Monday, December 28, 2020

Max Trehus
Great Western Operating Company, LLC
4093 Specialty Place, Unit B
Longmont, CO 80504

Re: ALS Workorder: 2012197
Project Name: Kodak North FD 28-199 HN
Project Number:

Dear Mr. Trehus:

Seven water samples were received from Great Western Operating Company, LLC, on 12/9/2020. The samples were scheduled for the following analyses:

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

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
Katie M. OBrien
Project Manager

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
Alaska (AK)	17-003
Arizona (AZ)	AZ0742
California (CA)	2926
Colorado (CO)	CO01099
Florida (FL)	E87914
Idaho (ID)	CO01099
Kansas (KS)	E-10381
Kentucky (KY)	90137
PJ-LA (DoD ELAP/ISO 170250)	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

2012197

GC/MS Volatiles:
The sample was analyzed using GC/MS following the current revision of SOP 525 based on SW-846 Method 8260C.

All surrogate recoveries were within acceptance criteria with the following exception:

Surrogate	Sample	Direction
Dibromofluoromethane	-2	Low

The low surrogate recovery is likely due to the high pH of the sample. No further action was taken.

All remaining 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.

GRO:
The sample was analyzed following the current revision of SOP 425 generally based on SW-846 Methods 8000C and 8015D. TVPH 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 C6 to C10.

The ending CCV failed high at 123%. The sample contained a non-target peak that tailed into the GRO range in the CCV. A 10x dilution was done to protect the integrity of the instrument while bringing the target peaks to a level that was just above the reporting limit. Because the sample was saturated with a high amount of interferences, the sample was not re-injected.

All remaining 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 samples were analyzed following Methods for the Determination of Metals in Environmental Samples – Supplement 1 procedures. Analysis by ICPMS followed method 200.8 and the current revision of SOP 827.

Sample 2012197-6 was filtered through a 0.45 micron filter and preserved with nitric acid to a pH less than two prior to analysis.

CCV9 for potassium fails high at 111% (control limits 90%-110%) due to the high concentrations of potassium in the native samples.

All remaining 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: 2012197
Client Name: Great Western Operating Company, LLC
Client Project Name: Kodak North FD 28-199 HN
Client Project Number:
Client PO Number:

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
28-199 HN A	2012197-1		WATER	08-Dec-20	15:00
28-199 HN B	2012197-2		WATER	08-Dec-20	15:00
28-199 HN C	2012197-3		WATER	08-Dec-20	15:00
28-199 HN D	2012197-4		WATER	08-Dec-20	15:00
28-199 HN E	2012197-5		WATER	08-Dec-20	15:00
28-199 HN F	2012197-6		WATER	08-Dec-20	15:00
28-199 HN G	2012197-7		WATER	08-Dec-20	15:00

ALS Environmental

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

Chain-of-Custody

Turnaround time for samples received after 2 p.m. will be calculated beginning from the next business day.

Turnaround time for samples received Saturday will be calculated beginning from the next business day.

ALS WORKORDER #
2012197

TURNAROUND TIME		SAMPLER		PAGE	of
PROJECT NAME	Kodak North FD 28-199 HN	SITE ID		DISPOSAL	BY LAB or RETURN
PROJECT No.		EDD FORMAT		PARAMETER/METHOD REQUEST FOR ANALYSIS	
		PURCHASE ORDER		A	Dissolved Gasses
COMPANY NAME	Great Western	BILL TO COMPANY		B	BTEX
SEND REPORT TO	Max Trehus	INVOICE ATTN TO		C	DRO
ADDRESS		ADDRESS		D	GRO
CITY / STATE / ZIP		CITY / STATE / ZIP		E	Anions, Alk, TDS
PHONE		PHONE		F	DS metals
FAX		FAX		G	TR Metals
E-MAIL	MTrehus@GWP.com	E-MAIL		H	
				I	
				J	

LAB ID	FIELD ID	MATRIX	SAMPLE DATE	SAMPLE TIME	# OF BOTTLES	PRESERVATIVE	QC	A	B	C	D	E	F	G	H	I	J	SEE NOTES SECTION
1	28-199HN A	W	12/8/20	15:00	3	—		X										
2	28-199HN B	↓	↓	↓	3	HCL			X									
3	28-199HN C				3	HCL				X								
4	28-199HN D				3	HCL					X							
5	28-199HN E				1	—						X						
6	28-199HN F				1	—							X					
7	28-199HN G	↓	↓	↓	1	HNO3								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

