GEL Laboratories LLC
a member of The GEL Group INC

PO Box 30712 Charleston, SC 29417
2040 Savage Road Charleston, SC 29407
P 843.556.8171
F 843.766.1178

gel.com

August 04, 2016

Mr. Scot Fitzgerald
CH2MHill Plateau Remediation Company
MSIN R3-50 CHPRC
PO Box 1600
Richland, Washington 99352

Re: CHPRC SAF W16-007
Work Order: 401276
SDG: GEL401276

Dear Mr. Fitzgerald:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on July 12, 2016. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4505.

Sincerely,

B Luthman

Brielle Luthman for
Heather Shaffer
Project Manager

Purchase Order: 300072 - 7H
Chain of Custody: W16-007-112, W16-007-113 and W16-007-114
Enclosures

Table of Contents

Case Narrative

General Narrative
for
CH2MHill Plateau Remediation Company
CHPRC SAF W16-007
SDG: GEL401276

August 04, 2016

Laboratory Identification:

GEL Laboratories LLC
2040 Savage Road
Charleston, South Carolina 29407
(843) 556-8171

Summary

Sample receipt

The sample(s) arrived at GEL Laboratories, LLC, Charleston, South Carolina on July 12, 2016, for analysis. The samples were delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. There are no additional comments concerning sample receipt.

Items of Note All efforts were made by the lab to meet any short hold times. Samples that were analyzed outside of the initial hold time but still within 2X hold time will be noted in the lab case narrative and DER.

Sample Identification
The laboratory received the following samples:

Laboratory Identification	Sample Description
401276001	B35P65
401276002	B35PT5
401276003	B35PT7
401276004	B35PT6
401276005	B35PV3
401276006	B35PV5
401276007	B35PV1
401276008	B35P69
401276009	B35PV8
401276010	B35PV9
401276011	B35PV7
401276012	B35P72

Case Narrative

Sample analyses were conducted using methodology as outlined in GEL Laboratories, LLC (GEL) Standard Operating Procedures. Any technical or administrative problems during analysis, data review, and reduction are contained in the analytical case narratives in the enclosed data package.

Data Package

The enclosed data package contains the following sections: General Narrative, Chain of Custody and Supporting Documentation, and data from the following fractions: General Chemistry.

We certify that this package is in compliance with the SOW, both technically and for completeness, including a full description of, explanation of, and corrective actions for, any and all deviations, from either the analyses requested or the case narrative requested. Release of the data contained in this hard copy data package has been authorized by the Laboratory Analytical Manager (or designee) and the laboratory's client services representative as verified by their signatures on this report.

B Luthman

Brielle Luthman for
Heather Shaffer
Project Manager

General Chemistry
Technical Case Narrative
CH2MHill Plateau Remediation Company (CPRC)
SDG #: GEL401276
Work Order #: 401276

Carbon, Total Organic

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Total Organic Halogens (TOX)

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Total Organic Halogens (TOX)

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Total Organic Halogens (TOX)

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

Chain of Custody and Supporting Documentation

74165

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

BL 7-12-16 ~~401273B~~ 401276

C.O.C. # **W16-007-112**

Page 1 of 2

Collector	Scott King CHPRC	**Contact/Requester**	Karen Waters-Husted	**Telephone No.**	509-376-4650 7/11/16
SAF No.	W16-007	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300071
Project Title	RCRA, JULY 2016	**Logbook No.**	HNF-N-506 816 / 48	**Ice Chest No.**	GWS-553
Shipped To (Lab)	GEL Laboratories, LLC	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	771671251 3548
Protocol	RCRA	**Priority:**	**30 Days** **PRIORITY**	**Offsite Property No.**	6812

POSSIBLE SAMPLE HAZARDS/REMARKS

** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐

N/A
Special Handling:N/A

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B35P65	N	W	JUL 10 2016	1013	1x1-L aGs*	9020_TOX: COMMON	28 Days	H2SO4 to pH <2/Cool <=6C
B35P65	N	W			1x250-mL aG	9060_TOC: COMMON	28 Days	HCl or H2SO4 to pH <2/Cool <=6C
B35PT5	N	W			1x1-L aGs*	9020_TOX: COMMON	28 Days	H2SO4 to pH <2/Cool <=6C
B35PT5	N	W			1x250-mL aG	9060_TOC: COMMON	28 Days	HCl or H2SO4 to pH <2/Cool <=6C
B35PT7	N	W			1x1-L aGs*	9020_TOX: COMMON	28 Days	H2SO4 to pH <2/Cool <=6C
B35PT7	N	W			1x250-mL aG	9060_TOC: COMMON	28 Days	HCl or H2SO4 to pH <2/Cool <=6C
B35PT6	N	W			1x1-L aGs*	9020_TOX: COMMON	28 Days	H2SO4 to pH <2/Cool <=6C
B35PT6	N	W	JUL 10 2016	1013	1x250-mL aG	9060_TOC: COMMON	28 Days	HCl or H2SO4 to pH <2/Cool <=6C

