



Friday, March 18, 2022

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

Re: ALS Workorder: 2203059
Project Name: PDC Bradenhead Sampling
Project Number: 31403904.61

Dear Mr. Braden:

One water sample was received from WSP USA, Inc., on 3/3/2022. 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,

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.



2203059

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.

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.

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.

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:

<u>Analyte</u>	<u>Method</u>	<u>SOP #</u>
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: 2203059

Client Name: WSP USA, Inc.

Client Project Name: PDC Bradenhead Sampling

Client Project Number: 31403904.61

Client PO Number:

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
Schank J 35-22	2203059-1		WATER	02-Mar-22	11:10



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 202-8

PROJECT NAME		Schauk J 35-22		SAMPLER		Jeff Braden		DATE		3/3/22		PAGE		2203059	
PROJECT NO.		Schauk J 37-7		FACILITY ID		see comments		TURNAROUND		Standard		DISPOSAL		By Lab or Return to Client	
PDC Bradenhead Sampling		31403904.6		EDD FORMAT		COGCC EDD, LTE									
COMPANY NAME		WSP USA		PURCHASE ORDER		N/A									
SEND REPORT TO		Jennifer Hakkarinen, Jeff Braden		BILL TO COMPANY		PDC Energy									
ADDRESS		4600 W 60th Ave		INVOICE ATTN TO		Jennifer 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		E-MAIL		Jennifer.Hakkarinen@pdce.com									
Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC	Dissolved Methane, Ethane, Propane	BTEX & TPH GRO	TPH DRO	Alkalinity, Carbonate, Bicarbonate, Total	Total Cations - see comments	Total Anions - see comments	Total Dissolved Solids	
1	Schauk J 35-22	W	3-2-22	11:10	11	1,3	-	RSK 175	SW8260.25	SW8015M	SM2320B	EPA200.7/200.8	EPA 300.0	SM2540C	
	Schauk J 35-7	W	3-2-22	11:30	11	1,3	-								

*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: Please create a separate report for each sample Calcium, Chloride, Magnesium, Potassium, Sodium, Sulfate Schauk J 35-22 123-26482 4.3 Schauk J 35-7 123-26553 call Jeff B Samples analyzed per COGCC Bradenhead Sampling Program with questions Preservative Key: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-NaHSO4 7-Other 8-4 degrees C 9-5035
QC PACKAGE (check below)	LEVEL II (Standard QC) LEVEL III (Std QC + forms) LEVEL IV (Std QC + forms + raw data)

RELINQUISHED BY	SIGNATURE	PRINTED NAME	DATE	TIME
RECEIVED BY	Jeff Braden	Jeff Braden	3-3-22	1300
RELINQUISHED BY	Chloe Turner	Chloe Turner	3-3-22	1300
RECEIVED BY				
RELINQUISHED BY				
RECEIVED BY				

722 021 3712



ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: WSP Workorder No: 2203059
 Project Manager: DDP Initials: CXT Date: 03/03/2022

	N/A	YES	NO
1. Are airbills / shipping documents present and/or removable? Tracking number: _____	X		
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, <i>Sample Handling Guidelines</i>)		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°	IR gun used*: #5		RAD ONLY
Cooler #: <u>1</u> Temperature (°C): <u>4.3</u> custody seals on cooler: <u>0</u> External µR/hr reading: <u>NA</u> Background µR/hr reading: <u>11</u> Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? <u>NA</u>			

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

reserved 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: *Ant* 3/4/22

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SAMPLE SUMMARY REPORT

Client: WSP USA, Inc.
 Project: 31403904.61 PDC Bradenhead Sampling
 Sample ID: Schank J 35-22
 Legal Location:
 Collection Date: 3/2/2022 11:10