NOTES	REPORT LEVEL / QC REQUIRED
6 of 23 Facility ID 436953	Summary (Standard QC)
	LEVEL II (Standard QC)
	LEVEL III (Std QC + forms)
	LEVEL IV (Std QC + forms + raw

PRESERVATION KEY: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-NaOH/ZnAcetate 6-NaHSO4 7-4°C 8-Other

Form 202r9

	SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY		Kenny Pyatt		
RECEIVED BY		Rose Agent	12-09-20	1500
RELINQUISHED BY				
RECEIVED BY				
RELINQUISHED BY				
RECEIVED BY				

ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client Name/ID: Great Western Workorder No: 2012197

Project Manager: KMO Initials: RGA Date: 12/09/2020

1. Are airbills / shipping documents present and/or removable?	☑ Drop Off	☐ YES	☐ NO	
2. Are custody seals on **shipping** containers intact?	☑ NONE	☐ YES	☐ NO*	
3. Are custody seals on **sample** containers intact?	☑ NONE	☐ YES	☐ NO*	
4. Is there a COC (chain-of-custody) present?		☑ YES	☐ NO*	
5. Is the COC in agreement with samples received? (IDs, dates, times, # of samples, # of containers, matrix, requested analyses, etc.)		☑ YES	☐ NO*	
6. Are short-hold samples present?		☐ YES	☑ NO	
7. Are all samples within holding times for the requested analyses?		☑ YES	☐ NO*	
8. Were all sample containers received intact? (not broken or leaking)		☑ YES	☐ NO*	
9. Is there sufficient sample for the requested analyses?		☑ YES	☐ NO*	
10. Are samples in proper containers for requested analyses? (form 250, *Sample Handling Guidelines*)		☑ YES	☐ NO*	
11. Are all aqueous samples preserved correctly, if required?	☐ N/A	☐ YES	☑ NO*	
12. Were unpreserved samples pH checked, if required?	☑ N/A	☐ YES	☐ NO	
13. Are all samples requiring no headspace (VOC, GRO, RSK/MEE, radon) free of bubbles > 6 mm in diameter?	☐ N/A	☑ YES	☐ NO	
14. Were the samples shipped on ice?		☑ YES	☐ NO	
15. Were cooler temperatures measured at 0.1 - 6.0°C? IR gun used+: ☐ #3 ☑ #5	☐ Rad Only	☑ YES	☐ NO	

Cooler #: 1

Temperature (°C): 0.6

# of custody seals on cooler: 0

External mR/hr reading: -

Background mR/hr reading: 9

Were external mR/hr readings ≤ two times background and within DOT acceptance criteria? (If no, see Form 008) ☑ N/A ☐ YES ☐ NO

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

11) Sample 2012197-7 had a pH of 12, 0.5 ml of HNO3 was added. The final pH is 12

All client bottle ID's vs ALS lab ID's double-checked by: RGA

If applicable, was the client contacted? ☐ YES ☐ N/A Contact Name Date:

Project Manager Signature / Date: 12/10/20

Form 201r30.xls
(06/04/2020)

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

Client: Great Western Operating Company, LLC
Date: *28-Dec-20*
Project: Kodak North FD 28-199 HN
Work Order: 2012197
Sample ID: 28-199 HN A
Lab ID: 2012197-1
Legal Location:
Matrix: WATER
Collection Date: 12/8/2020 15:00
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Dissolved Gasses		**RSK175**			Prep Date: **12/21/2020**	PrepBy: **ASZ**
METHANE	**9000**		**12**	**UG/L**	12	12/21/2020 09:27
ETHANE	**2900**		**24**	**UG/L**	12	12/21/2020 09:27
PROPANE	**1600**		**12**	**UG/L**	12	12/21/2020 09:27

Client: Great Western Operating Company, LLC **Date:** *28-Dec-20*
Project: Kodak North FD 28-199 HN **Work Order:** 2012197
Sample ID: 28-199 HN B **Lab ID:** 2012197-2
Legal Location: **Matrix:** WATER
Collection Date: 12/8/2020 15:00 **Percent Moisture:**

