Monday, April 04, 2022

Jeff Braden
WSP USA, Inc.
4600 West 60th Avenue
Arvada, CO 80003

Re: ALS Workorder: 2203287
Project Name: PDC Bradenhead Sampling
Project Number: 31403904.58

Dear Mr. Braden:

One water sample was received from WSP USA, Inc., on 3/15/2022. The sample was scheduled for the following analyses:

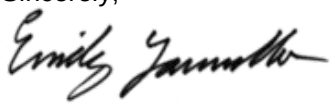
Dissolved Gasses
GC/MS Volatiles
Inorganics
Metals
Total Extractable Petroleum Hydrocarbons (Diesel)

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. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental.

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

Sincerely,



For

ALS Environmental
David A. Pillard
Project Manager

Accreditations: ALS Environmental – Fort Collins is accredited by the following accreditation bodies for various testing scopes in accordance with requirements of each accreditation body. All testing is performed under the laboratory management system, which is maintained to meet these requirement and regulations. Please contact the laboratory or accreditation body for the current scope testing parameters.

ALS Environmental – Fort Collins	
Accreditation Body	License or Certification Number
Arizona	AZ0828
California (CA)	2926
Colorado (CO)	CO01099
Florida (FL)	E87914
Idaho (ID)	CO01099
Kansas (KS)	E-10381
Kentucky (KY)	90137
Oklahoma	1301
PJLA (DoD ELAP/ISO 170250)	95377
PJLA (DOE-AP/ISO 17025)	95377
Maryland (MD)	285
Missouri (MO)	175
Nebraska(NE)	NE-OS-24-13
Nevada (NV)	CO010992018-1
New York (NY)	12036
North Dakota (ND)	R-057
Oklahoma (OK)	1301
Pennsylvania (PA)	68-03116
Tennessee (TN)	TN02976
Texas (TX)	T104704241
Utah (UT)	CO01099
Washington (WA)	C1280
Virginia	460305

40 CFR Part 136: All analyses for Clean Water Act samples are analyzed using the 40 CFR Part 136 specified method and include all the QC requirements.

2203287

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

All acceptance criteria were met.

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

All acceptance criteria were met.

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.

All 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:

Analyte	Method	SOP #
Alkalinity	SM2320B	1106
Bicarbonate	SM2320B	1106
Carbonate	SM2320B	1106
TDS	SM2540C	1101

Chloride	300.0 Revision 2.1	1113
Sulfate	300.0 Revision 2.1	1113

All acceptance criteria were met.

ALS -- Fort Collins

Sample Number(s) Cross-Reference Table

OrderNum: 2203287
Client Name: WSP USA, Inc.
Client Project Name: PDC Bradenhead Sampling
Client Project Number: 31403904.58
Client PO Number:

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
Werning 2-3	2203287-1		WATER	14-Mar-22	12:30

ALS Environmental

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

Chain-of-Custody

Form 202r6

WORKORDER #: 2203287

PAGE: 1 of 1

DISPOSAL: By Lab or Return to Client

PROJECT NAME	Werning 2-3	SAMPLER	Jeff Braden
PROJECT No.	31403904.58	FACILITY ID	123-18672
	PDC Bradenhead Sampling	EDD FORMAT	COGCC EDD, LTE
COMPANY NAME	WSP USA	PURCHASE ORDER	N/A
SEND REPORT TO	Jenifer Hakkarinen, Jeff Braden	BILL TO COMPANY	PDC Energy
ADDRESS	4600 W 60th Ave	INVOICE ATTN TO	Jenifer Hakkarinen
CITY / STATE / ZIP	Arvada, CO 80003	ADDRESS	1775 Sherman Street, Suite 3000
PHONE	303-433-9788	CITY / STATE / ZIP	Denver, Colorado
FAX	303-433-1432	PHONE	303.860.5815
E-MAIL	jenifer.hakkarinen@pdce.com jeff.braden@wsp.com kayla.n.white@wsp.com	FAX	
		E-MAIL	Jenifer.Hakkarinen@pdce.com

DATE: 3/15/22

TURNAROUND: Standard

Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC	Dissolved Methane, Ethane, Propane RSK 175	BTEX & TPH GRO SW8260_25	TPH DRO SW8015M	Alkalinity, Carbonate, Bicarbonate, Total SM2320B	Total Cations - see comments EPA200.7/200.8	Total Anions - see comments EPA 300.0	Total Dissolved Solids SM2540C
1	Werning 2-3	W	3/14/22	1230	11	1,3	-	X	X	X	X	X	X	X

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

For metals or anions, please detail analytes below.