8/5/2016

	Print	Sign	Date/Time		Print	Sign	Date/Time
Relinquished By	Scott King CHPRC		JUL 10 2016 1430	Received By	Janelle Zunker CHPRC		JUL 10 2016 1430
Relinquished By	Janelle Zunker CHPRC		JUL 10 2016 1500	Received By	SSU#1		JUL 10 2016 1500
Relinquished By	SSU#1		JUL 11 2016 0730	Received By	Lesly Wall /CHPRC		JUL 11 2016 0730
Relinquished By	Lesly Wall /CHPRC		JUL 11 2016 1400	Received By	FEDEX		Date/Time

FINAL SAMPLE DISPOSITION Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

Matrix *

S	= Soil	DS	= Drum Solids		
SE	= Sediment	DL	= Drum Liquids		
SO	= Solid	T	= Tissue		
SL	= Sludge	WI	= Wipe		
W	= Water	L	= Liquid		
O	= Oil	V	= Vegetation		
A	= Air	X	= Other		

PRINTED ON 5/26/2016 FSR ID = FSR12600 A-6004-842 (REV 2)

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST (continued)

C.O.C. No. 2016-007-112

Page 2 of 2

Relinquished By Print	Sign	Date/Time	Received By Print	Sign	Date/Time
	Fx		M Kenslow	[illegible]	7-12-16 0915

A-6003-962 (03/05)

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

BL 7.12.16 ~~4012780~~ 401276

C.O.C. # **W16-007-113**

Page 1 of ~~2~~ 2

Collector	Scott King CHPRC	**Contact/Requester**	Karen Waters-Husted	**Telephone No.**	509-376-4650
SAF No.	W16-007	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300071
Project Title	RCRA, JULY 2016	**Logbook No.**	HNF-N-506 86/48	**Ice Chest No.**	GLOS-525
Shipped To (Lab)	GEL Laboratories, LLC	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	776712513798
Protocol	RCRA	**Priority:**	**30 Days** **PRIORITY**	**Offsite Property No.**	6812

DW 7/12/16

POSSIBLE SAMPLE HAZARDS/REMARKS

** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐

N/A
Special Handling:N/A

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B35PV3	N	W	JUL 1 0 2016	0844	1x1-L aGs*	9020_TOX: COMMON	28 Days	H2SO4 to pH <2/Cool <=6C
B35PV3	N	W			1x250-mL aG	9060_TOC: COMMON	28 Days	HCl or H2SO4 to pH <2/Cool <=6C
B35PV5	N	W			1x1-L aGs*	9020_TOX: COMMON	28 Days	H2SO4 to pH <2/Cool <=6C
B35PV5	N	W			1x250-mL aG	9060_TOC: COMMON	28 Days	HCl or H2SO4 to pH <2/Cool <=6C
B35PV1	N	W			1x1-L aGs*	9020_TOX: COMMON	28 Days	H2SO4 to pH <2/Cool <=6C
B35PV1	N	W			1x250-mL aG	9060_TOC: COMMON	28 Days	HCl or H2SO4 to pH <2/Cool <=6C
B35P69	N	W			1x1-L aGs*	9020_TOX: COMMON	28 Days	H2SO4 to pH <2/Cool <=6C
B35P69	N	W	JUL 1 0 2016	0844	1x250-mL aG	9060_TOC: COMMON	28 Days	HCl or H2SO4 to pH <2/Cool <=6C

8/5/2016

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
	Scott King CHPRC		JUL 1 0 2016 1430		Janelle Zunker CHPRC		JUL 1 0 2016 1430
Relinquished By	Janelle Zunker CHPRC		JUL 1 0 2016 1500	Received By	SSU#		JUL 1 0 2016 1500
Relinquished By	SSU#		JUL 1 1 2016 0730	Received By	Lesly Wall /CHPRC		JUL 1 1 2016 0730
Relinquished By	Lesly Wall /CHPRC		JUL 1 1 2016 1400	Received By	FEDEX		Date/Time

Matrix *			
S = Soil	DS = Drum Solids		
SE = Sediment	DL = Drum Liquids		
SO = Solid	T = Tissue		
SL = Sludge	WI = Wipe		
W = Water	L = Liquid		
O = Oil	V = Vegetation		
A = Air	X = Other		

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

PRINTED ON 5/26/2016 FSR ID = FSR32936 A-6004-842 (REV 2)

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST (continued)

C.O.C. No. W16-007-113

Page 2 of 2

Relinquished By Print	Sign	Date/Time	Received By Print	Sign	Date/Time
		FX	M. Enslow	[signature]	7-12-16 0915

A-6003-962 (03/05)

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

BL 7.12.16 ~~401278~~ 401276

C.O.C. # **W16-007-114**

Page 1 of 2

Collector	Scott King CHPRC	**Contact/Requester**	Karen Waters-Husted	**Telephone No.**	509-376-4650 LW 7/11/16
SAF No.	W16-007	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300071
Project Title	RCRA, JULY 2016	**Logbook No.**	HNF-N-506 86 / 48	**Ice Chest No.**	GLES-525
Shipped To (Lab)	GEL Laboratories, LLC	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	776712513798
Protocol	RCRA	**Priority:**	30 Days **PRIORITY**	**Offsite Property No.**	6812