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
GC/MS Volatiles			**SW8260_25**		Prep Date: **12/11/2020**	PrepBy: **AEW**
BENZENE	**220**		**10**	**UG/L**	10	12/11/2020 14:37
TOLUENE	**350**		**10**	**UG/L**	10	12/11/2020 14:37
ETHYLBENZENE	**83**		**10**	**UG/L**	10	12/11/2020 14:37
M+P-XYLENE	**330**		**10**	**UG/L**	10	12/11/2020 14:37
O-XYLENE	**180**		**10**	**UG/L**	10	12/11/2020 14:37
TOTAL XYLENES	**510**		**1**	**UG/L**	1	12/11/2020 14:37
Surr: 4-BROMOFLUOROBENZENE	*99*		*80-120*	*%REC*	10	12/11/2020 14:37
Surr: DIBROMOFLUOROMETHANE	*54*	*	*80-120*	*%REC*	10	12/11/2020 14:37
Surr: TOLUENE-D8	*99*		*80-120*	*%REC*	10	12/11/2020 14:37

Client:	Great Western Operating Company, LLC	**Date:**	*28-Dec-20*
Project:	Kodak North FD 28-199 HN	**Work Order:**	2012197
Sample ID:	28-199 HN C	**Lab ID:**	2012197-3
Legal Location:		**Matrix:**	WATER
Collection Date:	12/8/2020 15:00	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Diesel Range Organics			**SW8015M**		Prep Date: **12/14/2020**	PrepBy: **ASZ**
Diesel Range Organics	**7.7**		**1**	**MG/L**	1	12/21/2020 18:05
Surr: O-TERPHENYL	*101*		*69-120*	*%REC*	1	12/21/2020 18:05

Client:	Great Western Operating Company, LLC	**Date:**	*28-Dec-20*
Project:	Kodak North FD 28-199 HN	**Work Order:**	2012197
Sample ID:	28-199 HN D	**Lab ID:**	2012197-4
Legal Location:		**Matrix:**	WATER
Collection Date:	12/8/2020 15:00	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Gasoline Range Organics		**SW8015**		Prep Date: **12/22/2020**		PrepBy: **ASZ**
GASOLINE RANGE ORGANICS	**2**		**1**	**MG/L**	10	12/22/2020 16:55
Surr: 2,3,4-TRIFLUOROTOLUENE	*102*		*80-120*	*%REC*	10	12/22/2020 16:55

Client: Great Western Operating Company, LLC **Date:** *28-Dec-20*
Project: Kodak North FD 28-199 HN **Work Order:** 2012197
Sample ID: 28-199 HN E **Lab ID:** 2012197-5
Legal Location: **Matrix:** WATER
Collection Date: 12/8/2020 15:00 **Percent Moisture:**

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Alkalinity as Calcium Carbonate		**SM2320B**			Prep Date: **12/16/2020**	PrepBy: **LMC**
BICARBONATE AS CaCO3	ND		500	MG/L	1	12/16/2020
CARBONATE AS CaCO3	**1400**		**500**	**MG/L**	1	12/16/2020
TOTAL ALKALINITY AS CaCO3	**9200**		**500**	**MG/L**	1	12/16/2020
Ion Chromatography		**EPA300.0**			Prep Date: **12/15/2020**	PrepBy: **KJS**
CHLORIDE	**540**		**10**	**MG/L**	50	12/15/2020 13:19
SULFATE	**150**		**2**	**MG/L**	2	12/15/2020 16:40
Total Dissolved Solids		**SM2540C**			Prep Date: **12/14/2020**	PrepBy: **LMC**
TOTAL DISSOLVED SOLIDS	**5700**		**1000**	**MG/L**	1	12/16/2020

Client:	Great Western Operating Company, LLC	**Date:**	*28-Dec-20*
Project:	Kodak North FD 28-199 HN	**Work Order:**	2012197
Sample ID:	28-199 HN F	**Lab ID:**	2012197-6
Legal Location:		**Matrix:**	WATER
Collection Date:	12/8/2020 15:00	**Percent Moisture:**	