Comments:	Cations/Anions:	QC PACKAGE (check below)	
Calcium, Chloride, Magnesium, Potassium, Sodium, Sulfate			LEVEL II (Standard QC)
			LEVEL III (Std QC + forms)
Samples analyzed per COGCC Bradenhead Sampling Program	-1.6°C		LEVEL IV (Std QC + forms + raw data)

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

	SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY		Jeff Braden	3/15/22	1425
RECEIVED BY		Claire Thomas	3/15/22	1425
RELINQUISHED BY				
RECEIVED BY				
RELINQUISHED BY				
RECEIVED BY				

ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: WSP Workorder No: 2203287

Project Manager: DDP Initials: CXT Date: 3/16/2022

		N/A	YES	NO
1.	Are airbills / shipping documents present and/or removable?	X		
	Tracking number:			
2.	Are custody seals on **shipping** containers intact?	X		
3.	Are custody seals on **sample** containers intact?	X		
4.	Is there a COC (chain-of-custody) present?		X	
5.	Is the COC in agreement with samples received? (IDs, dates, times, # of samples, # of containers, matrix, requested analyses, etc.)		X	
6.	Are short-hold samples present?			X
7.	Are all samples within holding times for the requested analyses?		X	
8.	Were all sample containers received intact? (not broken or leaking)		X	
9.	Is there sufficient sample for the requested analyses?		X	
10.	Are samples in proper containers for requested analyses? (form 250, *Sample Handling Guidelines*)		X	
11.	Are all aqueous samples preserved correctly, if required? (excluding volatiles)		X	
12.	Are all samples requiring no headspace (VOC, GRO, RSK/MEE, radon) free of bubbles > 6 mm (1/4 inch) diameter? (i.e. size of green pea)		X	
13.	Were the samples shipped on ice?		X	
14.	Were cooler temperatures measured at 0.1-6.0°C? IR gun used*: #5	RAD ONLY		X

Cooler #:	1						
Temperature (°C):	-1.6						
# of custody seals on cooler:	0						
External µR/hr reading:	NA						
Background µR/hr reading:	11						

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

*** Please provide details here for NO responses to boxes above - for 2 thru 5 & 7 thru 12, notify PM & continue w/ login.**

Were unpreserved bottles pH checked? NA All client bottle ID's vs ALS lab ID's double-checked by: CT

If applicable, was the client contacted? **NA** Contact: _____ Date/Time: _____

Project Manager Signature / Date: Amt 3/17/22

Form 201r29.xls
(10/15/2019)

*IR Gun #3, VWR SN 170647571
*IR Gun #5, VWR SN 192272629

Client: WSP USA, Inc. **Date:** *04-Apr-22*
Project: 31403904.58 PDC Bradenhead Sampling **Work Order:** 2203287
Sample ID: Werning 2-3 **Lab ID:** 2203287-1
Legal Location: **Matrix:** WATER
Collection Date: 3/14/2022 12:30 **Percent Moisture:**