POSSIBLE SAMPLE HAZARDS/REMARKS

** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1

JUL 10 2016

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐

N/A
Special Handling:N/A

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B35PV8	N	W	~~7-7-16~~ 7-10-16	1241	1x1-L aGs*	9020_TOX: COMMON	28 Days	H2SO4 to pH <2/Cool <=6C
B35PV8	N	W			1x250-mL aG	9060_TOC: COMMON	28 Days	HCl or H2SO4 to pH <2/Cool <=6C
B35PV9	N	W			1x1-L aGs*	9020_TOX: COMMON	28 Days	H2SO4 to pH <2/Cool <=6C
B35PV9	N	W			1x250-mL aG	9060_TOC: COMMON	28 Days	HCl or H2SO4 to pH <2/Cool <=6C
B35PV7	N	W			1x1-L aGs*	9020_TOX: COMMON	28 Days	H2SO4 to pH <2/Cool <=6C
B35PV7	N	W			1x250-mL aG	9060_TOC: COMMON	28 Days	HCl or H2SO4 to pH <2/Cool <=6C
B35P72	N	W			1x1-L aGs*	9020_TOX: COMMON	28 Days	H2SO4 to pH <2/Cool <=6C
B35P72	N	W	JUL 10 2016	1241	1x250-mL aG	9060_TOC: COMMON	28 Days	HCl or H2SO4 to pH <2/Cool <=6C

8/5/2016

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
	Scott King CHPRC		JUL 10 2016 1430		Janelle Zunker CHPRC		JUL 10 2016 1430
Relinquished By	Janelle Zunker CHPRC		JUL 10 2016 1500	Received By	SSUH1		JUL 10 2016 1500
Relinquished By	SSUH1		JUL 11 2016 0730	Received By	Lesly Wall /CHPRC		JUL 11 2016 0730
Relinquished By	Lesly Wall /CHPRC		JUL 11 2016 1400	Received By	FEDEX		Date/Time

Matrix *

S	= Soil	DS	= Drum Solids		
SE	= Sediment	DL	= Drum Liquids		
SO	= Solid	T	= Tissue		
SL	= Sludge	WI	= Wipe		
W	= Water	L	= Liquid		
O	= Oil	V	= Vegetation		
A	= Air	X	= Other		

FINAL SAMPLE DISPOSITION Disposal Method (e.g., Return to customer, per lab procedure, used in process) | Disposed By | Date/Time

PRINTED ON 5/26/2016 FSR ID = FSR10221 A-6004-842 (REV 2)

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST (continued)

C.O.C. No. W16-007-114

Page 2 of 2

Relinquished By Print	Sign	Date/Time	Received By Print	Sign	Date/Time
	FX		M Krislow		7-12-16 0915

A-6003-962 (03/05)

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: CPRC	SDG/AR/COC/Work Order: 401273 / 401276
Received By: MK	Date Received: 7-12-16

Suspected Hazard Information	Yes	No	*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
COC/Samples marked as radioactive?		✓	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): cpm 0
Classified Radioactive II or III by RSO?		✓	If yes, Were swipes taken of sample containers < action levels?
COC/Samples marked containing PCBs?		✓	
Package, COC, and/or Samples marked as beryllium or asbestos containing?		✓	If yes, samples are to be segregated as Safety Controlled Samples, and opened by the GEL Safety Group.
Shipped as a DOT Hazardous?		✓	Hazard Class Shipped: UN#:
Samples identified as Foreign Soil?		✓	

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2	Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	✓			Preservation Method: Ice bags Blue ice Dry ice None Other (describe) *all temperatures are recorded in Celsius 2°C 3°C
2a	Daily check performed and passed on IR temperature gun?	✓			Temperature Device Serial #: 130462942 Secondary Temperature Device Serial # (If Applicable):
3	Chain of custody documents included with shipment?	✓			
4	Sample containers intact and sealed?			✓	Circle Applicable: Seals broken Damaged container Leaking container Other (describe) * see below
5	Samples requiring chemical preservation at proper pH?	✓			Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6	Do Low Level Perchlorate samples have headspace as required?			✓	Sample ID's and containers affected:
7	VOA vials contain acid preservation?			✓	(If unknown, select No)
8	VOA vials free of headspace (defined as < 6mm bubble)?			✓	Sample ID's and containers affected:
9	Are Encore containers present?			✓	(If yes, immediately deliver to Volatiles laboratory)
10	Samples received within holding time?	✓			ID's and tests affected:
11	Sample ID's on COC match ID's on bottles?	✓			Sample ID's and containers affected:
12	Date & time on COC match date & time on bottles?	✓			Sample ID's affected:
13	Number of containers received match number indicated on COC?	✓			Sample ID's affected:
14	Are sample containers identifiable as GEL provided?			✓	
15	COC form is properly signed in relinquished/received sections?	✓			
16	Carrier and tracking number.				Circle Applicable: FedEx Air FedEx Ground UPS Field Services Courier Other 7767 1251 3548 2°C 3798 3°C 3802 2°C 3526 2°C 3662 15°C NO ice