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Dissolved Metals by 200.8			**EPA200.8**		Prep Date: **12/16/2020**	PrepBy: **TXS**
CALCIUM	**230000**		**1000**	**UG/L**	10	12/17/2020 16:32
POTASSIUM	**4500000**		**10000**	**UG/L**	100	12/17/2020 16:35
MAGNESIUM	ND		100	UG/L	10	12/17/2020 16:32
SODIUM	**1600000**		**1000**	**UG/L**	10	12/17/2020 16:32

Client: Great Western Operating Company, LLC **Date:** *28-Dec-20*
Project: Kodak North FD 28-199 HN **Work Order:** 2012197
Sample ID: 28-199 HN G **Lab ID:** 2012197-7
Legal Location: **Matrix:** WATER
Collection Date: 12/8/2020 15:00 **Percent Moisture:**

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Total Recoverable Metals by 200.8			**EPA200.8**		Prep Date: **12/16/2020**	PrepBy: **TXS**
CALCIUM	**240000**		**1000**	**UG/L**	10	12/17/2020 16:50
POTASSIUM	**4500000**		**10000**	**UG/L**	100	12/17/2020 16:53
MAGNESIUM	ND		100	UG/L	10	12/17/2020 16:50
SODIUM	**1500000**		**1000**	**UG/L**	10	12/17/2020 16:50

Client:	Great Western Operating Company, LLC	**Date:**	*28-Dec-20*
Project:	Kodak North FD 28-199 HN	**Work Order:**	2012197
Sample ID:	28-199 HN G	**Lab ID:**	2012197-7
Legal Location:		**Matrix:**	WATER
Collection Date:	12/8/2020 15:00	**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: **HC201214-81-1** Instrument ID: **FUELS-1** Method: **SW8015M**

LCS Sample ID: **HC201214-81** Units: **MG/L** Analysis Date: **12/21/2020 19:50**

Client ID: Run ID: **HC201214-81A** Prep Date: **12/14/2020** 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	6.67	1.07	8.33		80	53-120				20	
Surr: O-TERPHENYL	1.59		1.67		95	69-120					

LCSD Sample ID: **HC201214-81** Units: **MG/L** Analysis Date: **12/21/2020 20:12**

Client ID: Run ID: **HC201214-81A** Prep Date: **12/14/2020** 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	6.44	1.07	8.33		77	53-120		6.67	4	20	
Surr: O-TERPHENYL	1.61		1.67		97	69-120			1		

MB Sample ID: **HC201214-81** Units: **MG/L** Analysis Date: **12/21/2020 15:58**

Client ID: Run ID: **HC201214-81A** Prep Date: **12/14/2020** DF: **1**

Analyte	Result	ReportLimit	%REC	Control Limit	Qual
Diesel Range Organics	ND	1.1			
Surr: O-TERPHENYL	1.7		102	69-120	

The following samples were analyzed in this batch: 2012197-3

Batch ID: **HC201221-91-1** Instrument ID: **MEE-1** Method: **RSK175**

LCS Sample ID: **HC201221-91** Units: **UG/L** Analysis Date: **12/21/2020 07:37**

Client ID: Run ID: **HC201221-91D** Prep Date: **12/21/2020** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref Value	RPD	RPD Limit	Qual
METHANE	142	1	142		100	76-125				25	
ETHANE	250	2	267		94	70-120				25	
PROPANE	369	1	391		94	72-120				25	

LCSD Sample ID: **HC201221-91** Units: **UG/L** Analysis Date: **12/21/2020 09:20**

Client ID: Run ID: **HC201221-91D** Prep Date: **12/21/2020** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref Value	RPD	RPD Limit	Qual
METHANE	142	1	142		100	76-125		142	0	25	
ETHANE	253	2	267		95	70-120		250	1	25	
PROPANE	315	1	391		80	72-120		369	16	25	

MB Sample ID: **HC201221-91** Units: **UG/L** Analysis Date: **12/21/2020 08:00**

Client ID: Run ID: **HC201221-91D** Prep Date: **12/21/2020** DF: **1**

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

The following samples were analyzed in this batch: 2012197-1

Batch ID: **HC201222-61-1** Instrument ID: **FUELS-1** Method: **SW8015**

LCS Sample ID: **HC201222-61** Units: **MG/L** Analysis Date: **12/22/2020 07:54**

