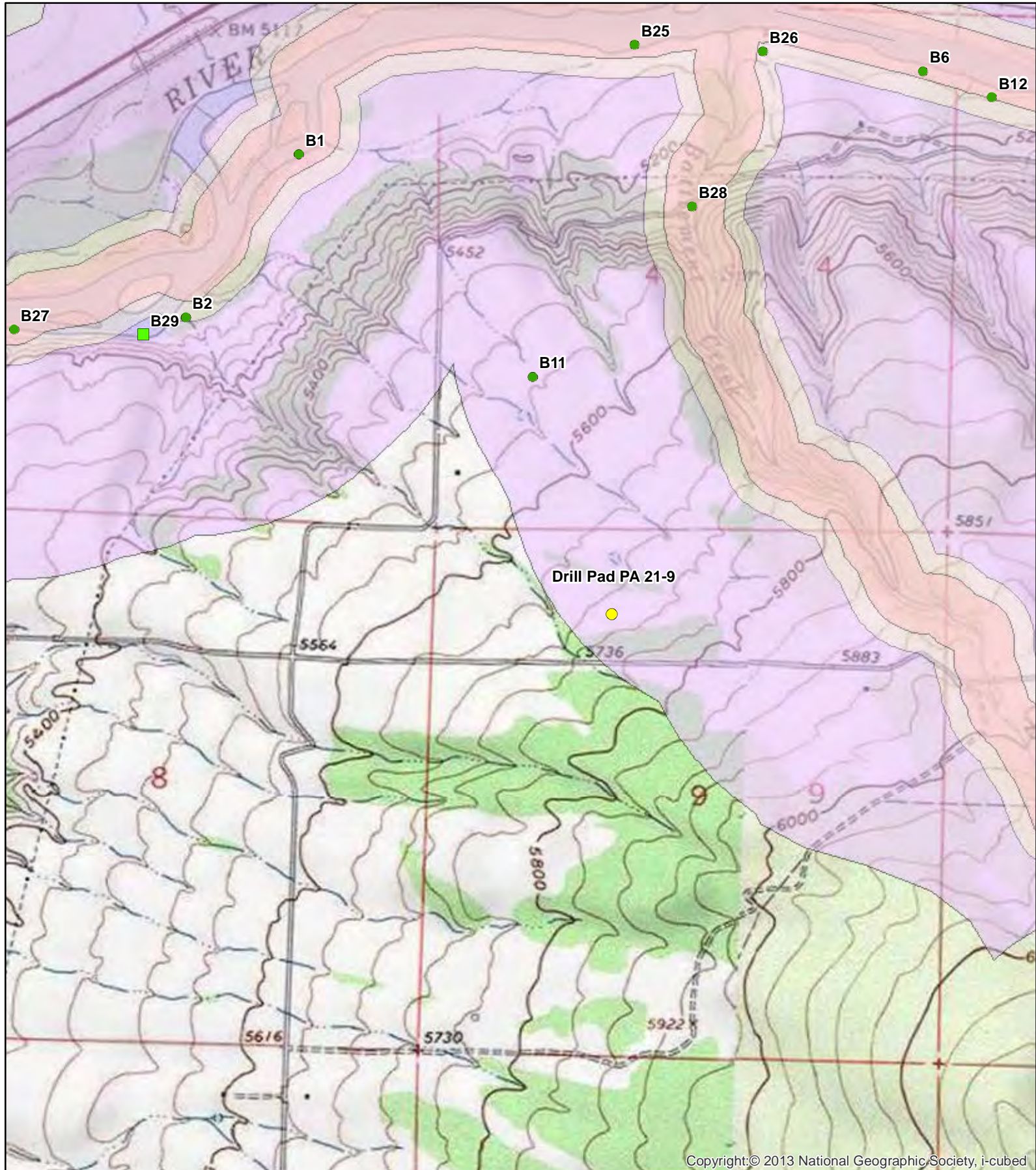
Attachment A - Photographs

Attachment B - Field Monitoring Forms

Attachment C - Quality Control Evaluation






Attachment D - Summary of Analytical Results

Attachment E - Laboratory Analytical Summary Report



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Legend

	300 Foot Buffer		Established Sample Sites
	500 Foot Buffer		Sampled Site
	Half-Mile Buffer		

0 475 950 1,900 Feet
1:15,000

N

Figure 1. July/August 2016 DCPS Operations Rule 317B Sampling Location Map NE1/4, NW1/4, S 9, T7S, R95W, 6 PM

Garfield County, Colorado
WPX Energy Rocky Mountain, LLC



Western Water & Land, Inc.
Applications in Earth Science

ATTACHMENT A

Photographs



Photo 1. B 29 Sampling Location (B29) on the Colorado River; View Upstream



Photo 2. B 29 Sampling Location (B29) on the Colorado River



Photo 3. B 29 Sampling Location (B29) on the Colorado River; View Downstream

ATTACHMENT B

Field Monitoring Forms

WPX BWQ Surface Water Monitoring Field Form

Project Information	
Project: 317B July/Aug 2016 DODS OPS	Sample Purpose: Battlement mesa / Parachute SWSA
Site Name (Well Pad): PA 21-9	Site API: 05-045-19217
Station Name: B29	Sample Date: 9-26-16
COGCC Facility ID: 754438	Start Time: 1145
Field Sample ID: B29	End Time: 1230
Landowner Name: Battlement mesa land/mesa	Sample Time: 1200
Landowner Address: 736 Appelle Dr., Parachute	Sample Team: SLG, NWS
Water Right/Well Owner:	Observer: NWS
Water Right/Well Permit:	Lead Signature/Date: J. J. [Signature] 9/27/16

Station Information	
Station Description: Wading near bank; on boulders	
Approximate Distance to Well Pad: 5400 ft	
Station Type: Stream / Spring / Seep / Pond / Lake / NPDES Outfall / Other: CO River	
Sampling Location: Bank / Pipe / Wading / Boat / Bridge / Hose bib / Tank / Other:	
Sampling Location Description: Pool / Riffle / Eddy / Backwater / Open / Channel / Braided / Other:	
Sampling Location Width: Q	
Sampling Location Depth: NM	
GPS Location: Zone	x -108.02234 y 39.46433 z 4991

Weather Conditions	
Sky: Clear / Scattered / Cloudy / Overcast	Estimated Air Temp (deg F): 65
Precipitation: None / Light / Moderate / Heavy	Precip Type: None / Rain / Sleet / Hail / Snow
Wind: Calm / Light / Mod / Strong	Wind Speed/Direction: Q

Field Measurements							
Parameter	Units	Reading	Time	Flag Code	Instrument	In-situ or Container	Comments
Water Temp	deg C	12.58	1215		YSI 556	IN-SITU	
pH	s.u.	7.64					
Sp. Conductivity	uS/cm	987					
Conductivity	uS/cm	753					
DO Saturation	%	82.6					
DO	mg/L	8.75					
Baro Press	mmHg	610.9					
ORP	RmV	295.6					
Turbidity	NTU	9.73		AV	TPI		
Discharge		NM					10.37, 9.79, 9.04 See bank for USGS gaging stations
Color: Clear / White / Yellow / Brown / Green / Blue / Other: Light / Med / Dark							
Odor: None / Mild / Mod / Strong							
Effervescence: None / Mild / Mod / Strong				Bubbles: None / Low / Mod / High			
Sediment: None / Light / Mod / Heavy				VOA Headspace: None / ≤ Pea Size / ≥ Pea Size			
Lab Analysis: Rule 609 / COA 9 / COA 22 / Other: 317B							
Field Filtered: Yes / No Filter Size: N/A No. Filters used: 0							

Flag Codes: NM (not measured), E (estimated), N/A (not applicable), I (insufficient sample), Q (uncertain value), Y (calculated value), AV (averaged value), EC (exceeds calibration range), OT (other flag to be defined later), NS (not stabilized), VAR (variable)

WPX BWQ Surface Water Monitoring Field Form

Landowner Comments on water quality:

None

Additional information:

Site was comprised of boulders covered in sediment & moss.

USGS gauging stations

Cameo (09095500): 2330 cfs @ 1200 1145-1300

Glenwood Spgs (09085100): 2030 cfs @ 1200-1215

No TEP representatives present for sampling; there were several workers on the GV 82-5 pad (COGCC 334825)

Calibration Information			Date: 9/26/14			Location: WWL office		
Instrument	Parameter	Units	Time	Calibration Standard Value	Calibration Standard Temp (°C)	Instrument Reading of Standard	Adjusted Reading	Comments
YSI 550	pH	s.u.	0727	7.0	18.27	7.11	7.00	
	pH	s.u.	0732	10.01	18.40	9.92	10.01	
	pH	s.u.	0736	4.01	18.37	3.82	3.98	
	SpC	uS/cm	0723	1413	18.30	1431	1413	
	SpC	uS/cm						
	DO	%	0752	148.4	18.25	83.2	85.3	
	DO	%						
	ORP	RmV						
	Turbidity	NTU						

ATTACHMENT C

Data Quality Evaluation

QUALITY CONTROL EVALUATION

TEP Drill Pad PA 21-9

Sample: B29

Event: September, 2016

Quality control measures consisted of a review of field sampling procedures and the analytical laboratory quality control data. Laboratory quality control information was reviewed and checked for consistency in meeting acceptance criteria and the assignment of data qualifiers. In addition, WWL conducted quality control evaluations of cation-anion balance (CAB) and total dissolved solids (TDS) calculated versus measured ratio. WWL assigned additional qualifiers to analytical results as necessary.