Comments (Use Continuation Form if needed):

* B35PN7 - TOX Bottle ARRIVED BROKEN

PM (or PMA) review: Initials KS Date 7/12/16 Page 1 of 1

GL-CHL-SR-001 Rev 3

Data Review Qualifier Definitions

GEL LABORATORIES LLC
2040 Savage Road Charleston, SC 29407 (843) 556−8171

Report Date: 04−AUG−16

Project Specific Qualifier Definitions for GEL Client Code: CPRC

Qualifier	Qualifier Definition	Department	Fraction
U	Analyzed for but not detected above limiting criteria. Includes MDL, MDA, PQL, zero, counting error, and total analytical error.		
J	The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate).Value is estimated	Organics	
P	Aroclor target analyte with greater than 25% difference between column analyses.	Organics	
C	Analyte has been confirmed by GC/MS analysis	Organics	Pesticide
B	The analyte was detected in both the associated QC blank and in the sample.	Organics	
E	Concentration exceeds the calibration range of the instrument	Organics	
A	The TIC is a suspected aldol−condensation product	Organics	Semi−Volatile
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier		
N	Spike Sample recovery is outside control limits.		
*	Duplicate analysis not within control limits	Inorganics	
>	Result greater than quantifiable range or greater than upper limit of the analysis range	General Chemistry	
Z	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier		
B	The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate).	Inorganics	Metals
D	Results are reported from a diluted aliquot of sample.		
E	Reported value is estimated due to interferences. See comment in narrative.	Inorganics	Metals
M	Duplicate precision not met.	Inorganics	Metals
o	Analyte failed to recover within LCS limits (0rganics only)	Organics	
S	Reported value determined by the Method of Standard Additions (MSA)	Inorganics	
T	Spike and/or spike duplicate sample recovery is outside control limits.	Organics	
W	Post−digestion spike recovery for GFAA out of control limit. Sample absorbency < 50% of spike absorbency.	Inorganics	
B	The associated QC sample blank has a result >= 2X the MDA and, after corrections, result is >= MDA for this sample	Radiological	
Y	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier		
+	Correlation coefficient for Method of Standard Additions (MSA) is < 0.995	Inorganics	
B	The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate).	General Chemistry	
C	Target analyte was detected in the sample and the associated blank. The associated blank concentration is >= EQL or is > 5% of the measured concentration and/or decision level for associated samples.	Inorganics	Metals
C	Target analyte was detected in the sample and the associated blank. The associated blank concentration is >= EQL or is > 5% of the measured concentration and/or decision level for associated samples.	General Chemistry	
<	Sample is below the EPA guidance level for Reactive Releasable Cyanide and/or Reactive Releasable Sulfide	General Chemistry	
UX	Gamma Spectroscopy−−Uncertain identification	Radiological	

Laboratory Certifications

List of current GEL Certifications as of 04 August 2016

State	Certification
Alaska	UST−0110
Arkansas	88−0651
CLIA	42D0904046
California	2940
Colorado	SC00012
Connecticut	PH−0169
Delaware	SC00012
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330−15−00283, P330−15−00253
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC00012
Idaho Chemistry	SC00012
Idaho Radiochemistry	SC00012
Illinois NELAP	200029
Indiana	C−SC−01
Kansas NELAP	E−10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana NELAP	03046 (AI33904)
Louisiana SDWA	LA160006
Maryland	270
Massachusetts	M−SC012
Michigan	9976
Mississippi	SC00012
Nebraska	NE−OS−26−13
Nevada	SC000122016−1
New Hampshire NELAP	205415
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R−158
Oklahoma	9904
Pennsylvania NELAP	68−00485
S.Carolina Radchem	10120002
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235−16−11
Utah NELAP	SC000122016−20
Vermont	VT87156
Virginia NELAP	460202
Washington	C780
West Virginia	997404

General Chem Analysis

Case Narrative

General Chemistry
Technical Case Narrative
CH2MHill Plateau Remediation Company (CPRC)
SDG #: GEL401276
Work Order #: 401276

Product: **Carbon, Total Organic**
Analytical Method: SW846 9060A
Analytical Procedure: GL-GC-E-093 REV# 14
Analytical Batch: 1581219

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
401276001	B35P65
401276002	B35PT5
401276003	B35PT7
401276004	B35PT6
401276005	B35PV3
401276006	B35PV5
401276007	B35PV1
401276008	B35P69
401276009	B35PV8
401276010	B35PV9
401276011	B35PV7
401276012	B35P72
1203583589	Method Blank (MB)
1203583590	Laboratory Control Sample (LCS)
1203583591	401276001(B35P65) Sample Duplicate (DUP)
1203583593	401276001(B35P65) Post Spike (PS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Product: **Total Organic Halogens (TOX)**
Analytical Method: 9020_TOX
Analytical Procedure: GL-GC-E-007 REV# 14
Analytical Batches: 1581678, 1581679 and 1581680