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Alkalinity as Calcium Carbonate			**SM2320B**		Prep Date: **3/24/2022**	PrepBy:**KRL**
TOTAL ALKALINITY AS CaCO3	**35**		**20**	**MG/L**	1	3/24/2022
BICARBONATE AS CaCO3	**35**		**20**	**MG/L**	1	3/24/2022
CARBONATE AS CaCO3	ND		20	MG/L	1	3/24/2022
Diesel Range Organics			**SW8015M**		Prep Date: **3/22/2022**	PrepBy:**JRS**
Diesel Range Organics	**0.89**	J	**1**	**MG/L**	1	3/22/2022 21:01
Surr: O-TERPHENYL	*75*		*69-120*	*%REC*	1	3/22/2022 21:01
Dissolved Gasses			**RSK175**		Prep Date: **3/21/2022**	PrepBy:**JRS**
METHANE	**16000**		**2**	**UG/L**	2	3/21/2022 17:03
ETHANE	**760**		**4**	**UG/L**	2	3/21/2022 17:03
PROPANE	**440**		**2**	**UG/L**	2	3/21/2022 17:03
GC/MS Volatiles			**SW8260_25**		Prep Date: **3/23/2022**	PrepBy:**TWK**
BENZENE	**830**		**50**	**UG/L**	50	3/23/2022 21:51
TOLUENE	**2600**		**50**	**UG/L**	50	3/23/2022 21:51
ETHYLBENZENE	**110**		**50**	**UG/L**	50	3/23/2022 21:51
M+P-XYLENE	**1300**		**50**	**UG/L**	50	3/23/2022 21:51
O-XYLENE	**260**		**50**	**UG/L**	50	3/23/2022 21:51
TOTAL XYLENES	**1600**		**1**	**UG/L**	1	3/23/2022 21:51
Surr: 4-BROMOFLUOROBENZENE	*99*		*80-120*	*%REC*	50	3/23/2022 21:51
Surr: DIBROMOFLUOROMETHANE	*96*		*80-120*	*%REC*	50	3/23/2022 21:51
Surr: TOLUENE-D8	*99*		*80-120*	*%REC*	50	3/23/2022 21:51
GASOLINE RANGE ORGANICS	**12000**		**5000**	**UG/L**	50	3/23/2022 21:51
Ion Chromatography			**EPA300.0**		Prep Date: **4/1/2022**	PrepBy:**AOW**
CHLORIDE	**3400**		**50**	**MG/L**	250	4/4/2022 11:45
SULFATE	ND		50	MG/L	50	4/1/2022 12:59
Total Recoverable Metals by 200.8			**EPA200.8**		Prep Date: **3/21/2022**	PrepBy:**ETC**
CALCIUM	**110**		**1**	**MG/L**	10	3/23/2022 16:04
MAGNESIUM	**16**		**0.1**	**MG/L**	10	3/23/2022 16:04
POTASSIUM	**7.5**		**1**	**MG/L**	10	3/23/2022 16:04
SODIUM	**1900**		**1**	**MG/L**	10	3/23/2022 16:04
Total Dissolved Solids			**SM2540C**		Prep Date: **3/18/2022**	PrepBy:**AOW**
TOTAL DISSOLVED SOLIDS	**4300**		**200**	**MG/L**	1	3/21/2022

Client:	WSP USA, Inc.	**Date:**	*04-Apr-22*
Project:	31403904.58 PDC Bradenhead Sampling	**Work Order:**	2203287
Sample ID:	Werning 2-3	**Lab ID:**	2203287-1
Legal Location:		**Matrix:**	WATER
Collection Date:	3/14/2022 12:30	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed

Explanation of Qualifiers

Radiochemistry:

- "Report Limit" is the MDC

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.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.

L - LCS Recovery below lower control limit.

H - LCS Recovery above upper control limit.

P - LCS, Matrix Spike Recovery within control limits.

N - Matrix Spike Recovery outside control limits

NC - Not Calculated for duplicate results less than 5 times MDC

B - Analyte concentration greater than MDC.

B3 - Analyte concentration greater than MDC but less than Requested MDC.

Inorganics:

B - Result is less than the requested reporting limit but greater than the instrument method detection limit (MDL).

U or ND - Indicates that the compound was analyzed for but not detected.

E - The reported value is estimated because of the presence of interference. An explanatory note may be included in the narrative.

M - Duplicate injection precision was not met.

N - Spiked sample recovery not within control limits. A post spike is analyzed for all ICP analyses when the matrix spike and or spike duplicate fail and the native sample concentration is less than four times the spike added concentration.

Z - Spiked recovery not within control limits. An explanatory note may be included in the narrative.

* - Duplicate analysis (relative percent difference) not within control limits.

S - SAR value is estimated as one or more analytes used in the calculation were not detected above the detection limit.

Organics:

U or ND - Indicates that the compound was analyzed for but not detected.

B - Analyte is detected in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user.

E - Analyte concentration exceeds the upper level of the calibration range.

J - Estimated value. The result is less than the reporting limit but greater than the instrument method detection limit (MDL).

A - A tentatively identified compound is a suspected aldol-condensation product.

X - The analyte was diluted below an accurate quantitation level.

* - The spike recovery is equal to or outside the control criteria used.