Field Procedures

All sampling procedures followed protocols in the TEP SAP. Sampling Method 2 – top filling for surface water sampling procedures, described in the TEP SAP, was used to collect Sample B29. Discharge at the site was not measured; the discharge measurements from the USGS Cameo and Glenwood Springs gage stations on the Colorado River were recorded. No field procedure deviations occurred that were cause for data qualification.

COC

The chain-of-custody forms were reviewed for correct and complete sample IDs, requested analysis, and other pertinent information. The analytes requested on the COCs matched the requirements of Rule 317B. No errors or pertinent information was observed, and no corrections were needed.

Sample Receipt

Samples were received by ALS in one cooler below the temperature range criteria ($4^{\circ}\text{C} \pm 2^{\circ}\text{C}$) at 1.5°C . No quality control issues were reported on the sample receipt form. No qualifiers were assigned to results based on sample receipt conditions.

Holding Times

Laboratory pH was analyzed out of holding time; WWL assigned an “H” qualifier to indicate the results are estimated. All other analyses were conducted within recommended holding times.

Analytical Methods

The analytical methods used by ALS were checked for consistency with the analytical schedule described in the TEP SAP. Analytical methods were found to be consistent with the following modifications: Diesel Range Organics (TPH extractables) were analyzed based on methods SW846 8000C and 8015D. These methods are considered acceptable and provide quality results.

Detection Limits

Detection limits provided with the analytical results were compared to the original quoted detection limits from the analytical laboratory. Detection limits were as quoted with no deviations observed except as applied to increased dilution factors.

Sample B29: A dilution factor of 10 was applied for chloride, sulfate, barium, boron, calcium, iron, magnesium, manganese, potassium, selenium, sodium, and strontium. All other analytes had a dilution factor of 1.

ALS reports samples at the detection limit as “not detected” or “ND” rather than reporting results as less than the reporting or detection limit, e.g. $< 0.05 \mu\text{g/L}$.

Completeness

Data completeness is a measure of requested analysis and received results. The analytical constituents required under Rule 317B were compared to those analyzed in the laboratory reports. Qualified data are included as analyzed data. No data were rejected for field or analytical reasons. All requested analytical data matched the laboratory reported data results; data completeness is considered 100%.

Cation-Anion Balance

The cation-anion balance (CAB) calculates the total charge of positively charged ions and the total charge of the negatively charged ions. It is a measure of the quality of the analysis; if the charge is not balanced, an error may exist in the analysis. CAB percent difference calculations were performed for each sample; if the CAB exceeded $\pm 5\%$, i.e. less than 95% or greater than 105%, the analytical results data may be qualified as estimated.

In general, WWL will assign a qualifier (estimated result) for a CAB equal to or greater than plus or minus 10%, and may assign a qualifier for CAB percentages between plus or minus 5% and less than 10%. The final CAB calculations for the samples are as follows:

- B29: 1.20%

The analytical results for cations and anions for the samples were not qualified on the basis of the CAB. See Attachment C, Data Quality Review Sheets.

TDS

The ratio of laboratory-measured TDS versus calculated TDS were computed; sample ratios less than 0.80 and greater than 1.20 are cause for a review of major ion reporting errors. In general, WWL will assign a qualifier (an estimated result) when TDS ratios are less than or equal to 0.5 and equal to or greater than 1.5, and may assign a qualifier for TDS ratios greater than 0.5 and less than 0.8 and greater than 1.2 and less than 1.5. The TDS calculations for samples are as follows:

- B29: 1.06

No sample results were rejected or qualified on the basis of the TDS acceptance criteria.

Field Duplicates

Field duplicates evaluate the precision of analytical results for field samples collected for a specific sampling event. Precision is measured by the calculation of the relative percent difference (RPD) using the analytical results from the original investigative sample and the duplicate sample. An RPD limit of 35% is used for the data qualification criterion. When the original sample has a detected concentration above the reporting limit (RL) and the concentration of the field duplicate is less than the RL, the calculation of a field duplicate RPD is not applied. For sample results less than 5 times the RL, the acceptance criterion is $\pm RL$.

No field duplicates were collected, therefore no RPDs were calculated.

Trip Blanks

Trip blanks are analyte-free matrix (water in this case) samples supplied by the analytical laboratory that are shipped inside the sample shipping containers to and from the field investigation site. Trip blanks test for potential contamination during shipping and sampling field procedures. For this project, trip blanks are analyzed for volatiles only. There were no detections of volatiles (benzene, toluene, ethylbenzene, and xylenes; BTEX) in the analyzed trip blank samples. No data were qualified based on trip blank analytical results.

Laboratory Quality Control

The analytical laboratory conducts an extensive quality control program and as part of the overall quality control process. The analytical laboratory quality control program includes the use of various laboratory quality control samples including but not limited to: method blanks (MB), laboratory control samples (LCS) and duplicates (LCSD), matrix spikes (MS) and duplicates (MSD), surrogates, initial calibration verification standards (ICVs), and continuing calibration verification standard (CCVs).

WWL verified that the lab performed and reported quality control data correctly. This included checking laboratory control samples data for meeting laboratory QC limits, acceptance criteria, and recovery limits. QC limits associated with the relative percent difference (RPD) between duplicate samples typically range from a limit of 20% for metals and general or wet chemistry to 30% for organic analytes. Typical percent recovery acceptance limits are 80 to 120% for metals and wet chemistry and 70 to 130% for organics; some organic compounds may have much broader recovery limits.

All sampling event data packages showed that no laboratory control samples exceeded the QC limits or acceptance criteria without data qualification, and no recovery limits were exceeded without qualification. Barium was detected above the MDL and below the RL in the MB associated with sample B29 and qualified with a “J” to indicate the result is estimated; no acceptance criteria were exceeded. No qualifiers were assigned to the results by the lab.

Accuracy

Accuracy was evaluated as a percent recovery of an analyte in a reference standard or a spiked sample, e.g. matrix spike and matrix spike duplicate. In cases where percent recoveries exceeded the laboratory acceptance criteria, data would be qualified depending on whether the analyte was detected above the method detection limit (MDL) or not, if the recovery of the associated control sample was acceptable, or if the analyte concentration in the sample was disproportionate to the spike level and that the recovery of the associated control sample was acceptable. Note that the analytical laboratory may not have selected a sample from this field investigation for testing matrix quality control samples. In these cases, true matrix affects cannot be assessed and the resulting data should be considered as estimated. This will be noted in the DQR sheets (Attachment C), but the data will not be broadly qualified by WWL.

ALS selected field investigation sample B29 for assessing matrix quality control for MS and MSD testing for all metals by EPA Method 200.8, and for MS testing for DRO by Method SW8015M. ALS selected a number of other samples for all other MS and MSD testing based on the analytical methods being used. The MS and MSD recoveries met guidance criteria for precision and accuracy for all analytes.

No qualifiers were assigned to the results by the lab. WWL did not assign additional qualifiers to the analytical results.

Precision

Precision is the measurement of how closely replicate sample constituents agree and is not related to the true value (concentration). Precision is measured using RPD calculations for laboratory duplicate samples such as LCSD and MSD samples and any other duplicate samples generated by the laboratory. The RPDs were compared to the laboratory acceptance limit of 20% for metals and general or wet chemistry and 30% for organic analytes. RPDs were not used when the sample concentration was too low (< 10X MDL) for accurate evaluation.

ALS selected the field investigation sample B29 for testing matrix quality control for duplicate RPD for pH by Method SM4500-H, for specific conductivity by Method SM2510B, and for all metals by EPA Method 200.8. Iron and selenium were detected above the MDL and below the RL in the lab duplicate result associated with sample B29 and qualified with a “J” to indicate the result is estimated; no acceptance criteria were exceeded.

No qualifiers were assigned by the laboratory because of RPD values exceeding the laboratory acceptance criteria.

Data Quality Review Sheets are presented within this Attachment.

DATA QUALITY REVIEW SHEET

Facility ID: 754438
 Station Name: B29
 Sample Date: 9/26/2016
 Field Sample ID: B29

Project: 317B July/Aug 2016 DCPS Ops
 Lab Work Order: 1609469
 QA/QC Review Date: 10/24/2016
 Reviewer: S. Goodwin

Field Sampling Data Review	Yes	No	N/A
1. Well properly purged?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Flow rate reduced prior to sampling?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Water quality parameters stable prior to sampling?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Field instruments calibrated properly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Sampling methods performed according to SAP procedures?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Procedures consistent with obtaining a representative sample?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lab Data Report Review			
7. Proper sample custody maintained until laboratory receipt?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Receipt form is without discrepancies? <i>If no, list in comments.</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. All samples analyzed for the requested analyses?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Proper laboratory methods used?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. All sample holding times met (other than lab pH)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Lab QA samples (e.g., matrix spikes and matrix spike duplicates) collected and analyzed according to lab method and results within method acceptance limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Was the field investigation sample matrix used by the lab for matrix QC for all analyses?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
14. Laboratory qualifiers for data (other than non-detect)? <i>List in comments.</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Additional qualifiers assigned (other than pH)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
16. Are corrective actions required? <i>If yes, list actions and dates to be completed by:</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>Corrective Action</i>	<i>Date to be completed</i>		
None			

Calculated Parameters	Calculated Value	Lab Value	Ratio/Percent Difference	Acceptable Limit	Meets QC Criteria?
Cation/Anion Balance, % (CAB)	1.20	N/A	N/A	±5%	<input checked="" type="checkbox"/>
Total Dissolved Solids, mg/L (TDS)	573.5	540	1.06	0.8 – 1.2	<input checked="" type="checkbox"/>
Specific Conductance, µS/cm (SpC)	806	1008	0.80	0.8 – 1.2	<input checked="" type="checkbox"/>

Comments: Laboratory pH was analyzed out of analysis holding time, WWL qualified with "H"; results considered estimated. "J" qualifier assigned to iron and selenium sample results; to barium method blank results; and to iron and selenium lab duplicate results to indicate a result greater than the method detection limit but less than the reporting limit; results considered estimated.