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
401276001	B35P65
401276002	B35PT5
401276003	B35PT7
401276004	B35PT6
401276005	B35PV3
401276006	B35PV5
401276007	B35PV1
401276008	B35P69
401276009	B35PV8
401276010	B35PV9
401276011	B35PV7
401276012	B35P72
1203584698	Method Blank (MB)
1203584699	Laboratory Control Sample (LCS)
1203584700	401273018(B35PW2) Sample Duplicate (DUP)
1203584701	401273018(B35PW2) Post Spike (PS)
1203584702	Method Blank (MB)
1203584703	Laboratory Control Sample (LCS)
1203584704	401276003(B35PT7) Sample Duplicate (DUP)
1203584705	401276003(B35PT7) Post Spike (PS)
1203584706	Method Blank (MB)
1203584707	Laboratory Control Sample (LCS)
1203584708	401276009(B35PV8) Sample Duplicate (DUP)
1203584709	401276009(B35PV8) Post Spike (PS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Miscellaneous Information

Additional Comments
A pair of nitrate wash blanks is analyzed at the start of the batch. Although they are designated as ICB, they are performed for calculating purposes only. The value of the nitrate wash blanks are averaged and subtracted from all samples. Neither of these values should exceed 0.6 ug Cl. The PQL limit typically applied to ICB results does not apply in this application, since the results are used only to determine background concentrations and are subtracted from all calculated results.

Breakthrough effect
Breakthrough effect: If the value for a sample is greater than the reporting limit (10 ug/L), the result for the second slug should not be greater than 25% of the combined value of the first and second slug. Results which do not meet these criteria are designated with a "Fail" comment in the Breakthrough effect column on the Logbook page; however, the "fail" designation is not applicable for samples with a result of less than 10 ug/L.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Qualifier Definition Report
for

CPRC001 CH2MHill Plateau Remediation Company

Client SDG: GEL401276 GEL Work Order: 401276

The Qualifiers in this report are defined as follows:

B The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate).

U Analyzed for but not detected above limiting criteria. Includes MDL, MDA, PQL, zero, counting error, and total analytical error.

Review/Validation

GEL requires all analytical data to be verified by a qualified data reviewer. In addition, all CLP-like deliverables receive a third level review of the fractional data package.

The following data validator verified the information presented in this data report:

Signature: Kristen Mizzell **Name: Kristen Mizzell**

Date: 05 AUG 2016 **Title: Analyst I**

Sample Data Summary

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: August 5, 2016

Company : CH2MHill Plateau Remediation Company
Address : MSIN R3-50 CHPRC
PO Box 1600
Richland, Washington 99352
Contact: Mr. Scot Fitzgerald
Project: CHPRC SAF W16-007

Client Sample ID: B35P65
Sample ID: 401276001
Matrix: WATER
Collect Date: 10-JUL-16 10:13
Receive Date: 12-JUL-16
Collector: Client

Project: CPRC0W16007
Client ID: CPRC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Carbon Analysis												
9060_TOC: COMMON "As Received"												
Total Organic Carbon #1	U	330	330	1000	ug/L		1	TSM	07/15/16	2101	1581219	1
Total Organic Carbon #2	B	348	330	1000	ug/L		1					
Total Organic Carbon #3	U	330	330	1000	ug/L		1					
Total Organic Carbon #4	B	355	330	1000	ug/L		1					
Total Organic Carbon Average	B	336	330	1000	ug/L		1					
Halogen Analysis												
9020_TOX: COMMON "As Received"												
Total Organic Halogens	U	3.33	3.33	10.0	ug/L		1	RMJ	07/22/16	0213	1581678	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9060A	
2	9020_TOX	

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: August 5, 2016

Company : CH2MHill Plateau Remediation Company
Address : MSIN R3-50 CHPRC
PO Box 1600
Richland, Washington 99352
Contact: Mr. Scot Fitzgerald
Project: CHPRC SAF W16-007

Client Sample ID: B35PT5
Sample ID: 401276002
Matrix: WATER
Collect Date: 10-JUL-16 10:13
Receive Date: 12-JUL-16
Collector: Client

Project: CPRC0W16007
Client ID: CPRC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Carbon Analysis												
9060_TOC: COMMON "As Received"												
Total Organic Carbon #1	B	342	330	1000	ug/L		1	TSM	07/15/16	2303	1581219	1
Total Organic Carbon #2	B	351	330	1000	ug/L		1					
Total Organic Carbon #3	B	338	330	1000	ug/L		1					
Total Organic Carbon #4	B	336	330	1000	ug/L		1					
Total Organic Carbon Average	B	342	330	1000	ug/L		1					
Halogen Analysis												
9020_TOX: COMMON "As Received"												
Total Organic Halogens	U	3.33	3.33	10.0	ug/L		1	RMJ	07/22/16	0255	1581678	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9060A	
2	9020_TOX	

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: August 5, 2016

Company : CH2MHill Plateau Remediation Company
Address : MSIN R3-50 CHPRC
PO Box 1600
Richland, Washington 99352
Contact: Mr. Scot Fitzgerald
Project: CHPRC SAF W16-007

Client Sample ID: B35PT7
Sample ID: 401276003
Matrix: WATER
Collect Date: 10-JUL-16 10:13
Receive Date: 12-JUL-16
Collector: Client