+ - The relative percent difference (RPD) equals or exceeds the control criteria.

G - A pattern resembling gasoline was detected in this sample.

D - A pattern resembling diesel was detected in this sample.

M - A pattern resembling motor oil was detected in this sample.

C - A pattern resembling crude oil was detected in this sample.

4 - A pattern resembling JP-4 was detected in this sample.

5 - A pattern resembling JP-5 was detected in this sample.

H - Indicates that the fuel pattern was in the heavier end of the retention time window for the analyte of interest.

L - Indicates that the fuel pattern was in the lighter end of the retention time window for the analyte of interest.

Z - This flag indicates that a significant fraction of the reported result did not resemble the patterns of any of the following petroleum hydrocarbon products:
- gasoline
- JP-8
- diesel
- mineral spirits
- motor oil
- Stoddard solvent
- bunker C

Batch ID: **HC220321-91-1** Instrument ID: **MEE-1** Method: **RSK175**

DUP Sample ID: **2203287-1** Units: **UG/L** Analysis Date: **3/21/2022 17:09**

Client ID: **Werning 2-3** Run ID: **HC220322-91A** Prep Date: **3/21/2022** DF: **2**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref Value	RPD	RPD Limit	Qual
METHANE	16000	2						16000	1	25	
ETHANE	901	4						760	17	25	
PROPANE	480	2						440	8	25	

LCS Sample ID: **HC220321-91** Units: **UG/L** Analysis Date: **3/21/2022 16:19**

Client ID: Run ID: **HC220322-91A** Prep Date: **3/21/2022** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref Value	RPD	RPD Limit	Qual
METHANE	164	1	142		116	76-125				25	
ETHANE	311	2	267		116	70-120				25	
PROPANE	460	1	391		118	72-120				25	

LCSD Sample ID: **HC220321-91** Units: **UG/L** Analysis Date: **3/21/2022 17:26**

Client ID: Run ID: **HC220322-91A** Prep Date: **3/21/2022** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref Value	RPD	RPD Limit	Qual
METHANE	139	1	142		98	76-125		164	16	25	
ETHANE	263	2	267		99	70-120		311	16	25	
PROPANE	382	1	391		98	72-120		460	19	25	

MB Sample ID: **HC220321-91** Units: **UG/L** Analysis Date: **3/21/2022 16:22**

Client ID: Run ID: **HC220322-91A** Prep Date: **3/21/2022** DF: **1**

Analyte	Result	ReportLimit	Qual
METHANE	ND	1	
ETHANE	ND	2	
PROPANE	ND	1	

The following samples were analyzed in this batch: 2203287-1

QC BATCH REPORT

Batch ID: **HC220322-81-1** Instrument ID: **FUELS-1** Method: **SW8015M**

LCS Sample ID: **HC220322-81** Units: **MG/L** Analysis Date: **3/22/2022 17:46**

Client ID: Run ID: **HC220323-82A** Prep Date: **3/22/2022** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref Value	RPD	RPD Limit	Qual
Diesel Range Organics	8.63	1.07	8.33		104	53-120				20	
Surr: O-TERPHENYL	1.62		1.67		97	69-120					

LCSD Sample ID: **HC220322-81** Units: **MG/L** Analysis Date: **3/22/2022 18:07**

Client ID: Run ID: **HC220323-82A** Prep Date: **3/22/2022** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref Value	RPD	RPD Limit	Qual
Diesel Range Organics	8.65	1.07	8.33		104	53-120		8.63	0	20	
Surr: O-TERPHENYL	1.6		1.67		96	69-120			1		

MB Sample ID: **HC220322-81** Units: **MG/L** Analysis Date: **3/22/2022 17:24**

Client ID: Run ID: **HC220323-82A** Prep Date: **3/22/2022** DF: **1**

Analyte	Result	ReportLimit	%REC	Control Limit	Qual
Diesel Range Organics	ND	1.1			
Surr: O-TERPHENYL	1.64		99	69-120	