ATTACHMENT D

Summary of Analytical Results

WPX BWQ: Rule 317B July/August 2016 DCPS Ops									WQCC Regulations
Station Name			B29						Colorado Surface Water Standards
Facility ID			754438						5 CCR 1002-31
Sample Date			9/26/2016						Effective 6/30/2016
Field Sample ID			B29						
Lab Sample ID			1609469-1						
Sampling Event			July/August DCPS Ops						
Parameter	Reporting Units	Analytic Method	Result	Qual	WWL Qual	RL	MDL	DF	Human Health Based
Total Alkalinity As CaCO3	MG/L	SM2320B	130			20		1	---
Bicarbonate As CaCO3	MG/L	SM2320B	130			20		1	---
Carbonate As CaO3	MG/L	SM2320B	20	U		20		1	---
Bromide	MG/L	EPA300.0	0.2	U		0.2	0.06	1	---
Chloride	MG/L	EPA300.0	160			2	0.6	10	250 (30-day)
Fluoride	MG/L	EPA300.0	0.29			0.1	0.03	1	2.0 (1-day)
Sulfate	MG/L	EPA300.0	91			10	3	10	250 (30-day)
Nitrate As N	MG/L	EPA300.0	0.2	U		0.2	0.06	1	10 (1-day)
Nitrite As N	MG/L	EPA300.0	0.1	U		0.1	0.03	1	1.0 (1- day)
Nitrate/Nitrite As N	MG/L	EPA300.0	0.1	U		0.1		1	---
pH	PH	SM4500-H	8.35		H	0.1		1	---
Total Dissolved Solids	MG/L	SM2540C	540			20		1	---
Specific Conductivity	UMHOS/CM	SM2510B	1008			1		1	---
Dissolved Metals									
Barium	MG/L	EPA200.8	0.057			0.001	0.00016	10	1 (1- day), 0.49 (30-day)
Boron	MG/L	EPA200.8	0.074			0.05	0.012	10	---
Calcium	MG/L	EPA200.8	64			1	0.068	10	---
Iron	MG/L	EPA200.8	0.056	J		0.1	0.0081	10	0.3 (30-day)
Magnesium	MG/L	EPA200.8	14			0.1	0.018	10	---
Manganese	MG/L	EPA200.8	0.003			0.002	0.00034	10	0.05 (30-day)
Potassium	MG/L	EPA200.8	3.5			1	0.29	10	---
Selenium	MG/L	EPA200.8	0.00084	J		0.001	0.00066	10	0.05 (30- day)
Sodium	MG/L	EPA200.8	110			1	0.2	10	---
Strontium	MG/L	EPA200.8	0.58			0.001	0.0003	10	---
TPH/BTEX									
Diesel Range Organics	MG/L	SW8015M	0.57	U		0.57	0.17	1	---
Gasoline Range Organics	UG/L	SW8260_25	100	U		100	100	1	---
Benzene	UG/L	SW8260_25	1	U		1	0.3	1	2.2
Ethylbenzene	UG/L	SW8260_25	1	U		1	0.3	1	700
Toluene	UG/L	SW8260_25	1	U		1	0.3	1	560 to 1,000
M+P-Xylene	UG/L	SW8260_25	1	U		1	0.3	1	---
O-Xylene	UG/L	SW8260_25	1	U		1	0.3	1	---
Total Xylenes	UG/L	SW8260_25	1	U		1		1	1,400 to 10,000
SVOCs									
1-Methylnaphthalene	UG/L	SW8270SIM	0.1	U		0.1	0.031	1	---
2-Methylnaphthalene	UG/L	SW8270SIM	0.1	U		0.1	0.031	1	---
Acenaphthene	UG/L	SW8270SIM	0.1	U		0.1	0.031	1	420
Acenaphthylene	UG/L	SW8270SIM	0.1	U		0.1	0.031	1	---
Anthracene	UG/L	SW8270SIM	0.1	U		0.1	0.033	1	2100
Benzo(a)Anthracene	UG/L	SW8270SIM	0.1	U		0.1	0.031	1	0.0048
Benzo(a)Pyrene	UG/L	SW8270SIM	0.1	U		0.1	0.031	1	0.0048 to 0.2
Benzo(b)Fluoranthene	UG/L	SW8270SIM	0.1	U		0.1	0.031	1	0.0048
Benzo(g,h,i)Perylene	UG/L	SW8270SIM	0.1	U		0.1	0.031	1	---
Benzo(k)Fluoranthene	UG/L	SW8270SIM	0.1	U		0.1	0.034	1	0.0048
Chrysene	UG/L	SW8270SIM	0.1	U		0.1	0.031	1	0.0048
Dibenzo(a,h)Anthracene	UG/L	SW8270SIM	0.1	U		0.1	0.031	1	0.0048
Fluoranthene	UG/L	SW8270SIM	0.1	U		0.1	0.034	1	280
Fluorene	UG/L	SW8270SIM	0.1	U		0.1	0.032	1	280
Indeno(1,2,3-cd)Pyrene	UG/L	SW8270SIM	0.1	U		0.1	0.031	1	0.0048
Naphthalene	UG/L	SW8270SIM	0.1	U		0.1	0.031	1	140
Phenanthrene	UG/L	SW8270SIM	0.1	U		0.1	0.035	1	---
Pyrene	UG/L	SW8270SIM	0.1	U		0.1	0.031	1	210

WPX BWQ: Rule 317B July/August 2016 DCPS Ops								WQCC Regulations	
Station Name			B29					Colorado Surface Water Standards	
Facility ID			754438					5 CCR 1002-31	
Sample Date			9/26/2016					Effective 6/30/2016	
Field Sample ID			B29						
Lab Sample ID			1609469-1						
Sampling Event			July/August DCPS Ops						
	Reporting Units	Analytic Method	Result	Qual	WWL Qual	RL	MDL	DF	Human Health Based
Field Parameters									
Water temp, field	Deg C	Field	12.58						---
pH, field	s.u.	Field	7.64						5.0-9.0
Specific cond., field	uS/cm	Field	987						---
Conductivity, field	uS/cm	Field	753						---
DO saturation, field	%	Field	82.6						---
DO, field	mg/l	Field	8.75						3.0
ORP, field	mv	Field	295.6						---
Turbidity, field	NTUs	Field	9.73		AV				---
Discharge (USGS Cameo Gage)	cfs	USGS	2330						---
Discharge (USGS Glenwood Springs Gage)	cfs	USGS	2030						---
Color	nu	Field	Clear						---
Odor	nu	Field	None						---
Effervescence	nu	Field	None						---
Sediment	nu	Field	None						---
Bubbles	nu	Field	None						---
VOA Headspace	nu	Field	None						---

Notes:

U = not detected at the reporting limit

NM = not measured

H = hold time exceeded; estimated value

AV = averaged value

J = analyte detected above the MDL and below the RL; result considered estimated

ATTACHMENT E

Laboratory Analytical Summary Report



Monday, October 17, 2016

Bruce Smith
Western Water and Land, Inc.
743 Horizon Ct., Suite 330
Grand Junction, CO 81506

Re: ALS Workorder: 1609469
Project Name: TEP 317B
Project Number:

Dear Mr. Smith:

One water sample was received from Western Water and Land, Inc., on 9/27/2016. The sample was scheduled for the following analyses:

- GC/MS Semivolatiles
- GC/MS Volatiles
- Inorganics
- Metals
- Total Extractable Petroleum Hydrocarbons (Diesel)

The results for these analyses are contained in the enclosed reports.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, ALS certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Thank you for your confidence in ALS Environmental. Should you have any questions, please call.

Sincerely,

ALS Environmental
Shiloh J. Summy
Project Manager



1609469

GC/MS Volatiles:

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

All acceptance criteria were met.

GC/MS Semivolatiles:

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

All acceptance criteria were met.

DRO:

The sample was analyzed following the current revision of SOP 406 generally based on SW-846 Methods 8000C and 8015D. TEPH is a multicomponent mixture and is quantitated by summing the entire carbon range, rather than individual peaks. The carbon range integrated in this test extends from C10 to C28.

All acceptance criteria were met.

Metals:

The sample was analyzed following Methods for the Determination of Metals in Environmental Samples – Supplement 1 procedures. Analysis by ICPMS followed method 200.8 and the current revision of SOP 827.

The sample was to be analyzed for dissolved metals. The sample was filtered through a 0.45 micron filter and preserved with nitric acid to a pH less than 2 prior to analysis.

All initial and continuing calibration blanks were below the reporting limit for the requested analytes, with the exception of CCB22 for boron and sodium. The samples bracketed by this CCB were re-analyzed with acceptable CCBs.

All initial and continuing calibration verifications were within the acceptance criteria for the requested analytes, with the exception of multiple CCVs for boron and sodium. The samples bracketed by these CCVs were re-analyzed with acceptable CCVs.