Project: CPRC0W16007
Client ID: CPRC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Carbon Analysis												
9060_TOC: COMMON "As Received"												
Total Organic Carbon #1	B	341	330	1000	ug/L		1	TSM	07/16/16	0006	1581219	1
Total Organic Carbon #2	B	375	330	1000	ug/L		1					
Total Organic Carbon #3	B	370	330	1000	ug/L		1					
Total Organic Carbon #4	B	350	330	1000	ug/L		1					
Total Organic Carbon Average	B	359	330	1000	ug/L		1					
Halogen Analysis												
9020_TOX: COMMON "As Received"												
Total Organic Halogens	U	3.33	3.33	10.0	ug/L		1	RMJ	07/22/16	1702	1581679	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9060A	
2	9020_TOX	

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: August 5, 2016

Company : CH2MHill Plateau Remediation Company
Address : MSIN R3-50 CHPRC
PO Box 1600
Richland, Washington 99352
Contact: Mr. Scot Fitzgerald
Project: CHPRC SAF W16-007

Client Sample ID: B35PT6
Sample ID: 401276004
Matrix: WATER
Collect Date: 10-JUL-16 10:13
Receive Date: 12-JUL-16
Collector: Client

Project: CPRC0W16007
Client ID: CPRC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Carbon Analysis												
9060_TOC: COMMON "As Received"												
Total Organic Carbon #1	B	342	330	1000	ug/L		1	TSM	07/16/16	0046	1581219	1
Total Organic Carbon #2	B	366	330	1000	ug/L		1					
Total Organic Carbon #3	B	363	330	1000	ug/L		1					
Total Organic Carbon #4	B	367	330	1000	ug/L		1					
Total Organic Carbon Average	B	359	330	1000	ug/L		1					
Halogen Analysis												
9020_TOX: COMMON "As Received"												
Total Organic Halogens	U	3.33	3.33	10.0	ug/L		1	RMJ	07/22/16	1851	1581679	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9060A	
2	9020_TOX	

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: August 5, 2016

Company : CH2MHill Plateau Remediation Company
Address : MSIN R3-50 CHPRC
PO Box 1600
Richland, Washington 99352
Contact: Mr. Scot Fitzgerald
Project: CHPRC SAF W16-007

Client Sample ID: B35PV3
Sample ID: 401276005
Matrix: WATER
Collect Date: 10-JUL-16 08:44
Receive Date: 12-JUL-16
Collector: Client

Project: CPRC0W16007
Client ID: CPRC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Carbon Analysis												
9060_TOC: COMMON "As Received"												
Total Organic Carbon #1	U	330	330	1000	ug/L		1	TSM	07/16/16	0127	1581219	1
Total Organic Carbon #2	B	339	330	1000	ug/L		1					
Total Organic Carbon #3	U	330	330	1000	ug/L		1					
Total Organic Carbon #4	U	330	330	1000	ug/L		1					
Total Organic Carbon Average	U	330	330	1000	ug/L		1					
Halogen Analysis												
9020_TOX: COMMON "As Received"												
Total Organic Halogens	U	3.33	3.33	10.0	ug/L		1	RMJ	07/22/16	2012	1581679	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9060A	
2	9020_TOX	

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: August 5, 2016

Company : CH2MHill Plateau Remediation Company
Address : MSIN R3-50 CHPRC
PO Box 1600
Richland, Washington 99352
Contact: Mr. Scot Fitzgerald
Project: CHPRC SAF W16-007

Client Sample ID: B35PV5
Sample ID: 401276006
Matrix: WATER
Collect Date: 10-JUL-16 08:44
Receive Date: 12-JUL-16
Collector: Client

Project: CPRC0W16007
Client ID: CPRC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Carbon Analysis												
9060_TOC: COMMON "As Received"												
Total Organic Carbon #1	B	363	330	1000	ug/L		1	TSM	07/16/16	0207	1581219	1
Total Organic Carbon #2	B	394	330	1000	ug/L		1					
Total Organic Carbon #3	B	398	330	1000	ug/L		1					
Total Organic Carbon #4	B	392	330	1000	ug/L		1					
Total Organic Carbon Average	B	387	330	1000	ug/L		1					
Halogen Analysis												
9020_TOX: COMMON "As Received"												
Total Organic Halogens	U	3.33	3.33	10.0	ug/L		1	RMJ	07/22/16	2053	1581679	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9060A	
2	9020_TOX	

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: August 5, 2016

Company : CH2MHill Plateau Remediation Company
Address : MSIN R3-50 CHPRC
PO Box 1600
Richland, Washington 99352
Contact: Mr. Scot Fitzgerald
Project: CHPRC SAF W16-007

Client Sample ID: B35PV1
Sample ID: 401276007
Matrix: WATER
Collect Date: 10-JUL-16 08:44
Receive Date: 12-JUL-16
Collector: Client