The following samples were analyzed in this batch: 2203287-1

QC BATCH REPORT

Batch ID: **IP220321-3-1** Instrument ID: **ICPMS2** Method: **EPA200.8**

LCS Sample ID: **IM220321-3** Units: **MG/L** Analysis Date: **3/23/2022 15:43**
Client ID: Run ID: **IM220323-10A3** Prep Date: **3/21/2022** DF: **10**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref Value	RPD	RPD Limit	Qual
CALCIUM	10.6	1	10		106	85-115				20	
MAGNESIUM	10.3	0.1	10		103	85-115				20	
POTASSIUM	4.86	1	5		97	85-115				20	
SODIUM	10.5	1	10		105	85-115				20	

LCSD Sample ID: **IM220321-3** Units: **MG/L** Analysis Date: **3/23/2022 15:49**
Client ID: Run ID: **IM220323-10A3** Prep Date: **3/21/2022** DF: **10**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref Value	RPD	RPD Limit	Qual
CALCIUM	10.8	1	10		108	85-115		10.6	2	20	
MAGNESIUM	10.3	0.1	10		103	85-115		10.3	0	20	
POTASSIUM	4.87	1	5		97	85-115		4.86	0	20	
SODIUM	10.5	1	10		105	85-115		10.5	0	20	

MB Sample ID: **IP220321-3** Units: **MG/L** Analysis Date: **3/23/2022 15:37**
Client ID: Run ID: **IM220323-10A3** Prep Date: **3/21/2022** DF: **10**

Analyte	Result	ReportLimit	Qual
CALCIUM	ND	1	
MAGNESIUM	ND	0.1	
POTASSIUM	ND	1	
SODIUM	ND	1	

The following samples were analyzed in this batch: 2203287-1

Client: WSP USA, Inc.
Work Order: 2203287
Project: 31403904.58 PDC Bradenhead Sampling

QC BATCH REPORT

Batch ID: **VL220323-4-1** Instrument ID: **HPV4** Method: **SW8260_25**

LCS Sample ID: **VL220323-44** Units: **UG/L** Analysis Date: **3/23/2022 18:30**
Client ID: Run ID: **VL220323-4A** Prep Date: **3/23/2022** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref Value	RPD	RPD Limit	Qual
GASOLINE RANGE ORGANICS	980	100	1000		98	75-121				20	

LCSD Sample ID: **VL220323-44** Units: **UG/L** Analysis Date: **3/23/2022 18:49**
Client ID: Run ID: **VL220323-4A** Prep Date: **3/23/2022** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref Value	RPD	RPD Limit	Qual
GASOLINE RANGE ORGANICS	941	100	1000		94	75-121		980	4	20	

MB Sample ID: **VL220323-4** Units: **UG/L** Analysis Date: **3/23/2022 19:50**
Client ID: Run ID: **VL220323-4A** Prep Date: **3/23/2022** DF: **1**

Analyte	Result	ReportLimit	Qual
GASOLINE RANGE ORGANICS	ND	100	

The following samples were analyzed in this batch: 2203287-1

Batch ID: **VL220323-4-4** Instrument ID: **HPV4** Method: **SW8260_25**

LCS Sample ID: **VL220323-4** Units: **%REC** Analysis Date: **3/23/2022 17:09**

Client ID: Run ID: **VL220323-4A** Prep Date: **3/23/2022** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref Value	RPD	RPD Limit	Qual
Surr: 4-BROMOFLUOROBENZENE	24.4		25		98	80-120					
Surr: DIBROMOFLUOROMETHANE	24.7		25		99	80-120					
Surr: TOLUENE-D8	24.5		25		98	80-120					
BENZENE	9.69	1	10		97	80-120				20	
TOLUENE	9.77	1	10		98	80-120				20	
ETHYLBENZENE	9.49	1	10		95	80-120				20	
M+P-XYLENE	19.6	1	20		98	80-120				20	
O-XYLENE	9.94	1	10		99	80-120				20	

LCSD Sample ID: **VL220323-4** Units: **%REC** Analysis Date: **3/23/2022 17:29**

Client ID: Run ID: **VL220323-4A** Prep Date: **3/23/2022** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref Value	RPD	RPD Limit	Qual
Surr: 4-BROMOFLUOROBENZENE	24.7		25		99	80-120			1		
Surr: DIBROMOFLUOROMETHANE	24.5		25		98	80-120			1		
Surr: TOLUENE-D8	24.7		25		99	80-120			1		
BENZENE	9.81	1	10		98	80-120		9.69	1	20	
TOLUENE	9.8	1	10		98	80-120		9.77	0	20	
ETHYLBENZENE	9.64	1	10		96	80-120		9.49	2	20	
M+P-XYLENE	20.1	1	20		100	80-120		19.6	2	20	
O-XYLENE	9.91	1	10		99	80-120		9.94	0	20	