Date: 18-Mar-22
 Work Order: 2203059
 Lab ID: 2203059-1
 Matrix: WATER
 Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Alkalinity as Calcium Carbonate			SM2320B		Prep Date: 3/8/2022	PrepBy: KRL
TOTAL ALKALINITY AS CaCO3	110		20	MG/L	1	3/9/2022
BICARBONATE AS CaCO3	110		20	MG/L	1	3/9/2022
CARBONATE AS CaCO3	ND		20	MG/L	1	3/9/2022
Diesel Range Organics			SW8015M		Prep Date: 3/7/2022	PrepBy: JRS
Diesel Range Organics	8.1		0.99	MG/L	1	3/8/2022 18:50
Surr: O-TERPHENYL	85		69-120	%REC	1	3/8/2022 18:50
Dissolved Gasses			RSK175		Prep Date: 3/14/2022	PrepBy: JRS
METHANE	19000		5	UG/L	5	3/14/2022 17:34
ETHANE	3600		10	UG/L	5	3/14/2022 17:34
PROPANE	2400		5	UG/L	5	3/14/2022 17:34
GC/MS Volatiles			SW8260_25		Prep Date: 3/16/2022	PrepBy: TWK
BENZENE	4600		250	UG/L	250	3/16/2022 22:14
TOLUENE	11000		250	UG/L	250	3/16/2022 22:14
ETHYLBENZENE	210	J	250	UG/L	250	3/16/2022 22:14
M+P-XYLENE	2400		250	UG/L	250	3/16/2022 22:14
O-XYLENE	380		250	UG/L	250	3/16/2022 22:14
TOTAL XYLENES	2800		1	UG/L	1	3/16/2022 22:14
Surr: 4-BROMOFLUOROBENZENE	103		80-120	%REC	250	3/16/2022 22:14
Surr: DIBROMOFLUOROMETHANE	101		80-120	%REC	250	3/16/2022 22:14
Surr: TOLUENE-D8	102		80-120	%REC	250	3/16/2022 22:14
GASOLINE RANGE ORGANICS	38000		25000	UG/L	250	3/16/2022 22:14
Ion Chromatography			EPA300.0		Prep Date: 3/9/2022	PrepBy: AOW
CHLORIDE	480		10	MG/L	50	3/9/2022 16:20
SULFATE	ND		50	MG/L	50	3/9/2022 16:20
Total Recoverable Metals by 200.8			EPA200.8		Prep Date: 3/9/2022	PrepBy: ETC
CALCIUM	8.5		1	MG/L	10	3/10/2022 18:51
MAGNESIUM	0.87		0.1	MG/L	10	3/10/2022 18:51
POTASSIUM	1.8		1	MG/L	10	3/10/2022 18:51
SODIUM	430		1	MG/L	10	3/10/2022 18:51
Total Dissolved Solids			SM2540C		Prep Date: 3/7/2022	PrepBy: KRL
TOTAL DISSOLVED SOLIDS	1100		40	MG/L	1	3/9/2022

Client:	WSP USA, Inc.	Date:	18-Mar-22
Project:	31403904.61 PDC Bradenhead Sampling	Work Order:	2203059
Sample ID:	Schank J 35-22	Lab ID:	2203059-1
Legal Location:		Matrix:	WATER
Collection Date:	3/2/2022 11:10	Percent Moisture:	

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

Radiochemistry:

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

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

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Date: 3/18/2022 1:18:3

Client: WSP USA, Inc.

QC BATCH REPORT

Work Order: 2203059

Project: 31403904.61 PDC Bradenhead Sampling

Batch ID: HC220307-81-1

Instrument ID: FUELS-1

Method: SW8015M

LCS	Sample ID: HC220307-81			Units: MG/L		Analysis Date: 3/8/2022 16:19					
Client ID:	Run ID: HC220316-81A			Prep Date: 3/7/2022			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	8.78	1.07	8.33		105	53-120				20	
Surr: O-TERPHENYL	1.69		1.67		102	69-120					

LCSD	Sample ID: HC220307-81				Units: MG/L		Analysis Date: 3/8/2022 16:40				
Client ID:	Run ID: HC220316-81A				Prep Date: 3/7/2022			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	8.93	1.07	8.33		107	53-120		8.78	2	20	
Surr: O-TERPHENYL	1.72		1.67		103	69-120			2		

MB	Sample ID: HC220307-81	Units: MG/L	Analysis Date: 3/8/2022 15:13		
Client ID:	Run ID: HC220316-81A	Prep Date: 3/7/2022	DF: 1		
Analyte	Result	ReportLimit	Qual		
Diesel Range Organics	ND	1.1			
Surr: O-TERPHENYL	1.58		95	69-120	

The following samples were analyzed in this batch:

2203059-1

Client: WSP USA, Inc.
Work Order: 2203059
Project: 31403904.61 PDC Bradenhead Sampling

QC BATCH REPORT

Batch ID: **HC220314-91-2** Instrument ID: **MEE-1** Method: **RSK175**

LCS Sample ID: **HC220314-91** Units: **UG/L** Analysis Date: **3/14/2022 17:01**

Client ID: Run ID: **HC220316-92A** Prep Date: **3/14/2022** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref Value	RPD	RPD Limit	Qual
METHANE	153	1	142		107	76-125				25	
ETHANE	290	2	267		109	70-120				25	
PROPANE	427	1	391		109	72-120				25	

LCSD Sample ID: **HC220314-91** Units: **UG/L** Analysis Date: **3/14/2022 17:57**

Client ID: Run ID: **HC220316-92A** Prep Date: **3/14/2022** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref Value	RPD	RPD Limit	Qual
METHANE	134	1	142		94	76-125		153	13	25	
ETHANE	253	2	267		95	70-120		290	13	25	
PROPANE	384	1	391		98	72-120		427	11	25	

MB Sample ID: **HC220314-91** Units: **UG/L** Analysis Date: **3/14/2022 17:06**

Client ID: Run ID: **HC220316-92A** Prep Date: **3/14/2022** DF: **1**

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

The following samples were analyzed in this batch:

2203059-1

Client: WSP USA, Inc.
Work Order: 2203059
Project: 31403904.61 PDC Bradenhead Sampling

QC BATCH REPORT

Batch ID: **IP220309-2-5** Instrument ID: **ICPMS2** Method: **EPA200.8**

LCS Sample ID: **IM220309-2** Units: **MG/L** Analysis Date: **3/10/2022 18:27**

Client ID: Run ID: **IM220310-11A8** Prep Date: **3/9/2022** DF: **10**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref Value	RPD	RPD Limit	Qual
CALCIUM	10.5	1	10		105	85-115				20	
MAGNESIUM	9.96	0.1	10		100	85-115				20	
POTASSIUM	4.97	1	5		99	85-115				20	
SODIUM	10.2	1	10		102	85-115				20	

LCSD Sample ID: **IM220309-2** Units: **MG/L** Analysis Date: **3/10/2022 18:33**

Client ID: Run ID: **IM220310-11A8** Prep Date: **3/9/2022** DF: **10**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref Value	RPD	RPD Limit	Qual
CALCIUM	10.4	1	10		104	85-115		10.5	1	20	
MAGNESIUM	9.92	0.1	10		99	85-115		9.96	0	20	
POTASSIUM	4.87	1	5		97	85-115		4.97	2	20	
SODIUM	10.1	1	10		101	85-115		10.2	1	20	

MB Sample ID: **IP220309-2** Units: **MG/L** Analysis Date: **3/10/2022 18:18**

Client ID: Run ID: **IM220310-11A8** Prep Date: **3/9/2022** 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:

2203059-1

Client: WSP USA, Inc.
Work Order: 2203059
Project: 31403904.61 PDC Bradenhead Sampling

QC BATCH REPORT

Batch ID: VL220316-3-2 Instrument ID: HPV3 Method: SW8260_25

LCS		Sample ID: VL220316-33				Units: %REC		Analysis Date: 3/16/2022 17:53			
Client ID:		Run ID: VL220316-33A				Prep Date: 3/16/2022			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	25.6		25		102	80-120					
Surr: DIBROMOFLUOROMETHANE	25.9		25		104	80-120					
Surr: TOLUENE-D8	25.3		25		101	80-120					
BENZENE	11.2	1	10		112	80-120				20	
TOLUENE	11	1	10		110	80-120				20	
ETHYLBENZENE	11	1	10		110	80-120				20	
M+P-XYLENE	21.9	1	20		109	80-120				20	
O-XYLENE	10.8	1	10		108	80-120				20	