Project: CPRC0W16007
Client ID: CPRC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Carbon Analysis												
9060_TOC: COMMON "As Received"												
Total Organic Carbon #1	B	362	330	1000	ug/L		1	TSM	07/16/16	0247	1581219	1
Total Organic Carbon #2	B	384	330	1000	ug/L		1					
Total Organic Carbon #3	B	377	330	1000	ug/L		1					
Total Organic Carbon #4	B	384	330	1000	ug/L		1					
Total Organic Carbon Average	B	377	330	1000	ug/L		1					
Halogen Analysis												
9020_TOX: COMMON "As Received"												
Total Organic Halogens	U	3.33	3.33	10.0	ug/L		1	RMJ	07/22/16	2158	1581679	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9060A	
2	9020_TOX	

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: August 5, 2016

Company : CH2MHill Plateau Remediation Company
Address : MSIN R3-50 CHPRC
PO Box 1600
Richland, Washington 99352
Contact: Mr. Scot Fitzgerald
Project: CHPRC SAF W16-007

Client Sample ID: B35P69
Sample ID: 401276008
Matrix: WATER
Collect Date: 10-JUL-16 08:44
Receive Date: 12-JUL-16
Collector: Client

Project: CPRC0W16007
Client ID: CPRC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Carbon Analysis												
9060_TOC: COMMON "As Received"												
Total Organic Carbon #1	U	330	330	1000	ug/L		1	TSM	07/16/16	0328	1581219	1
Total Organic Carbon #2	U	330	330	1000	ug/L		1					
Total Organic Carbon #3	U	330	330	1000	ug/L		1					
Total Organic Carbon #4	U	330	330	1000	ug/L		1					
Total Organic Carbon Average	U	330	330	1000	ug/L		1					
Halogen Analysis												
9020_TOX: COMMON "As Received"												
Total Organic Halogens	U	3.33	3.33	10.0	ug/L		1	RMJ	07/22/16	2239	1581679	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9060A	
2	9020_TOX	

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: August 5, 2016

Company : CH2MHill Plateau Remediation Company
Address : MSIN R3-50 CHPRC
PO Box 1600
Richland, Washington 99352
Contact: Mr. Scot Fitzgerald
Project: CHPRC SAF W16-007

Client Sample ID: B35PV8
Sample ID: 401276009
Matrix: WATER
Collect Date: 10-JUL-16 12:41
Receive Date: 12-JUL-16
Collector: Client

Project: CPRC0W16007
Client ID: CPRC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Carbon Analysis												
9060_TOC: COMMON "As Received"												
Total Organic Carbon #1	B	350	330	1000	ug/L		1	TSM	07/16/16	0408	1581219	1
Total Organic Carbon #2	B	357	330	1000	ug/L		1					
Total Organic Carbon #3	B	361	330	1000	ug/L		1					
Total Organic Carbon #4	B	369	330	1000	ug/L		1					
Total Organic Carbon Average	B	359	330	1000	ug/L		1					
Halogen Analysis												
9020_TOX: COMMON "As Received"												
Total Organic Halogens	U	3.33	3.33	10.0	ug/L		1	RMJ	07/19/16	2215	1581680	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9060A	
2	9020_TOX	

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: August 5, 2016

Company : CH2MHill Plateau Remediation Company
Address : MSIN R3-50 CHPRC
PO Box 1600
Richland, Washington 99352
Contact: Mr. Scot Fitzgerald
Project: CHPRC SAF W16-007

Client Sample ID: B35PV9
Sample ID: 401276010
Matrix: WATER
Collect Date: 10-JUL-16 12:41
Receive Date: 12-JUL-16
Collector: Client

Project: CPRC0W16007
Client ID: CPRC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Carbon Analysis												
9060_TOC: COMMON "As Received"												
Total Organic Carbon #1	B	348	330	1000	ug/L		1	TSM	07/16/16	0448	1581219	1
Total Organic Carbon #2	B	360	330	1000	ug/L		1					
Total Organic Carbon #3	B	366	330	1000	ug/L		1					
Total Organic Carbon #4	B	361	330	1000	ug/L		1					
Total Organic Carbon Average	B	359	330	1000	ug/L		1					
Halogen Analysis												
9020_TOX: COMMON "As Received"												
Total Organic Halogens	U	3.33	3.33	10.0	ug/L		1	RMJ	07/20/16	0015	1581680	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9060A	
2	9020_TOX	

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: August 5, 2016

Company : CH2MHill Plateau Remediation Company
Address : MSIN R3-50 CHPRC
PO Box 1600
Richland, Washington 99352
Contact: Mr. Scot Fitzgerald
Project: CHPRC SAF W16-007

Client Sample ID: B35PV7
Sample ID: 401276011
Matrix: WATER
Collect Date: 10-JUL-16 12:41
Receive Date: 12-JUL-16
Collector: Client

Project: CPRC0W16007
Client ID: CPRC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Carbon Analysis												
9060_TOC: COMMON "As Received"												
Total Organic Carbon #1	B	354	330	1000	ug/L		1	TSM	07/16/16	0529	1581219	1
Total Organic Carbon #2	B	361	330	1000	ug/L		1					
Total Organic Carbon #3	B	378	330	1000	ug/L		1					
Total Organic Carbon #4	B	375	330	1000	ug/L		1					
Total Organic Carbon Average	B	367	330	1000	ug/L		1					
Halogen Analysis												
9020_TOX: COMMON "As Received"												
Total Organic Halogens	U	3.33	3.33	10.0	ug/L		1	RMJ	07/20/16	0056	1581680	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9060A	
2	9020_TOX	