MB Sample ID: **VL220323-4** Units: **%REC** Analysis Date: **3/23/2022 19:50**

Client ID: Run ID: **VL220323-4A** Prep Date: **3/23/2022** DF: **1**

Analyte	Result	ReportLimit	%REC	Control Limit	Qual
Surr: 4-BROMOFLUOROBENZENE	26		104	80-120	
Surr: DIBROMOFLUOROMETHANE	24.3		98	80-120	
Surr: TOLUENE-D8	25.1		100	80-120	
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: 2203287-1

QC BATCH REPORT

Batch ID: **AK220324-1-2** Instrument ID: **NONE** Method: **SM2320B**

LCS Sample ID: **AK220324-1** Units: **MG/L** Analysis Date: **3/24/2022**
Client ID: Run ID: **AK220324-1A1** Prep Date: **3/24/2022** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref Value	RPD	RPD Limit	Qual
TOTAL ALKALINITY AS CaCO3	104	5	100		104	85-115				15	

MB Sample ID: **AK220324-1** Units: **MG/L** Analysis Date: **3/24/2022**
Client ID: Run ID: **AK220324-1A1** Prep Date: **3/24/2022** DF: **1**

Analyte	Result	ReportLimit	Qual
TOTAL ALKALINITY AS CaCO3	ND	5	
BICARBONATE AS CaCO3	ND	5	
CARBONATE AS CaCO3	ND	5	

The following samples were analyzed in this batch: 2203287-1

QC BATCH REPORT

Batch ID: **IC220401-2-1** Instrument ID: **IC3** Method: **EPA300.0**

LCS Sample ID: **IC220401-2** Units: **MG/L** Analysis Date: **4/1/2022 11:58**
Client ID: Run ID: **IC220401-1A1** Prep Date: **4/1/2022** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref Value	RPD	RPD Limit	Qual
CHLORIDE	10.2	0.2	10		102	90-110				15	
SULFATE	50.9	1	50		102	90-110				15	

LCSD Sample ID: **IC220401-2** Units: **MG/L** Analysis Date: **4/1/2022 13:11**
Client ID: Run ID: **IC220401-1A1** Prep Date: **4/1/2022** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref Value	RPD	RPD Limit	Qual
CHLORIDE	9.4	0.2	10		94	90-110		10.2	8	15	
SULFATE	47.5	1	50		95	90-110		50.9	7	15	

MB Sample ID: **IC220401-2** Units: **MG/L** Analysis Date: **4/1/2022 12:04**
Client ID: Run ID: **IC220401-1A1** Prep Date: **4/1/2022** DF: **1**

Analyte	Result	ReportLimit	Qual
CHLORIDE	ND	0.2	
SULFATE	ND	1	

The following samples were analyzed in this batch: 2203287-1

QC BATCH REPORT

Batch ID: **TD220318-1-2** Instrument ID: **Balance** Method: **SM2540C**

LCS Sample ID: **TD220318-1** Units: **MG/L** Analysis Date: **3/21/2022**
Client ID: Run ID: **TD220321-1A1** Prep Date: **3/18/2022** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref Value	RPD	RPD Limit	Qual
TOTAL DISSOLVED SOLIDS	411	20	400		103	85-115				14	

LCSD Sample ID: **TD220318-1** Units: **MG/L** Analysis Date: **3/21/2022**
Client ID: Run ID: **TD220321-1A1** Prep Date: **3/18/2022** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref Value	RPD	RPD Limit	Qual
TOTAL DISSOLVED SOLIDS	423	20	400		106	85-115		411	3	14	

MB Sample ID: **TD220318-1** Units: **MG/L** Analysis Date: **3/21/2022**
Client ID: Run ID: **TD220321-1A1** Prep Date: **3/18/2022** DF: **1**

Analyte	Result	ReportLimit	Qual
TOTAL DISSOLVED SOLIDS	ND	20	

The following samples were analyzed in this batch: 2203287-1