Client ID: Run ID: **HC201222-61A** Prep Date: **12/22/2020** 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	0.52	0.1	0.5		104	80-120				20	
Surr: 2,3,4-TRIFLUOROTOLUENE	0.105		0.1		105	80-120					

LCSD Sample ID: **HC201222-61** Units: **MG/L** Analysis Date: **12/22/2020 12:23**

Client ID: Run ID: **HC201222-61A** Prep Date: **12/22/2020** 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	0.469	0.1	0.5		94	80-120		0.52	10	20	
Surr: 2,3,4-TRIFLUOROTOLUENE	0.11		0.1		110	80-120			5		

MB Sample ID: **HC201222-61** Units: **MG/L** Analysis Date: **12/22/2020 08:18**

Client ID: Run ID: **HC201222-61A** Prep Date: **12/22/2020** DF: **1**

Analyte	Result	ReportLimit	%REC	Control Limit	Qual
GASOLINE RANGE ORGANICS	ND	0.1			
Surr: 2,3,4-TRIFLUOROTOLUENE	0.102		102	80-120	

The following samples were analyzed in this batch: 2012197-4

Batch ID: **IP201216-4-1** Instrument ID: **ICPMS2** Method: **EPA200.8**

LCS Sample ID: **IM201216-4** Units: **UG/L** Analysis Date: **12/17/2020 15:27**

Client ID: Run ID: **IM201217-10A10** Prep Date: **12/16/2020** DF: **10**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref Value	RPD	RPD Limit	Qual
CALCIUM	10300	1000	10000		103	85-115				20	
MAGNESIUM	9710	100	10000		97	85-115				20	
POTASSIUM	5150	1000	5000		103	85-115				20	
SODIUM	10700	1000	10000		107	85-115				20	

LCSD Sample ID: **IM201216-4** Units: **UG/L** Analysis Date: **12/17/2020 15:33**

Client ID: Run ID: **IM201217-10A10** Prep Date: **12/16/2020** DF: **10**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref Value	RPD	RPD Limit	Qual
CALCIUM	10300	1000	10000		103	85-115		10300	0	20	
MAGNESIUM	9570	100	10000		96	85-115		9710	2	20	
POTASSIUM	5170	1000	5000		103	85-115		5150	0	20	
SODIUM	10600	1000	10000		106	85-115		10700	0	20	

MB Sample ID: **FP201211-4** Units: **UG/L** Analysis Date: **12/17/2020 15:21**

Client ID: Run ID: **IM201217-10A10** Prep Date: **12/16/2020** DF: **10**

Analyte	Result	ReportLimit	Qual
CALCIUM	ND	1000	
MAGNESIUM	ND	100	
POTASSIUM	ND	1000	
SODIUM	ND	1000	

MB Sample ID: **IP201216-4** Units: **UG/L** Analysis Date: **12/17/2020 15:24**

Client ID: Run ID: **IM201217-10A10** Prep Date: **12/16/2020** DF: **10**

Analyte	Result	ReportLimit	Qual
CALCIUM	ND	1000	
MAGNESIUM	ND	100	
POTASSIUM	ND	1000	
SODIUM	ND	1000	

The following samples were analyzed in this batch: 2012197-6 2012197-7

Batch ID: **VL201211-3-2** Instrument ID: **HPV3** Method: **SW8260_25**

LCS Sample ID: **VL201211-3** Units: **%REC** Analysis Date: **12/11/2020 12:13**

Client ID: Run ID: **VL201211-3A** Prep Date: **12/11/2020** 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	25.9		25		104	80-120					
Surr: DIBROMOFLUOROMETHANE	25.6		25		102	80-120					
Surr: TOLUENE-D8	25.1		25		100	80-120					
BENZENE	10.1	1	10		101	80-120				20	
TOLUENE	10	1	10		100	80-120				20	
ETHYLBENZENE	10.2	1	10		102	80-120				20	
M+P-XYLENE	20.1	1	20		101	80-120				20	
O-XYLENE	10	1	10		100	80-120				20	

LCSD Sample ID: **VL201211-3** Units: **%REC** Analysis Date: **12/11/2020 12:33**