Matrix spike recoveries could not be evaluated for the following analytes:



<u>Analyte</u>	<u>Sample ID</u>
Barium	1609469-1
Calcium	1609469-1
Sodium	1609469-1
Strontium	1609469-1

The concentrations of these analytes in the native sample were greater than four times the concentration of matrix spike added during the digestion. When sample concentration is that much greater than the spike added, spike recoveries may not be accurate. The laboratory control sample indicates that the digestion and analysis were in control.

All remaining acceptance criteria were met.

Inorganics:

The sample was analyzed following EMSL and Standard Method procedures for the current revisions of the following SOPs and methods:

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

All initial and continuing calibration verifications were within the acceptance criteria for the requested analytes with the exception of CCV1 for sulfate. None of the samples associated with this order number were bracketed by this CCV.

All remaining acceptance criteria were met.

ALS -- Fort Collins

Sample Number(s) Cross-Reference Table

OrderNum: 1609469

Client Name: Western Water and Land, Inc.

Client Project Name: TEP 317B

Client Project Number:

Client PO Number:

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
B29	1609469-1		WATER	26-Sep-16	12:00



ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: Western Water

Workorder No: 1609469

Project Manager: ARW

Initials: ARW

Date: 9/27/16

1. Does this project require any special handling in addition to standard ALS procedures?		YES	<input checked="" type="radio"/> NO
2. Are custody seals on shipping containers intact?	NONE	<input checked="" type="radio"/> YES	NO
3. Are Custody seals on sample containers intact?	<input checked="" type="radio"/> NONE	YES	NO
4. Is there a COC (Chain-of-Custody) present or other representative documents?		<input checked="" type="radio"/> YES	NO
5. Are the COC and bottle labels complete and legible?		<input checked="" type="radio"/> YES	NO
6. Is the COC in agreement with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)		<input checked="" type="radio"/> YES	NO
7. Were airbills / shipping documents present and/or removable?	DROP OFF	<input checked="" type="radio"/> YES	NO
8. Are all aqueous samples requiring preservation preserved correctly? (excluding volatiles)	<input checked="" type="radio"/> N/A	YES	NO
9. Are all aqueous non-preserved samples pH 4-9?	N/A	<input checked="" type="radio"/> YES	NO
10. Is there sufficient sample for the requested analyses?		<input checked="" type="radio"/> YES	NO
11. Were all samples placed in the proper containers for the requested analyses?		<input checked="" type="radio"/> YES	NO
12. Are all samples within holding times for the requested analyses?		<input checked="" type="radio"/> YES	NO
13. Were all sample containers received intact? (not broken or leaking, etc.)		<input checked="" type="radio"/> YES	NO
14. Are all samples requiring no headspace (VOC, GRO, RSK/MEE, Rx CN/S, radon) headspace free? Size of bubble: ___ < green pea ___ > green pea	N/A	<input checked="" type="radio"/> YES	NO
15. Do any water samples contain sediment? Amount Amount of sediment: ___ 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>1.5°C</u>			
No. of custody seals on cooler: <u>1</u>			
External µR/hr reading: <u>11</u>			
Background µR/hr reading: <u>11</u>			
Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? <input checked="" type="radio"/> YES <input type="radio"/> 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: Prithab Sanyal

1609469

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

SHIP DATE: 28SEP16
ACTWGHT: 38.00 LB
CAD: 10803810/MINEN 3790
DIM5: 11X18X17 IN
BILL RECIPIENT

TO SAMPLE RECEIVING
ALS LABORATORY GROUP
225 COMMERCE DRIVE

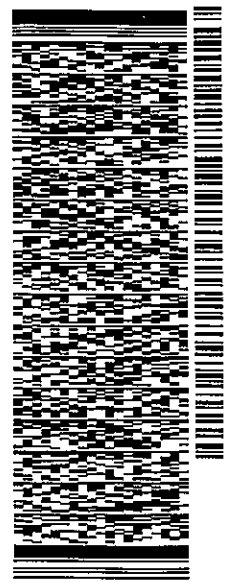
FORT COLLINS CO 80524

(970) 490-1511

REF: 092616-3

INV. PO: PARACHUTE

DEPT



J16Z216070501us

11-1
1.500C

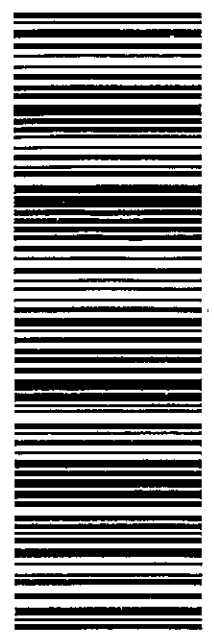
544J1/A05314EB

TRK# 7773 2053 3212
0201

TUE - 27 SEP 3:00P
STANDARD OVERNIGHT

72 FTCA

80524
CO-US DEN



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SAMPLE SUMMARY REPORT

Client: Western Water and Land, Inc.
 Project: TEP 317B
 Sample ID: B29
 Legal Location:
 Collection Date: 9/26/2016 12:00

Date: 17-Oct-16
 Work Order: 1609469
 Lab ID: 1609469-1
 Matrix: WATER
 Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	MDL	Date Analyzed
ALKALINITY AS CALCIUM CARBONATE			SM2320B				
BICARBONATE AS CaCO3	130		20	MG/L	1		10/6/2016
CARBONATE AS CaCO3	ND		20	MG/L	1		10/6/2016
TOTAL ALKALINITY AS CaCO3	130		20	MG/L	1		10/6/2016
DIESEL RANGE ORGANICS			SW8015M				
Diesel Range Organics	ND		0.57	MG/L	1	0.17	9/28/2016 18:27
Surr: O-TERPHENYL	100		63-126	%REC	1		9/28/2016 18:27
GC/MS SEMI-VOLATILES			SW8270SIM				
NAPHTHALENE	ND		0.1	UG/L	1	0.031	9/30/2016 11:57
2-METHYLNAPHTHALENE	ND		0.1	UG/L	1	0.031	9/30/2016 11:57
1-METHYLNAPHTHALENE	ND		0.1	UG/L	1	0.031	9/30/2016 11:57
ACENAPHTHYLENE	ND		0.1	UG/L	1	0.031	9/30/2016 11:57
ACENAPHTHENE	ND		0.1	UG/L	1	0.031	9/30/2016 11:57
FLUORENE	ND		0.1	UG/L	1	0.032	9/30/2016 11:57
PHENANTHRENE	ND		0.1	UG/L	1	0.035	9/30/2016 11:57
ANTHRACENE	ND		0.1	UG/L	1	0.033	9/30/2016 11:57
FLUORANTHENE	ND		0.1	UG/L	1	0.034	9/30/2016 11:57
PYRENE	ND		0.1	UG/L	1	0.031	9/30/2016 11:57
BENZO(A)ANTHRACENE	ND		0.1	UG/L	1	0.031	9/30/2016 11:57
CHRYSENE	ND		0.1	UG/L	1	0.031	9/30/2016 11:57
BENZO(B)FLUORANTHENE	ND		0.1	UG/L	1	0.031	9/30/2016 11:57
BENZO(K)FLUORANTHENE	ND		0.1	UG/L	1	0.034	9/30/2016 11:57
BENZO(A)PYRENE	ND		0.1	UG/L	1	0.031	9/30/2016 11:57
INDENO(1,2,3-CD)PYRENE	ND		0.1	UG/L	1	0.031	9/30/2016 11:57
DIBENZO(A,H)ANTHRACENE	ND		0.1	UG/L	1	0.031	9/30/2016 11:57
BENZO(G,H,I)PERYLENE	ND		0.1	UG/L	1	0.031	9/30/2016 11:57
Surr: NITROBENZENE-D5	87		34-111	%REC	1		9/30/2016 11:57
Surr: 2-FLUOROBIPHENYL	92		21-106	%REC	1		9/30/2016 11:57
Surr: TERPHENYL-D14	108		33-111	%REC	1		9/30/2016 11:57
GC/MS VOLATILES			SW8260_25				
BENZENE	ND		1	UG/L	1	0.3	10/4/2016 13:34
TOLUENE	ND		1	UG/L	1	0.3	10/4/2016 13:34
ETHYLBENZENE	ND		1	UG/L	1	0.3	10/4/2016 13:34
M+P-XYLENE	ND		1	UG/L	1	0.3	10/4/2016 13:34
O-XYLENE	ND		1	UG/L	1	0.3	10/4/2016 13:34
TOTAL XYLENES	ND		1	UG/L	1		10/4/2016 13:34
Surr: 4-BROMOFLUOROBENZENE	101		85-115	%REC	1		10/4/2016 13:34
Surr: DIBROMOFLUOROMETHANE	100		84-118	%REC	1		10/4/2016 13:34
Surr: TOLUENE-D8	98		85-115	%REC	1		10/4/2016 13:34
GASOLINE RANGE ORGANICS	ND		100	UG/L	1	100	10/4/2016 13:34
ION CHROMATOGRAPHY			EPA300.0				
BROMIDE	ND		0.2	MG/L	1	0.06	9/27/2016 16:39

ALS -- Fort Collins

SAMPLE SUMMARY REPORT

Client: Western Water and Land, Inc.
Project: TEP 317B
Sample ID: B29
Legal Location:
Collection Date: 9/26/2016 12:00