LCSD		Sample ID: VL220316-33				Units: %REC		Analysis Date: 3/16/2022 18:15			
Client ID:		Run ID: VL220316-33A				Prep Date: 3/16/2022			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	25.5		25		102	80-120			0		
Surr: DIBROMOFLUOROMETHANE	25.5		25		102	80-120			2		
Surr: TOLUENE-D8	25.1		25		100	80-120			1		
BENZENE	10.8	1	10		108	80-120		11.2	3	20	
TOLUENE	10.7	1	10		107	80-120		11	3	20	
ETHYLBENZENE	10.6	1	10		106	80-120		11	4	20	
M+P-XYLENE	21.2	1	20		106	80-120		21.9	3	20	
O-XYLENE	10.6	1	10		106	80-120		10.8	2	20	

MB		Sample ID: VL220316-3		Units: %REC		Analysis Date: 3/16/2022 19:02	
Client ID:		Run ID: VL220316-33A		Prep Date: 3/16/2022		DF: 1	
Analyte		Result	ReportLimit			Qual	
Surr: 4-BROMOFLUOROBENZENE		25.6		102	80-120		
Surr: DIBROMOFLUOROMETHANE		25.3		101	80-120		
Surr: TOLUENE-D8		24.7		99	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:

2203059-1

Client: WSP USA, Inc.
Work Order: 2203059
Project: 31403904.61 PDC Bradenhead Sampling

QC BATCH REPORT

Batch ID: **AK220309-1-2** Instrument ID: **NONE** Method: **SM2320B**

LCS		Sample ID: AK220309-1				Units: MG/L		Analysis Date: 3/9/2022			
Client ID:		Run ID: AK220309-1A1				Prep Date: 3/8/2022		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	97.9	5	100		98	85-115				15	

MB		Sample ID: AK220309-1		Units: MG/L		Analysis Date: 3/9/2022	
Client ID:		Run ID: AK220309-1A1		Prep Date: 3/8/2022		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:

2203059-1

Client: WSP USA, Inc.
Work Order: 2203059
Project: 31403904.61 PDC Bradenhead Sampling

QC BATCH REPORT

Batch ID: **IC220309-1-1** Instrument ID: **IC3** Method: **EPA300.0**

LCS		Sample ID: IC220309-1			Units: MG/L		Analysis Date: 3/9/2022 12:48				
Client ID:		Run ID: IC220309-1A1			Prep Date: 3/9/2022			DF: 1			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref Value	RPD	RPD Limit	Qual
CHLORIDE	9.44	0.2	10		94	90-110				15	
SULFATE	47.5	1	50		95	90-110				15	

LCSD		Sample ID: IC220309-1				Units: MG/L		Analysis Date: 3/9/2022 14:07			
Client ID:		Run ID: IC220309-1A1				Prep Date: 3/9/2022			DF: 1		
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref Value	RPD	RPD Limit	Qual
CHLORIDE	9.63	0.2	10		96	90-110		9.44	2	15	
SULFATE	48.3	1	50		97	90-110		47.5	2	15	

MB		Sample ID: IC220309-1			Units: MG/L		Analysis Date: 3/9/2022 13:00	
Client ID:		Run ID: IC220309-1A1			Prep Date: 3/9/2022		DF: 1	
Analyte		Result	ReportLimit		Qual			
CHLORIDE		ND	0.2					
SULFATE		ND	1					

The following samples were analyzed in this batch:

2203059-1

Client: WSP USA, Inc.
Work Order: 2203059
Project: 31403904.61 PDC Bradenhead Sampling

QC BATCH REPORT

Batch ID: **TD220307-2-2** Instrument ID: **Balance** Method: **SM2540C**

LCS		Sample ID: TD220307-2			Units: MG/L		Analysis Date: 3/9/2022				
Client ID:		Run ID: TD220309-1A1			Prep Date: 3/7/2022			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	416	20	400		104	85-115				14	

LCSD		Sample ID: TD220307-2			Units: MG/L		Analysis Date: 3/9/2022				
Client ID:		Run ID: TD220309-1A1			Prep Date: 3/7/2022			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	404	20	400		101	85-115		416	3	14	

MB		Sample ID: TD220307-2			Units: MG/L		Analysis Date: 3/9/2022		
Client ID:		Run ID: TD220309-1A1			Prep Date: 3/7/2022			DF: 1	
Analyte		Result	ReportLimit						
TOTAL DISSOLVED SOLIDS		ND	20						

The following samples were analyzed in this batch:

2203059-1