Client ID: Run ID: **VL201211-3A** Prep Date: **12/11/2020** 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	25.2		25		101	80-120			3		
Surr: DIBROMOFLUOROMETHANE	25.4		25		101	80-120			1		
Surr: TOLUENE-D8	25		25		100	80-120			0		
BENZENE	9.61	1	10		96	80-120		10.1	5	20	
TOLUENE	9.34	1	10		93	80-120		10	7	20	
ETHYLBENZENE	9.73	1	10		97	80-120		10.2	5	20	
M+P-XYLENE	19.2	1	20		96	80-120		20.1	5	20	
O-XYLENE	9.56	1	10		96	80-120		10	5	20	

MB Sample ID: **VL201211-3** Units: **%REC** Analysis Date: **12/11/2020 13:46**

Client ID: Run ID: **VL201211-3A** Prep Date: **12/11/2020** DF: **1**

Analyte	Result	ReportLimit	%REC	Control Limit	Qual
Surr: 4-BROMOFLUOROBENZENE	25.6		102	80-120	
Surr: DIBROMOFLUOROMETHANE	25		100	80-120	
Surr: TOLUENE-D8	24.9		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: 2012197-2

Batch ID: **AK201216-1-2** Instrument ID: **NONE** Method: **SM2320B**

LCS Sample ID: **AK201216-1** Units: **MG/L** Analysis Date: **12/16/2020**
Client ID: Run ID: **AK201216-1A1** Prep Date: **12/16/2020** 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	96.4	5	100		96	85-115				15	

LCSD Sample ID: **AK201216-1** Units: **MG/L** Analysis Date: **12/16/2020**
Client ID: Run ID: **AK201216-1A1** Prep Date: **12/16/2020** 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	96.4	5	100		96	85-115		96.4	0	15	

MB Sample ID: **AK201216-1** Units: **MG/L** Analysis Date: **12/16/2020**
Client ID: Run ID: **AK201216-1A1** Prep Date: **12/16/2020** DF: **1**

Analyte	Result	ReportLimit	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: 2012197-5

Client: Great Western Operating Company, LLC
Work Order: 2012197
Project: Kodak North FD 28-199 HN

QC BATCH REPORT

Batch ID: **IC201215-1-1** Instrument ID: **IC3** Method: **EPA300.0**

LCS Sample ID: **IC201215-1** Units: **MG/L** Analysis Date: **12/15/2020 09:33**
Client ID: Run ID: **IC201215-1a1** Prep Date: **12/15/2020** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref Value	RPD	RPD Limit	Qual
CHLORIDE	10.3	0.2	10		103	90-110				15	
SULFATE	51.5	1	50		103	90-110				15	

LCSD Sample ID: **IC201215-1** Units: **MG/L** Analysis Date: **12/15/2020 12:12**
Client ID: Run ID: **IC201215-1a1** Prep Date: **12/15/2020** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref Value	RPD	RPD Limit	Qual
CHLORIDE	10.3	0.2	10		103	90-110		10.3	0	15	
SULFATE	51.6	1	50		103	90-110		51.5	0	15	

MB Sample ID: **IC201215-1** Units: **MG/L** Analysis Date: **12/15/2020 09:47**
Client ID: Run ID: **IC201215-1a1** Prep Date: **12/15/2020** DF: **1**

Analyte	Result	ReportLimit	Qual
CHLORIDE	ND	0.2	
SULFATE	ND	1	

The following samples were analyzed in this batch: 2012197-5

QC BATCH REPORT

Batch ID: **TD201214-1-1** Instrument ID: **Balance** Method: **SM2540C**

LCS Sample ID: **TD201214-1** Units: **MG/L** Analysis Date: **12/16/2020**
Client ID: Run ID: **TD201216-1A1** Prep Date: **12/14/2020** 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	365	20	400		91	85-115				14	

LCSD Sample ID: **TD201214-1** Units: **MG/L** Analysis Date: **12/16/2020**
Client ID: Run ID: **TD201216-1A1** Prep Date: **12/14/2020** 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	392	20	400		98	85-115		365	7	14	

MB Sample ID: **TD201214-1** Units: **MG/L** Analysis Date: **12/16/2020**
Client ID: Run ID: **TD201216-1A1** Prep Date: **12/14/2020** DF: **1**

Analyte	Result	ReportLimit	Qual
TOTAL DISSOLVED SOLIDS	ND	20	

The following samples were analyzed in this batch: 2012197-5