Date: 17-Oct-16
Work Order: 1609469
Lab ID: 1609469-1
Matrix: WATER
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	MDL	Date Analyzed
CHLORIDE	160		2	MG/L	10	0.6	9/27/2016 17:11
FLUORIDE	0.29		0.1	MG/L	1	0.03	9/27/2016 16:39
NITRATE/NITRITE AS N	ND		0.1	MG/L	1		9/27/2016 16:39
NITRATE AS N	ND		0.2	MG/L	1	0.06	9/27/2016 16:39
NITRITE AS N	ND		0.1	MG/L	1	0.03	9/27/2016 16:39
SULFATE	91		10	MG/L	10	3	9/27/2016 17:11
METALS BY 200.8			EPA200.8		Prep Date: 10/5/2016		PrepBy: BAS
BARIUM	0.057		0.001	MG/L	10	0.00016	10/11/2016 02:23
BORON	0.074		0.05	MG/L	10	0.012	10/12/2016 16:44
CALCIUM	64		1	MG/L	10	0.068	10/11/2016 02:23
IRON	0.056	J	0.1	MG/L	10	0.0081	10/11/2016 02:23
MAGNESIUM	14		0.1	MG/L	10	0.018	10/11/2016 02:23
MANGANESE	0.003		0.002	MG/L	10	0.00034	10/11/2016 02:23
POTASSIUM	3.5		1	MG/L	10	0.29	10/11/2016 02:23
SELENIUM	0.00084	J	0.001	MG/L	10	0.00066	10/11/2016 02:23
SODIUM	110		1	MG/L	10	0.2	10/12/2016 16:44
STRONTIUM	0.58		0.001	MG/L	10	0.0003	10/11/2016 02:23
PH			SM4500-H		Prep Date: 9/29/2016		PrepBy: HMA
PH	8.35		0.1	pH	1		9/29/2016
SPECIFIC CONDUCTANCE IN WATER			SM2510B		Prep Date: 9/29/2016		PrepBy: HMA
SPECIFIC CONDUCTIVITY	1008		1	umhos/cm	1		9/29/2016
TOTAL DISSOLVED SOLIDS			SM2540C		Prep Date: 9/28/2016		PrepBy: HMA
TOTAL DISSOLVED SOLIDS	540		20	MG/L	1		9/29/2016

Client: Western Water and Land, Inc.
Project: TEP 317B
Sample ID: B29
Legal Location:
Collection Date: 9/26/2016 12:00

Date: 17-Oct-16
Work Order: 1609469
Lab ID: 1609469-1
Matrix: WATER
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	MDL	Date Analyzed
----------	--------	------	--------------	-------	-----------------	-----	---------------

Explanation of Qualifiers

Radiochemistry:

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

Inorganics:

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

Organics:

- U or ND - Indicates that the compound was analyzed for but not detected.
- B - Analyte is detected in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user.
- E - Analyte concentration exceeds the upper level of the calibration range.
- J - Estimated value. The result is less than the reporting limit but greater than the instrument method detection limit (MDL).
- A - A tentatively identified compound is a suspected aldol-condensation product.
- X - The analyte was diluted below an accurate quantitation level.
- * - The spike recovery is equal to or outside the control criteria used.
- + - The relative percent difference (RPD) equals or exceeds the control criteria.
- G - A pattern resembling gasoline was detected in this sample.
- D - A pattern resembling diesel was detected in this sample.
- M - A pattern resembling motor oil was detected in this sample.
- C - A pattern resembling crude oil was detected in this sample.
- 4 - A pattern resembling JP-4 was detected in this sample.
- 5 - A pattern resembling JP-5 was detected in this sample.
- H - Indicates that the fuel pattern was in the heavier end of the retention time window for the analyte of interest.
- L - Indicates that the fuel pattern was in the lighter end of the retention time window for the analyte of interest.
- Z - This flag indicates that a significant fraction of the reported result did not resemble the patterns of any of the following petroleum hydrocarbon products:
 - gasoline
 - JP-8
 - diesel
 - mineral spirits
 - motor oil
 - Stoddard solvent
 - bunker C

ALS -- Fort Collins

Date: 10/17/2016 12:2

Client: Western Water and Land, Inc.

QC BATCH REPORT

Work Order: 1609469

Project: TEP 317B

Batch ID: **HC160928-101-1** Instrument ID **FUELS-1** Method: **SW8015M**

LCS		Sample ID: HC160928-101			Units: MG/L		Analysis Date: 9/28/2016 17:35				
Client ID:		Run ID: HC160928-9A					Prep Date: 9/28/2016		DF: 1		
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
Diesel Range Organics	8.07	0.573	7.96		101	36-150				20	
Surr: O-TERPHENYL	0.8		0.796		101	63-126					

LCSD		Sample ID: HC160928-101			Units: MG/L		Analysis Date: 9/28/2016 18:01				
Client ID:		Run ID: HC160928-9A					Prep Date: 9/28/2016		DF: 1		
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
Diesel Range Organics	8.04	0.561	7.79		103	36-150		8.07	0	20	
Surr: O-TERPHENYL	0.781		0.779		100	63-126			2		

MB		Sample ID: HC160928-101			Units: MG/L		Analysis Date: 9/28/2016 17:09				
Client ID:		Run ID: HC160928-9A					Prep Date: 9/28/2016		DF: 1		
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
Diesel Range Organics	ND	0.56									
Surr: O-TERPHENYL	0.774		0.783		99	63-126					

MS		Sample ID: 1609469-1			Units: MG/L		Analysis Date: 9/28/2016 18:53				
Client ID: B29		Run ID: HC160928-9A					Prep Date: 9/28/2016		DF: 1		
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
Diesel Range Organics	8.04	0.571	7.94	0.57	101	36-150				20	
Surr: O-TERPHENYL	0.783		0.794		99	63-126					

The following samples were analyzed in this batch:

Client: Western Water and Land, Inc.
 Work Order: 1609469
 Project: TEP 317B

QC BATCH REPORT

Batch ID: **IP161005-1-8** Instrument ID **ICPMS2** Method: **EPA200.8**

DUP		Sample ID: 1609469-1		Units: MG/L			Analysis Date: 10/11/2016 02:29				
Client ID: B29		Run ID: IM161010-13A14			Prep Date: 10/5/2016			DF: 10			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
BARIUM	0.0547	0.001						0.057	4	30	
CALCIUM	63.5	1						64	1	30	
IRON	0.0546	0.1						0.056		30	J
MAGNESIUM	14.3	0.1						14	2	30	
MANGANESE	0.00319	0.002						0.003		30	
POTASSIUM	3.49	1						3.5		30	
SELENIUM	0.0008	0.001						0.00084		30	J
STRONTIUM	0.574	0.001						0.58	1	30	

LCS		Sample ID: IM161005-1		Units: MG/L			Analysis Date: 10/11/2016 02:20				
Client ID:		Run ID: IM161010-13A14			Prep Date: 10/5/2016			DF: 10			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
BARIUM	0.113	0.001	0.1		113	85-115				20	
CALCIUM	10.2	1	10		102	85-115				20	
IRON	5.37	0.1	5		107	85-115				20	
MAGNESIUM	10.8	0.1	10		108	85-115				20	
MANGANESE	0.106	0.002	0.1		106	85-115				20	
POTASSIUM	5.11	1	5		102	85-115				20	
SELENIUM	0.104	0.001	0.1		104	85-115				20	
STRONTIUM	0.106	0.001	0.1		106	85-115				20	

MB		Sample ID: IP161005-1		Units: MG/L			Analysis Date: 10/11/2016 02:17				
Client ID:		Run ID: IM161010-13A14			Prep Date: 10/5/2016			DF: 10			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
BARIUM	0.0002	0.001									J
CALCIUM	ND	1									
IRON	ND	0.1									
MAGNESIUM	ND	0.1									
MANGANESE	ND	0.002									
POTASSIUM	ND	1									
SELENIUM	ND	0.001									
STRONTIUM	ND	0.001									

Client: Western Water and Land, Inc.
 Work Order: 1609469
 Project: TEP 317B

QC BATCH REPORT

Batch ID: IP161005-1-8 Instrument ID ICPMS2 Method: EPA200.8

MS		Sample ID: 1609469-1			Units: MG/L		Analysis Date: 10/11/2016 02:32				
Client ID: B29		Run ID: IM161010-13A14			Prep Date: 10/5/2016		DF: 10				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
BARIUM	0.163	0.001	0.1	0.057	107	70-130				20	
CALCIUM	71.6	1	10	64	78	70-130				20	
IRON	5.54	0.1	5	0.056	110	70-130				20	
MAGNESIUM	23.9	0.1	10	14	98	70-130				20	
MANGANESE	0.107	0.002	0.1	0.003	104	70-130				20	
POTASSIUM	8.33	1	5	3.5	97	70-130				20	
SELENIUM	0.104	0.001	0.1	0.00084	103	70-130				20	
STRONTIUM	0.654	0.001	0.1	0.58	74	70-130				20	

MSD		Sample ID: 1609469-1			Units: MG/L		Analysis Date: 10/11/2016 02:35				
Client ID: B29		Run ID: IM161010-13A14			Prep Date: 10/5/2016		DF: 10				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
BARIUM	0.163	0.001	0.1	0.057	106	70-130		0.163	0	20	
CALCIUM	71.2	1	10	64	74	70-130		71.6	1	20	
IRON	5.6	0.1	5	0.056	111	70-130		5.54	1	20	
MAGNESIUM	24	0.1	10	14	99	70-130		23.9	0	20	
MANGANESE	0.108	0.002	0.1	0.003	105	70-130		0.107	1	20	
POTASSIUM	8.3	1	5	3.5	96	70-130		8.33	0	20	
SELENIUM	0.101	0.001	0.1	0.00084	100	70-130		0.104	3	20	
STRONTIUM	0.662	0.001	0.1	0.58	82	70-130		0.654	1	20	