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: August 5, 2016

Company : CH2MHill Plateau Remediation Company
Address : MSIN R3-50 CHPRC
PO Box 1600
Richland, Washington 99352
Contact: Mr. Scot Fitzgerald
Project: CHPRC SAF W16-007

Client Sample ID: B35P72
Sample ID: 401276012
Matrix: WATER
Collect Date: 10-JUL-16 12:41
Receive Date: 12-JUL-16
Collector: Client

Project: CPRC0W16007
Client ID: CPRC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Carbon Analysis												
9060_TOC: COMMON "As Received"												
Total Organic Carbon #1	U	330	330	1000	ug/L		1	TSM	07/16/16	0609	1581219	1
Total Organic Carbon #2	B	339	330	1000	ug/L		1					
Total Organic Carbon #3	B	342	330	1000	ug/L		1					
Total Organic Carbon #4	B	344	330	1000	ug/L		1					
Total Organic Carbon Average	B	336	330	1000	ug/L		1					
Halogen Analysis												
9020_TOX: COMMON "As Received"												
Total Organic Halogens	U	3.33	3.33	10.0	ug/L		1	RMJ	07/20/16	0200	1581680	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9060A	
2	9020_TOX	

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

Quality Control Summary

GEL LABORATORIES LLC
2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Report Date: August 5, 2016

CH2MHill Plateau Remediation Company
MSIN R3-50 CHPRC
PO Box 1600
Richland, Washington

Contact: **Mr. Scot Fitzgerald**

Workorder: **401276**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Carbon Analysis											
Batch 1581219											
QC1203583591 401276001 DUP											
Total Organic Carbon Average		B	336	U	330	ug/L	4.88 ^		(+/-1000)	TSM	07/15/16 21:41
QC1203583590 LCS											
Total Organic Carbon Average	10000				9340	ug/L		93.4	(80%-120%)		07/15/16 20:48
QC1203583589 MB											
Total Organic Carbon Average				U	330	ug/L					07/15/16 20:38
QC1203583593 401276001 PS											
Total Organic Carbon Average	10.0	B	0.336		9.99	mg/L		96.6	(75%-125%)		07/15/16 22:22
Halogen Analysis											
Batch 1581678											
QC1203584700 401273018 DUP											
Total Organic Halogens		B	7.88	U	3.33	ug/L	156 ^		(+/-10.0)	RMJ	07/21/16 21:49
QC1203584699 LCS											
Total Organic Halogens	100				98.9	ug/L		98.9	(80%-120%)		07/21/16 19:24
QC1203584698 MB											
Total Organic Halogens				U	3.33	ug/L					07/21/16 19:00
QC1203584701 401273018 PS											
Total Organic Halogens	100	B	7.88		104	ug/L		96.3	(75%-125%)		07/21/16 22:40
Batch 1581679											
QC1203584704 401276003 DUP											
Total Organic Halogens		U	3.33	U	3.33	ug/L	N/A			RMJ	07/22/16 17:23
QC1203584703 LCS											
Total Organic Halogens	100				102	ug/L		102	(80%-120%)		07/22/16 16:41
QC1203584702 MB											
Total Organic Halogens				U	3.33	ug/L					07/22/16 16:17
QC1203584705 401276003 PS											
Total Organic Halogens	100	U	0.00		100	ug/L		100	(75%-125%)		07/22/16 18:10
Batch 1581680											
QC1203584708 401276009 DUP											
Total Organic Halogens		U	3.33	U	3.33	ug/L	N/A			RMJ	07/19/16 22:36

GEL LABORATORIES LLC
2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Workorder: **401276**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Halogen Analysis												
Batch 1581680												
QC1203584707 LCS												
Total Organic Halogens	100				105	ug/L		105	(80%-120%)	RMJ	07/19/16	17:27
QC1203584706 MB												
Total Organic Halogens				U	3.33	ug/L					07/19/16	17:01
QC1203584709 401276009 PS												
Total Organic Halogens	100	U	0.00		103	ug/L		103	(75%-125%)		07/19/16	22:58

Notes:

The Qualifiers in this report are defined as follows:

- < Sample is below the EPA guidance level for Reactive Releasable Cyanide and/or Reactive Releasable Sulfide
- > Result greater than quantifiable range or greater than upper limit of the analysis range
- B The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate).
- C Target analyte was detected in the sample and the associated blank. The associated blank concentration is >= EQL or is > 5% of the measured concentration and/or decision level for associated samples.
- D Results are reported from a diluted aliquot of sample.
- N Spike Sample recovery is outside control limits.
- U Analyzed for but not detected above limiting criteria. Includes MDL, MDA, PQL, zero, counting error, and total analytical error.
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Z Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
* Indicates that a Quality Control parameter was not within specifications.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.