The following samples were analyzed in this batch:

1609469-1

Client: Western Water and Land, Inc.
 Work Order: 1609469
 Project: TEP 317B

QC BATCH REPORT

Batch ID: **IP161005-1-8** Instrument ID **ICPMS2** Method: **EPA200.8**

DUP Sample ID: **1609469-1** Units: **MG/L** Analysis Date: **10/12/2016 16:50**
 Client ID: **B29** Run ID: **IM161012-10A12** Prep Date: **10/5/2016** DF: **10**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
BORON	ND	0.05						0.074		30	
SODIUM	110	1						110	1	30	

LCS Sample ID: **IM161005-1** Units: **MG/L** Analysis Date: **10/12/2016 16:41**
 Client ID: Run ID: **IM161012-10A12** Prep Date: **10/5/2016** DF: **10**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
BORON	1.06	0.05	1		106	85-115				20	
SODIUM	10.3	1	10		103	85-115				20	

MB Sample ID: **IP161005-1** Units: **MG/L** Analysis Date: **10/12/2016 16:38**
 Client ID: Run ID: **IM161012-10A12** Prep Date: **10/5/2016** DF: **10**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
BORON	ND	0.05									
SODIUM	ND	1									

MS Sample ID: **1609469-1** Units: **MG/L** Analysis Date: **10/12/2016 16:53**
 Client ID: **B29** Run ID: **IM161012-10A12** Prep Date: **10/5/2016** DF: **10**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
BORON	1.03	0.05	1	0.074	95	70-130				20	
SODIUM	118	1	10	110	89	70-130				20	

MSD Sample ID: **1609469-1** Units: **MG/L** Analysis Date: **10/12/2016 16:56**
 Client ID: **B29** Run ID: **IM161012-10A12** Prep Date: **10/5/2016** DF: **10**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
BORON	1.08	0.05	1	0.074	100.2	70-130		1.03	5	20	
SODIUM	119	1	10	110	93.5	70-130		118	0	20	

The following samples were analyzed in this batch:

Client: Western Water and Land, Inc.
 Work Order: 1609469
 Project: TEP 317B

QC BATCH REPORT

Batch ID: EX160928-3-1 Instrument ID HPSV1 Method: SW8270SIM

LCS Sample ID: EX160928-3 Units: UG/L Analysis Date: 9/30/2016 11:00
 Client ID: Run ID: SV160930-4 Prep Date: 9/28/2016 DF: 1

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
NAPHTHALENE	1.74	0.1	2		87	39-102				20	
2-METHYLNAPHTHALENE	1.85	0.1	2		92	46-104				20	
1-METHYLNAPHTHALENE	1.76	0.1	2		88	60-100				20	
ACENAPHTHYLENE	2.14	0.1	2		107	33-127				20	
ACENAPHTHENE	1.74	0.1	2		87	47-108				20	
FLUORENE	1.87	0.1	2		93	50-112				20	
PHENANTHRENE	1.63	0.1	2		82	51-117				20	
ANTHRACENE	2.05	0.1	2		103	54-112				20	
FLUORANTHENE	2.05	0.1	2		102	39-133				20	
PYRENE	1.64	0.1	2		82	50-117				20	
BENZO(A)ANTHRACENE	1.87	0.1	2		94	47-132				20	
CHRYSENE	1.71	0.1	2		86	52-112				20	
BENZO(B)FLUORANTHENE	1.51	0.1	2		76	51-124				20	
BENZO(K)FLUORANTHENE	1.53	0.1	2		77	53-128				20	
BENZO(A)PYRENE	1.64	0.1	2		82	45-116				20	
INDENO(1,2,3-CD)PYRENE	1.87	0.1	2		94	43-141				20	
DIBENZO(A,H)ANTHRACENE	1.92	0.1	2		96	43-141				20	
BENZO(G,H,I)PERYLENE	1.84	0.1	2		92	38-123				20	
Surr: NITROBENZENE-D5	1.73		2		87	34-111					
Surr: 2-FLUOROBIPHENYL	1.77		2		88	21-106					
Surr: TERPHENYL-D14	1.96		2		98	33-111					

Client: Western Water and Land, Inc.
 Work Order: 1609469
 Project: TEP 317B

QC BATCH REPORT

Batch ID: EX160928-3-1 Instrument ID HPSV1 Method: SW8270SIM

LCSD Sample ID: EX160928-3 Units: UG/L Analysis Date: 9/30/2016 11:18
 Client ID: Run ID: SV160930-4 Prep Date: 9/28/2016 DF: 1

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
NAPHTHALENE	1.77	0.1	2		89	39-102		1.74	2	20	
2-METHYLNAPHTHALENE	1.86	0.1	2		93	46-104		1.85	1	20	
1-METHYLNAPHTHALENE	1.79	0.1	2		89	60-100		1.76	1	20	
ACENAPHTHYLENE	2.18	0.1	2		109	33-127		2.14	2	20	
ACENAPHTHENE	1.78	0.1	2		89	47-108		1.74	2	20	
FLUORENE	1.88	0.1	2		94	50-112		1.87	1	20	
PHENANTHRENE	1.73	0.1	2		86	51-117		1.63	6	20	
ANTHRACENE	2.15	0.1	2		107	54-112		2.05	5	20	
FLUORANTHENE	2.15	0.1	2		108	39-133		2.05	5	20	
PYRENE	1.75	0.1	2		87	50-117		1.64	6	20	
BENZO(A)ANTHRACENE	2.01	0.1	2		101	47-132		1.87	7	20	
CHRYSENE	1.82	0.1	2		91	52-112		1.71	6	20	
BENZO(B)FLUORANTHENE	1.58	0.1	2		79	51-124		1.51	4	20	
BENZO(K)FLUORANTHENE	1.7	0.1	2		85	53-128		1.53	10	20	
BENZO(A)PYRENE	1.73	0.1	2		86	45-116		1.64	5	20	
INDENO(1,2,3-CD)PYRENE	2.02	0.1	2		101	43-141		1.87	7	20	
DIBENZO(A,H)ANTHRACENE	2.06	0.1	2		103	43-141		1.92	7	20	
BENZO(G,H,I)PERYLENE	1.98	0.1	2		99	38-123		1.84	8	20	
Surr: NITROBENZENE-D5	1.8		2		90	34-111				4	
Surr: 2-FLUOROBIPHENYL	1.8		2		90	21-106				2	
Surr: TERPHENYL-D14	2.09		2		105	33-111				7	

Client: Western Water and Land, Inc.
 Work Order: 1609469
 Project: TEP 317B

QC BATCH REPORT

Batch ID: EX160928-3-1 Instrument ID HPSV1 Method: SW8270SIM

MB Sample ID: EX160928-3 Units: UG/L Analysis Date: 9/30/2016 10:43
 Client ID: Run ID: SV160930-4 Prep Date: 9/28/2016 DF: 1

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
NAPHTHALENE	ND	0.1									
2-METHYLNAPHTHALENE	ND	0.1									
1-METHYLNAPHTHALENE	ND	0.1									
ACENAPHTHYLENE	ND	0.1									
ACENAPHTHENE	ND	0.1									
FLUORENE	ND	0.1									
PHENANTHRENE	ND	0.1									
ANTHRACENE	ND	0.1									
FLUORANTHENE	ND	0.1									
PYRENE	ND	0.1									
BENZO(A)ANTHRACENE	ND	0.1									
CHRYSENE	ND	0.1									
BENZO(B)FLUORANTHENE	ND	0.1									
BENZO(K)FLUORANTHENE	ND	0.1									
BENZO(A)PYRENE	ND	0.1									
INDENO(1,2,3-CD)PYRENE	ND	0.1									
DIBENZO(A,H)ANTHRACENE	ND	0.1									
BENZO(G,H,I)PERYLENE	ND	0.1									
Surr: NITROBENZENE-D5	1.67		2		84	34-111					
Surr: 2-FLUOROBIPHENYL	1.66		2		83	21-106					
Surr: TERPHENYL-D14	1.86		2		93	33-111					

The following samples were analyzed in this batch:

1609469-1

Client: Western Water and Land, Inc.
 Work Order: 1609469
 Project: TEP 317B

QC BATCH REPORT

Batch ID: VL161004-3-2 Instrument ID: HPV1 Method: SW8260_25

LCS		Sample ID: VL161004-3			Units: %REC		Analysis Date: 10/4/2016 09:58				
Client ID:		Run ID: VL161004-3A			Prep Date: 10/4/2016		DF: 1				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
Surr: 4-BROMOFLUOROBENZENE	24.9		25		100	85-115					
Surr: DIBROMOFLUOROMETHANE	25.3		25		101	84-118					
Surr: TOLUENE-D8	24.4		25		98	85-115					
BENZENE	10.7	1	10		107	83-117				20	
TOLUENE	10.8	1	10		108	82-113				20	
ETHYLBENZENE	10.7	1	10		107	81-113				20	
M+P-XYLENE	21.7	1	20		108	82-115				20	
O-XYLENE	10.9	1	10		109	81-115				20	

LCSD		Sample ID: VL161004-3			Units: %REC		Analysis Date: 10/4/2016 10:19				
Client ID:		Run ID: VL161004-3A			Prep Date: 10/4/2016		DF: 1				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
Surr: 4-BROMOFLUOROBENZENE	25		25		100	85-115				0	
Surr: DIBROMOFLUOROMETHANE	25.2		25		101	84-118				0	
Surr: TOLUENE-D8	24.4		25		98	85-115				0	
BENZENE	10.8	1	10		108	83-117		10.7	2	20	
TOLUENE	11.1	1	10		111	82-113		10.8	2	20	
ETHYLBENZENE	11.1	1	10		111	81-113		10.7	4	20	
M+P-XYLENE	22.3	1	20		112	82-115		21.7	3	20	
O-XYLENE	11.2	1	10		112	81-115		10.9	3	20	

MB		Sample ID: VL161004-3			Units: %REC		Analysis Date: 10/4/2016 12:51				
Client ID:		Run ID: VL161004-3A			Prep Date: 10/4/2016		DF: 1				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
Surr: 4-BROMOFLUOROBENZENE	25.4		25		101	85-115					
Surr: DIBROMOFLUOROMETHANE	25.2		25		101	84-118					
Surr: TOLUENE-D8	24.1		25		96	85-115					
BENZENE	ND	1									
TOLUENE	ND	1									
ETHYLBENZENE	ND	1									
M+P-XYLENE	ND	1									
O-XYLENE	ND	1									
TOTAL XYLENES	ND	1									

The following samples were analyzed in this batch:

1609469-1

Client: Western Water and Land, Inc.
 Work Order: 1609469
 Project: TEP 317B

QC BATCH REPORT

Batch ID: VL161004-3-3 Instrument ID: HPV1 Method: SW8260_25

LCS		Sample ID: VL161004-6			Units: UG/L			Analysis Date: 10/4/2016 11:26			
Client ID:		Run ID: VL161004-3A			Prep Date: 10/4/2016			DF: 1			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
GASOLINE RANGE ORGANICS	893	100	1000		89	80-120				20	

LCSD		Sample ID: VL161004-6			Units: UG/L			Analysis Date: 10/4/2016 11:47			
Client ID:		Run ID: VL161004-3A			Prep Date: 10/4/2016			DF: 1			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
GASOLINE RANGE ORGANICS	846	100	1000		85	80-120		893	5	20	

MB		Sample ID: VL161004-3			Units: UG/L			Analysis Date: 10/4/2016 12:51			
Client ID:		Run ID: VL161004-3A			Prep Date: 10/4/2016			DF: 1			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
GASOLINE RANGE ORGANICS	ND	100									

The following samples were analyzed in this batch:

Client: Western Water and Land, Inc.
 Work Order: 1609469
 Project: TEP 317B

QC BATCH REPORT

Batch ID: **AK161006-1-2** Instrument ID **NONE** Method: **SM2320B**

LCS		Sample ID: AK161006-1			Units: MG/L		Analysis Date: 10/6/2016				
Client ID:		Run ID: AK161006-1A1			Prep Date: 10/6/2016		DF: 1				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
TOTAL ALKALINITY AS CaCO3	100	5	100		100	85-115				15	

LCSD		Sample ID: AK161006-1			Units: MG/L		Analysis Date: 10/6/2016				
Client ID:		Run ID: AK161006-1A1			Prep Date: 10/6/2016		DF: 1				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
TOTAL ALKALINITY AS CaCO3	99.3	5	100		99	85-115		100	1	15	

MB		Sample ID: AK161006-1			Units: MG/L		Analysis Date: 10/6/2016				
Client ID:		Run ID: AK161006-1A1			Prep Date: 10/6/2016		DF: 1				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
BICARBONATE AS CaCO3	ND	5									
CARBONATE AS CaCO3	ND	5									
TOTAL ALKALINITY AS CaCO3	ND	5									

The following samples were analyzed in this batch:

1609469-1

Client: Western Water and Land, Inc.
 Work Order: 1609469
 Project: TEP 317B

QC BATCH REPORT

Batch ID: IC160927-1-1 Instrument ID IC-2 Method: EPA300.0

LCS		Sample ID: IC160927-1			Units: MG/L		Analysis Date: 9/27/2016 15:34				
Client ID:		Run ID: IC160927-1A3			Prep Date: 9/27/2016		DF: 1				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
BROMIDE	5.04	0.2	5		101	90-110				15	
CHLORIDE	5	0.2	5		100	90-110				15	
FLUORIDE	1.96	0.1	2		98	90-110				15	
NITRATE AS N	4.94	0.2	5		99	90-110				15	
NITRITE AS N	1.96	0.1	2		98	90-110				15	
SULFATE	18.1	1	20		91	90-110				15	

LCSD		Sample ID: IC160927-1			Units: MG/L		Analysis Date: 9/27/2016 15:50				
Client ID:		Run ID: IC160927-1A3			Prep Date: 9/27/2016		DF: 1				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
BROMIDE	4.98	0.2	5		100	90-110		5.04	1	15	
CHLORIDE	4.87	0.2	5		97	90-110		5	3	15	
FLUORIDE	1.95	0.1	2		97	90-110		1.96	1	15	
NITRATE AS N	4.89	0.2	5		98	90-110		4.94	1	15	
NITRITE AS N	1.94	0.1	2		97	90-110		1.96	1	15	
SULFATE	17.9	1	20		90	90-110		18.1	1	15	

MB		Sample ID: IC160927-1			Units: MG/L		Analysis Date: 9/27/2016 16:23				
Client ID:		Run ID: IC160927-1A3			Prep Date: 9/27/2016		DF: 1				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
BROMIDE	ND	0.2									
CHLORIDE	ND	0.2									
FLUORIDE	ND	0.1									
NITRATE AS N	ND	0.2									
NITRITE AS N	ND	0.1									
SULFATE	ND	1									

The following samples were analyzed in this batch:

Client: Western Water and Land, Inc.
 Work Order: 1609469
 Project: TEP 317B

QC BATCH REPORT

Batch ID: PH160929-1-2 Instrument ID pH-1 Method: SM4500-H

CCV		Sample ID: CCV			Units: pH		Analysis Date: 9/29/2016				
Client ID:		Run ID: PH160929-1A1			Prep Date: 9/29/2016		DF: 1				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
PH	7.2	0.1	7			6.9-7.1					

DUP		Sample ID: 1609469-1			Units: pH		Analysis Date: 9/29/2016				
Client ID: B29		Run ID: PH160929-1A1			Prep Date: 9/29/2016		DF: 1				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
PH	8.38	0.1						8.35		0.2	

ICV		Sample ID: ICV			Units: pH		Analysis Date: 9/29/2016				
Client ID:		Run ID: PH160929-1A1			Prep Date: 9/29/2016		DF: 1				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
PH	6.96	0.1	7			6.95-7.05					

The following samples were analyzed in this batch:

1609469-1

Client: Western Water and Land, Inc.
 Work Order: 1609469
 Project: TEP 317B

QC BATCH REPORT

Batch ID: **SC160929-1-1** Instrument ID **pH-1** Method: **SM2510B**

CCV	Sample ID: CCV	Units: umhos/cm				Analysis Date: 9/29/2016					
Client ID:		Run ID: SC160929-1A1				Prep Date: 9/29/2016		DF: 1			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
SPECIFIC CONDUCTIVITY	1400	1	1410		99	71.7-1554					

DUP	Sample ID: 1609469-1	Units: umhos/cm				Analysis Date: 9/29/2016					
Client ID: B29		Run ID: SC160929-1A1				Prep Date: 9/29/2016		DF: 1			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
SPECIFIC CONDUCTIVITY	1035	1						1008	3	10	

ICV	Sample ID: ICV	Units: umhos/cm				Analysis Date: 9/29/2016					
Client ID:		Run ID: SC160929-1A1				Prep Date: 9/29/2016		DF: 1			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
SPECIFIC CONDUCTIVITY	748	1	718		104	46.2-789.7					

The following samples were analyzed in this batch:

1609469-1

Client: Western Water and Land, Inc.
 Work Order: 1609469
 Project: TEP 317B

QC BATCH REPORT

Batch ID: **TD160928-1-2** Instrument ID **Balance** Method: **SM2540C**

LCS		Sample ID: TD160928-1			Units: MG/L		Analysis Date: 9/29/2016				
Client ID:		Run ID: TD160929-1A1			Prep Date: 9/28/2016		DF: 1				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
TOTAL DISSOLVED SOLIDS	413	20	400		103	85-115				5	

LCSD		Sample ID: TD160928-1			Units: MG/L		Analysis Date: 9/29/2016				
Client ID:		Run ID: TD160929-1A1			Prep Date: 9/28/2016		DF: 1				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
TOTAL DISSOLVED SOLIDS	417	20	400		104	85-115		413	1	5	

MB		Sample ID: TD160928-1			Units: MG/L		Analysis Date: 9/29/2016				
Client ID:		Run ID: TD160929-1A1			Prep Date: 9/28/2016		DF: 1				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
TOTAL DISSOLVED SOLIDS	ND	20									

The following samples were analyzed in this batch:



Wednesday, October 12, 2016

Bruce Smith
Western Water and Land, Inc.
743 Horizon Ct., Suite 330
Grand Junction, CO 81506

Re: ALS Workorder: 1609471
Project Name: TEP 317B
Project Number:

Dear Mr. Smith:

One water sample was received from Western Water and Land, Inc., on 9/27/2016. The sample was scheduled for the following analysis:

GC/MS Volatiles

The results for these analyses are contained in the enclosed reports.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, ALS certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Thank you for your confidence in ALS Environmental. Should you have any questions, please call.

Sincerely,

ALS Environmental
Shiloh J. Summy
Project Manager



1609471

GC/MS Volatiles:

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

This trip blank is associated with sample 1609469-1 (B29).

All acceptance criteria were met.

ALS -- Fort Collins

Sample Number(s) Cross-Reference Table

OrderNum: 1609471

Client Name: Western Water and Land, Inc.

Client Project Name: TEP 317B

Client Project Number:

Client PO Number:

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
B29-Trip Blank	1609471-1		WATER	26-Sep-16	



ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: Western Water

Workorder No: 1609471

Project Manager: ARW

Initials: RM Date: 9/27/16

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.)		YES	<input checked="" type="radio"/> NO
7. Were airbills / shipping documents present and/or removable?	DROP OFF	<input checked="" type="radio"/> YES	NO
8. Are all aqueous samples requiring preservation preserved correctly? (excluding volatiles)	<input checked="" type="radio"/> N/A	YES	NO
9. Are all aqueous non-preserved samples pH 4-9?	<input checked="" type="radio"/> N/A	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		<input checked="" type="radio"/> YES	NO
Cooler #: <u>1</u>			
Temperature (°C): <u>1.5°C</u>			
No. of custody seals on cooler: <u>1</u>			
External µR/hr reading: <u>11</u>			
Background µR/hr reading: <u>11</u>			
Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? <input checked="" type="radio"/> YES / NO / NA (If no, see Form 008.)			

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

6) Trip blanks not on COC.

SS 9/27/16

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

Project Manager Signature / Date: *Phil Senny*

ORIGIN ID: R11A (616) 298-1033
NICK MARTINEZ
ALS ENVIRONMENTAL
127 E. 1ST STREET
PARACHUTE, CO 81633
UNITED STATES US

SHIP DATE: 26SEP16
ACT WT: 38.00 LB
CAD: 108058187/NET13790
DIMS: 11x18x17 IN
BILL RECIPIENT

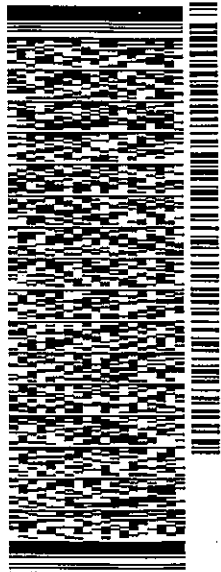
1609471

TO SAMPLE RECEIVING
ALS LABORATORY GROUP
225 COMMERCE DRIVE

FORT COLLINS CO 80524
(970) 490-1511 REF: 0926163
PO PARACHUTE DEPT

1.500C

544J1/A053/14E8



TRK# 7773 2053 3212
0201

TUE - 27 SEP 3:00P
STANDARD OVERNIGHT

72 FTCA

80524
CO-US DEN



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Client: Western Water and Land, Inc.

Date: 10-Oct-16

Project: TEP 317B

Work Order: 1609471

Sample ID: B29-Trip Blank

Lab ID: 1609471-1

Legal Location:

Matrix: WATER

Collection Date: 9/26/2016

Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
GC/MS Volatiles			SW8260_25		Prep Date: 10/4/2016	PrepBy: JXK
BENZENE	ND		1	UG/L	1	10/4/2016 14:16
TOLUENE	ND		1	UG/L	1	10/4/2016 14:16
ETHYLBENZENE	ND		1	UG/L	1	10/4/2016 14:16
M+P-XYLENE	ND		1	UG/L	1	10/4/2016 14:16
O-XYLENE	ND		1	UG/L	1	10/4/2016 14:16
TOTAL XYLENES	ND		1	UG/L	1	10/4/2016 14:16
Surr: 4-BROMOFLUOROBENZENE	102		85-115	%REC	1	10/4/2016 14:16
Surr: DIBROMOFLUOROMETHANE	101		84-118	%REC	1	10/4/2016 14:16
Surr: TOLUENE-D8	99		85-115	%REC	1	10/4/2016 14:16
GASOLINE RANGE ORGANICS	ND		100	UG/L	1	10/4/2016 14:16

Client: Western Water and Land, Inc.
Project: TEP 317B
Sample ID: B29-Trip Blank
Legal Location:
Collection Date: 9/26/2016

Date: 10-Oct-16
Work Order: 1609471
Lab ID: 1609471-1
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.
- S - SAR value is estimated as one or more analytes used in the calculation were not detected above the detection limit.

Organics:

- U or ND - Indicates that the compound was analyzed for but not detected.
- B - Analyte is detected in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user.
- E - Analyte concentration exceeds the upper level of the calibration range.
- J - Estimated value. The result is less than the reporting limit but greater than the instrument method detection limit (MDL).
- A - A tentatively identified compound is a suspected aldol-condensation product.
- X - The analyte was diluted below an accurate quantitation level.
- * - The spike recovery is equal to or outside the control criteria used.
- + - The relative percent difference (RPD) equals or exceeds the control criteria.
- G - A pattern resembling gasoline was detected in this sample.
- D - A pattern resembling diesel was detected in this sample.
- M - A pattern resembling motor oil was detected in this sample.
- C - A pattern resembling crude oil was detected in this sample.
- 4 - A pattern resembling JP-4 was detected in this sample.
- 5 - A pattern resembling JP-5 was detected in this sample.
- H - Indicates that the fuel pattern was in the heavier end of the retention time window for the analyte of interest.
- L - Indicates that the fuel pattern was in the lighter end of the retention time window for the analyte of interest.
- Z - This flag indicates that a significant fraction of the reported result did not resemble the patterns of any of the following petroleum hydrocarbon products:
 - gasoline
 - JP-8
 - diesel
 - mineral spirits
 - motor oil
 - Stoddard solvent
 - bunker C

ALS -- Fort Collins

Date: 10/10/2016 9:43

Client: Western Water and Land, Inc.

QC BATCH REPORT

Work Order: 1609471

Project: TEP 317B

Batch ID: VL161004-3-2

Instrument ID: HPV1

Method: SW8260_25

LCS		Sample ID: VL161004-3			Units: %REC			Analysis Date: 10/4/2016 09:58				
Client ID:		Run ID: VL161004-3A			Prep Date: 10/4/2016			DF: 1				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual	
Surr: 4-BROMOFLUOROBENZENE	24.9		25		100	85-115						
Surr: DIBROMOFLUOROMETHANE	25.3		25		101	84-118						
Surr: TOLUENE-D8	24.4		25		98	85-115						
BENZENE	10.7	1	10		107	83-117				20		
TOLUENE	10.8	1	10		108	82-113				20		
ETHYLBENZENE	10.7	1	10		107	81-113				20		
M+P-XYLENE	21.7	1	20		108	82-115				20		
O-XYLENE	10.9	1	10		109	81-115				20		

LCSD		Sample ID: VL161004-3			Units: %REC			Analysis Date: 10/4/2016 10:19				
Client ID:		Run ID: VL161004-3A			Prep Date: 10/4/2016			DF: 1				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual	
Surr: 4-BROMOFLUOROBENZENE	25		25		100	85-115			0			
Surr: DIBROMOFLUOROMETHANE	25.2		25		101	84-118			0			
Surr: TOLUENE-D8	24.4		25		98	85-115			0			
BENZENE	10.8	1	10		108	83-117		10.7	2	20		
TOLUENE	11.1	1	10		111	82-113		10.8	2	20		
ETHYLBENZENE	11.1	1	10		111	81-113		10.7	4	20		
M+P-XYLENE	22.3	1	20		112	82-115		21.7	3	20		
O-XYLENE	11.2	1	10		112	81-115		10.9	3	20		

MB		Sample ID: VL161004-3			Units: %REC			Analysis Date: 10/4/2016 12:51				
Client ID:		Run ID: VL161004-3A			Prep Date: 10/4/2016			DF: 1				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual	
Surr: 4-BROMOFLUOROBENZENE	25.4		25		101	85-115						
Surr: DIBROMOFLUOROMETHANE	25.2		25		101	84-118						
Surr: TOLUENE-D8	24.1		25		96	85-115						
BENZENE	ND	1										
TOLUENE	ND	1										
ETHYLBENZENE	ND	1										
M+P-XYLENE	ND	1										
O-XYLENE	ND	1										
TOTAL XYLENES	ND	1										

Client: Western Water and Land, Inc.
Work Order: 1609471
Project: TEP 317B

QC BATCH REPORT

Batch ID: **VL161004-3-2** Instrument ID **HPV1** Method: **SW8260_25**

The following samples were analyzed in this batch:

1609471-1

Client: Western Water and Land, Inc.
 Work Order: 1609471
 Project: TEP 317B

QC BATCH REPORT

Batch ID: VL161004-3-3 Instrument ID: HPV1 Method: SW8260_25

LCS		Sample ID: VL161004-6	Units: UG/L				Analysis Date: 10/4/2016 11:26				
Client ID:		Run ID: VL161004-3A				Prep Date: 10/4/2016			DF: 1		
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
GASOLINE RANGE ORGANICS	893	100	1000		89	80-120				20	

LCSD		Sample ID: VL161004-6	Units: UG/L				Analysis Date: 10/4/2016 11:47				
Client ID:		Run ID: VL161004-3A				Prep Date: 10/4/2016			DF: 1		
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
GASOLINE RANGE ORGANICS	846	100	1000		85	80-120		893	5	20	

MB		Sample ID: VL161004-3	Units: UG/L				Analysis Date: 10/4/2016 12:51				
Client ID:		Run ID: VL161004-3A				Prep Date: 10/4/2016			DF: 1		
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
GASOLINE RANGE ORGANICS	ND	100									

The following samples were analyzed in this batch: