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

June 26, 2017

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

Re: CHPRC SAF I17-008
Work Order: 425388
SDG: GEL425388

Dear Mr. Fitzgerald:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on June 14, 2017. 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: 300071 - 7H
Chain of Custody: I17-008-143, I17-008-145, I17-008-147, I17-008-149, I17-008-204, I17-008-206, I17-008-254 and I17-008-255
Enclosures

Table of Contents

Case Narrative

General Narrative
for
CH2MHill Plateau Remediation Company
CHPRC SAF I17-008
SDG: GEL425388

June 26, 2017

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 June 14, 2017, 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.

Sample Identification
The laboratory received the following samples:

Laboratory Identification	Sample Description
425388001	B39M75
425388002	B39M76
425388003	B39M83
425388004	B39M89
425388005	B39MX4
425388006	B39MX5
425388007	B39M73
425388008	B39M74

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: Diesel Range Organics and 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

Technical Case Narrative
CH2MHill Plateau Remediation Company (CPRC)
SDG #: GEL425388
Work Order #: 425388

Diesel Range Organics

Analysis of Diesel Range Organics by Flame Ionization Detector

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.

Quality Control (QC) Information

Surrogate Recoveries
Samples (See Below) did not meet CPRC specified limits (60-140%). However, the recoveries were within the lab's statistically derived limits.

Sample	Analyte	Value
425388008 (B39M74)	o-Terphenyl	58* (60%-140%)

Laboratory Control Sample (LCS/LCSD) Recovery
Samples (See Below) did not meet CPRC specified limits (70-130%). However, the recoveries were within the lab's statistically derived limits.

Sample	Analyte	Value
1203814480 (LCS)	Diesel Range Organics	68* (70%-130%)

Matrix Spike (MS/MSD) Recovery Statement
The MS and/or MSD (See Below) did not meet spike recovery acceptance limits. The associated MS or MSD did not confirm. The LCS passed spike recovery limits. The poor extraction appeared to be isolated to the MS or MSD only and the data were reported.

Sample	Analyte	Value
1203814481 (B39M73MS)	Diesel Range Organics	45* (70%-130%)

MS/MSD Relative Percent Difference (RPD) Statement
The MS/MSD did not meet the RPD acceptance limits due to the large differences between the MS and MSD recoveries.

Sample	Analyte	Value
1203814481MS and 1203814482MSD (B39M73)	Diesel Range Organics	36* (0%-20%)

Miscellaneous Information

Manual Integrations
Samples 1203814480 (LCS), 1203814481 (B39M73MS), 425388007 (B39M73) and 425388008 (B39M74) required manual integration to correctly position the baseline as set in the calibration standard injections.

General Chemistry

Ion Chromatography

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.

Technical Information

Sample Dilutions
The following samples 425388001 (B39M75), 425388002 (B39M76) and 425388003 (B39M83) were diluted because target analyte concentrations exceeded the calibration range.

Analyte	425388		
	001	**002**	**003**
Sulfate	2X	2X	2X

Miscellaneous Information

Manual Integrations
Samples 425388001 (B39M75), 425388002 (B39M76), 425388003 (B39M83) and 425388004 (B39M89) were manually integrated to correctly position the baseline as set in the calibration standards.

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

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

425388

C.O.C. # I17-008-143

Page 1 of 1

Collector	Daniel Klug CHPRC	**Contact/Requester**	Karen Waters-Husted	**Telephone No.**	509-376-4650
SAF No.	I17-008	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300071
Project Title	100-NR-2 GW-OU Monitoring Apatite B	**Logbook No.**	HNF-N-506 92192	**Ice Chest No.**	GW5-614
Shipped To (Lab)	GEL Laboratories, LLC	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	7793 9372 8802
Protocol	CERCLA	**Priority:**	**30 Days** PRIORITY	**Offsite Property No.**	8031

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

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B39M75	N	W	JUN 13 2017	1018	1x125-mL G/P	9056_ANIONS_IC: COMMON	48 Hours	Cool <=6C

July 11, 2017

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Daniel Klug CHPRC	D. Klug		JUN 13 2017 1055	Lesly Wall /CHPRC	Lesly Wall		JUN 13 2017 1055
Lesly Wall /CHPRC	Lesly Wall		JUN 13 2017 1400				
				FEDEX			
			FEDEX	STACY BOONE			6/14/17 9:20

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 5/4/2017

FSR ID = FSR38861

A-6004-842 (REV 2)

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

425388

C.O.C. # I17-008-145

Page 1 of 1

Collector	Daniel Klug CHPRC	**Contact/Requester**	Karen Waters-Husted	**Telephone No.**	509-376-4650
SAF No.	I17-008	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300071
Project Title	100-NR-2 GW-OU Monitoring Apatite B	**Logbook No.**	HNF-N-506 92/92	**Ice Chest No.**	GWS-6014
Shipped To (Lab)	GEL Laboratories, LLC	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	7793 9372 8802
Protocol	CERCLA	**Priority:**	30 Days PRIORITY	**Offsite Property No.**	80331

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

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B39M76	N	W	JUN 13 2017	1018	1x125-mL G/P	9056_ANIONS_IC: COMMON	48 Hours	Cool <=6C

July 11, 2017

Relinquished By	Print / Sign	Date/Time	Received By	Print / Sign	Date/Time
Daniel Klug CHPRC	D. Klug	JUN 13 2017 1055	Lesly Wall /CHPRC	Lesly Wall	JUN 13 2017 1055
Lesly Wall /CHPRC	Lesly Wall	JUN 13 2017 1400		FEDEX	
		FED EX		STACY BOONE 6-14-17 9:20	

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 5/4/2017

FSR ID = FSR38861

A-6004-842 (REV 2)

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

425388

C.O.C. # **I17-008-147**

Page 1 of 1

Collector	Daniel Klug CHPRC	**Contact/Requester**	Karen Waters-Husted	**Telephone No.**	509-376-4650
SAF No.	I17-008	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300071
Project Title	100-NR-2 GW-OU Monitoring Apatite B	**Logbook No.**	HNF-N-506 92/92	**Ice Chest No.**	GWS-311
Shipped To (Lab)	GEL Laboratories, LLC	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	7793 9372 9728
Protocol	CERCLA	**Priority:**	**30 Days** **PRIORITY**	**Offsite Property No.**	8031

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**

N/A

Total Activity Exemption: Yes ☑ No ☐

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B39M83	N	W	JUN 13 2017	1017	1x125-mL G/P	9056_ANIONS_IC: COMMON	48 Hours	Cool <=6C

July 11, 2017

Relinquished By	Print / Sign	Date/Time	Received By	Print / Sign	Date/Time
Daniel Klug CHPRC	D. Klug	JUN 13 2017 1245	Troy Bacon CHPRC	Troy L. Bacon	JUN 13 2017 1245
Troy Bacon CHPRC	Troy L. Bacon	JUN 13 2017 1400	FEDEX		
		FEDEX	STACY BOONE		6/14/17 9:20

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		

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

PRINTED ON 5/4/2017 FSR ID = FSR3057 A-6004-842 (REV 2)

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

425388

C.O.C. # I17-008-149

Page 1 of 1

Collector	Daniel Klug CHPRC	**Contact/Requester**	Karen Waters-Husted	**Telephone No.**	509-376-4650
SAF No.	I17-008	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300071
Project Title	100-NR-2 GW-OU Monitoring Apatite B	**Logbook No.**	HNF-N-506 92192	**Ice Chest No.**	GWS-311
Shipped To (Lab)	GEL Laboratories, LLC	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	779393729728
Protocol	CERCLA	**Priority:**	30 Days **PRIORITY**	**Offsite Property No.**	8031

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**

N/A

Total Activity Exemption: Yes ☑ No ☐

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B39M89	N	W	JUN 13 2017	1205	1x125-mL G/P	9056_ANIONS_IC: COMMON	48 Hours	Cool <=6C

July 11, 2017

Relinquished By	Print / Sign	Date/Time	Received By	Print / Sign	Date/Time
Daniel Klug CHPRC	D. Klug	JUN 13 2017 1245	Troy Bacon CHPRC	Troy L. Bacon	JUN 13 2017 1245
Troy Bacon CHPRC	Troy L. Bacon	JUN 13 2017 1400	FEDEX		
		FED EX	STACY BOONE 6-14-17		9:20

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 5/4/2017

FSR ID = FSR4396

A-6004-842 (REV 2)

CH2MHill Plateau Remediation Company

59118

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

425388

C.O.C. # I17-008-204

Page 1 of 1

Collector	Daniel Klug CHPRC	**Contact/Requester**	Karen Waters-Husted	**Telephone No.**	509-376-4650
SAF No.	I17-008	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300071
Project Title	100-NR-2 GW-OU Monitoring Apatite B	**Logbook No.**	HNF-N-506 82/82	**Ice Chest No.**	GWS-614
Shipped To (Lab)	GEL Laboratories, LLC	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	779393728802
Protocol	CERCLA	**Priority:**	30 Days **PRIORITY**	**Offsite Property No.**	8031

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**

N/A

Total Activity Exemption: Yes ☑ No ☐

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B39MX4	N	W	JUN 13 2017	0800	1x125-mL G/P	9056_ANIONS_IC: COMMON	48 Hours	Cool <=6C

July 11, 2017

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Daniel Klug CHPRC	D. Klug		JUN 13 2017 1055	Lesly Wall /CHPRC	Lesly Wall		JUN 13 2017 1655
Lesly Wall /CHPRC	Lesly Wall		JUN 13 2017 1400				
			FED EX		FEDEX		
					STACY BOONE		6/14/17 9:20

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		

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

PRINTED ON 5/4/2017 FSR ID = FSR44979 A-6004-842 (REV 2)

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

425388

C.O.C. # I17-008-206

Page 1 of 1

Collector	Daniel Klug CHPRC	**Contact/Requester**	Karen Waters-Husted	**Telephone No.**	509-376-4650
SAF No.	I17-008	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300071
Project Title	100-NR-2 GW-OU Monitoring Apatite B	**Logbook No.**	HNF-N-506 92/92	**Ice Chest No.**	GWS-614
Shipped To (Lab)	GEL Laboratories, LLC	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	7773 9372 8802
Protocol	CERCLA	**Priority:**	30 Days **PRIORITY**	**Offsite Property No.**	8031

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

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B39MX5	N	W	JUN 13 2017	0923	1x125-mL G/P	9056_ANIONS_IC: COMMON	48 Hours	Cool <=6C

July 11, 2017

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Daniel Klug CHPRC	D. Klug		JUN 13 2017 1055	Lesly Wall /CHPRC	Lesly Wall		JUN 13 2017 1055
Lesly Wall /CHPRC	Lesly Wall		JUN 13 2017 1400				
			FEDEX				
			FEDEX	STACY BOONE			9:20

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 5/4/2017 FSR ID = FSR44978 A-6004-842 (REV 2)

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

425388

C.O.C. # I17-008-254

Page 1 of 1

Collector	Daniel Klug CHPRC	**Contact/Requester**	Karen Waters-Husted	**Telephone No.**	509-376-4650
SAF No.	I17-008	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300071
Project Title	100-NR-2 GW-OU Monitoring Apatite B	**Logbook No.**	HNF-N-506 92/92	**Ice Chest No.**	6W5-614
Shipped To (Lab)	GEL Laboratories, LLC	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	7793 9372 8802
Protocol	CERCLA	**Priority:**	30 Days PRIORITY	**Offsite Property No.**	8031

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

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B39M73	N	W	JUN 13 2017	1018	4x1-L aG	WTPH_DIESEL: COMMON	14/40 Days	HCl to pH <2/Cool <=6C

July 11, 2017

Relinquished By	Print / Sign	Date/Time	Received By	Print / Sign	Date/Time
Daniel Klug CHPRC	D. K	JUN 13 2017 1055	Lesly Wall /CHPRC	Lesly Wall	JUN 13 2017 1055
Lesly Wall /CHPRC	Lesly Wall	JUN 13 2017 1400		FEDEX	
		FED EX		STACY BOONE 6-14-17 9:20	

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 5/4/2017 FSR ID = FSR38861 A-6004-842 (REV 2)

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

425388

C.O.C. # I17-008-255

Page 1 of 1

Collector	Daniel Klug CHPRC	**Contact/Requester**	Karen Waters-Husted	**Telephone No.**	509-376-4650
SAF No.	I17-008	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300071
Project Title	100-NR-2 GW-OU Monitoring Apatite B	**Logbook No.**	HNF-N-506 92/92	**Ice Chest No.**	GWS-614
Shipped To (Lab)	GEL Laboratories, LLC	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	7793 9372 8802
Protocol	CERCLA	**Priority:**	30 Days PRIORITY	**Offsite Property No.**	8031

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

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B39M74	N	W	JUN 13 2017	1018	4x1-L aG	WTPH_DIESEL: COMMON	14/40 Days	HCl to pH <2/Cool <=6C

July 11, 2017

Relinquished By	Print / Sign	Date/Time	Received By	Print / Sign	Date/Time
Daniel Klug CHPRC	D. Klug	JUN 13 2017 1055	Lesly Wall /CHPRC	Lesly Wall	JUN 13 2017 1055
Lesly Wall /CHPRC	Lesly Wall	JUN 13 2017 1400		FEDEX	
	FED EX		Stacy Boone	Stacy Boone	6-14-17 9:20

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 5/4/2017 FSR ID = FSR38861 A-6004-842 (REV 2)

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: CPRG	SDG/AR/COC/Work Order: 426388
Received By: STACY BOONE	Date Received: 6-14-17
Carrier and Tracking Number	Circle Applicable: FedEx Express FedEx Ground UPS Field Services Courier Other 7793 9372 9728 - 1c 7793 9372 8802 - 1c

Suspected Hazard Information	Yes	No	
Shipped as a DOT Hazardous?		✓	Hazard Class Shipped: UN#:
COC/Samples marked or classified as radioactive?		✓	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): 0 CPM / mR/Hr Classified as: Rad 1 Rad 2 Rad 3
Is package, COC, and/or Samples marked HAZ?		✓	If yes, select Hazards below, and contact the GEL Safety Group. PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:

*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.

	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	Chain of custody documents included with shipment?	✓			
3	Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	✓			Preservation Method: Wet Ice Ice Packs Dry ice None Other: *all temperatures are recorded in Celsius TEMP:_____
4	Daily check performed and passed on IR temperature gun?	✓			**Temperature Device Serial #:** IR3-17 Secondary Temperature Device Serial # (If Applicable):
5	Sample containers intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
6	Samples requiring chemical preservation at proper pH?	✓			Sample ID's and Containers Affected: If Preservation added, Lot#:
7	Do any samples require Volatile Analysis?			✓	If Yes, Are Encores or Soil Kits present? Yes___ No___ (If yes, take to VOA Freezer) Do VOA vials contain acid preservation? Yes No___ N/A (If unknown, select No) VOA vials free of headspace? Yes No___ N/A Sample ID's and containers affected:
8	Samples received within holding time?	✓			ID's and tests affected:
9	Sample ID's on COC match ID's on bottles?	✓			Sample ID's and containers affected:
10	Date & time on COC match date & time on bottles?	✓			Sample ID's affected:
11	Number of containers received match number indicated on COC?	✓			Sample ID's affected:
12	Are sample containers identifiable as GEL provided?			✓	
13	COC form is properly signed in relinquished/received sections?	✓			

Comments (Use Continuation Form if needed):

PM (or PMA) review: Initials CLS Date 6/15/17 Page 1 of 1

GL-CHL-SR-001 Rev 5

Data Review Qualifier Definitions

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

Report Date: 26−JUN−17

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 26 June 2017

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	LA170010
Maryland	270
Massachusetts	M−SC012
Michigan	9976
Mississippi	SC00012
Nebraska	NE−OS−26−13
Nevada	SC000122017−1
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	T104704235−17−12
Utah NELAP	SC000122017−22
Vermont	VT87156
Virginia NELAP	460202
Washington	C780
West Virginia	997404

FID Diesel Range Organics Analysis

Case Narrative

Diesel Range Organics
Technical Case Narrative
CH2MHill Plateau Remediation Company (CPRC)
SDG #: GEL425388
Work Order #: 425388

Product: **Analysis of Diesel Range Organics by Flame Ionization Detector**
Analytical Method: NWTPH-Dx
Analytical Procedure: GL-OA-E-003 REV# 29
Analytical Batch: 1675332

Preparation Method: SW846 3535A
Preparation Procedure: GL-OA-E-013 REV# 31
Preparation Batch: 1675331

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

GEL Sample ID#	Client Sample Identification
425388007	B39M73
425388008	B39M74
1203814479	Method Blank (MB)
1203814480	Laboratory Control Sample (LCS)
1203814481	425388007(B39M73) Matrix Spike (MS)
1203814482	425388007(B39M73) Matrix Spike Duplicate (MSD)

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.

Quality Control (QC) Information

Surrogate Recoveries
Samples (See Below) did not meet CPRC specified limits (60-140%). However, the recoveries were within the lab's statistically derived limits.

Sample	Analyte	Value
425388008 (B39M74)	o-Terphenyl	58* (60%-140%)

Laboratory Control Sample (LCS/LCSD) Recovery
Samples (See Below) did not meet CPRC specified limits (70-130%). However, the recoveries were within the lab's statistically derived limits.

Sample	Analyte	Value
1203814480 (LCS)	Diesel Range Organics	68* (70%-130%)

Matrix Spike (MS/MSD) Recovery Statement
The MS (See Below) did not meet spike recovery acceptance limits due to isolated extraction efficiency issue.

Sample	Analyte	Value
1203814481 (B39M73MS)	Diesel Range Organics	45* (70%-130%)

MS/MSD Relative Percent Difference (RPD) Statement
The MS/MSD did not meet the RPD acceptance limits due to the large differences between the MS and MSD recoveries.

Sample	Analyte	Value
1203814481MS and 1203814482MSD (B39M73)	Diesel Range Organics	36* (0%-20%)

Miscellaneous Information

Manual Integrations
Samples 1203814480 (LCS), 1203814481 (B39M73MS), 425388007 (B39M73) and 425388008 (B39M74) required manual integration to correctly position the baseline as set in the calibration standard injections.

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.

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

Qualifier Definition Report
for

CPRC001 CH2MHill Plateau Remediation Company

Client SDG: GEL425388 GEL Work Order: 425388

The Qualifiers in this report are defined as follows:

T Spike and/or spike duplicate 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.

DL Indicates that sample is diluted.

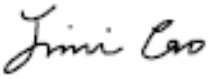
RA Indicates that sample is re-analyzed without re-extraction.

RE Indicates that sample is re-extracted.

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:  **Name: Jimin Cao**

Date: 10 JUL 2017 **Title: Data Validator**

Sample Data Summary

FID Diesel Range Organics
Certificate of Analysis
Sample Summary

SDG Number:	**GEL425388**	**Date Collected:**	**06/13/2017 10:18**	**Matrix:**	**WATER**
Lab Sample ID:	**425388007**	**Date Received:**	**06/14/2017 09:20**		
		Client:	**CPRC001**	**Project:**	**CPRC0I17008**
Client ID:	**B39M73**	**Method:**	**NWTPH-Dx**	**SOP Ref:**	**GL-OA-E-003**
Batch ID:	**1675332**	**Inst:**	**FID7.I**	**Dilution:**	**1**
Run Date:	**06/20/2017 19:50**	**Analyst:**	**LXA1**	**Inj. Vol:**	**1 uL**
Prep Date:	**06/20/2017 09:35**	**Aliquot:**	**1000 mL**	**Final Volume:**	**1 mL**
Data File:	**061917-KERO-MO\f7F1947.D**	**Column:**	**DB-5ms**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
68334-30-5	Diesel Range Organics	T	695	ug/L	50.0	200

FID Diesel Range Organics
Certificate of Analysis
Sample Summary

SDG Number:	**GEL425388**	**Date Collected:**	**06/13/2017 10:18**	**Matrix:**	**WATER**
Lab Sample ID:	**425388008**	**Date Received:**	**06/14/2017 09:20**		
		Client:	**CPRC001**	**Project:**	**CPRC0I17008**
Client ID:	**B39M74**	**Method:**	**NWTPH-Dx**	**SOP Ref:**	**GL-OA-E-003**
Batch ID:	**1675332**	**Inst:**	**FID7.I**	**Dilution:**	**1**
Run Date:	**06/20/2017 21:48**	**Analyst:**	**LXA1**	**Inj. Vol:**	**1 uL**
Prep Date:	**06/20/2017 09:35**	**Aliquot:**	**1000 mL**	**Final Volume:**	**1 mL**
Data File:	**061917-KERO-MO\f7F1950.D**	**Column:**	**DB-5ms**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
68334-30-5	Diesel Range Organics	T	547	ug/L	50.0	200

Quality Control Summary

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

QC Summary

Report Date: June 22, 2017

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

Contact: **Mr. Scot Fitzgerald**

Workorder: **425388**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Diesel Range Organics											
Batch 1675332											
QC1203814480 LCS											
Diesel Range Organics	2000				1360	ug/L		68*	(70%-130%)	LXA1	06/20/17 19:11
**o-Terphenyl	20.0				15.0	ug/L		75	(60%-140%)		
QC1203814479 MB											
Diesel Range Organics				U	50.0	ug/L					06/20/17 18:31
**o-Terphenyl	20.0				13.8	ug/L		69	(60%-140%)		
QC1203814481 425388007 MS											
Diesel Range Organics	2000	T	695	T	1600	ug/L		45*	(70%-130%)		06/20/17 20:29
**o-Terphenyl	20.0		13.8		13.3	ug/L		67	(60%-140%)		
QC1203814482 425388007 MSD											
Diesel Range Organics	2000	T	695		2290	ug/L	36*	80	(0%-20%)		06/20/17 21:08
**o-Terphenyl	20.0		13.8		15.9	ug/L		79	(60%-140%)		

Notes:

The Qualifiers in this report are defined as follows:

- A The TIC is a suspected aldol-condensation product
- B The analyte was detected in both the associated QC blank and in the sample.
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of sample.
- E Concentration exceeds the calibration range of the instrument
- 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
- N Spike Sample recovery is outside control limits.
- P Aroclor target analyte with greater than 25% difference between column analyses.

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QC Summary

Workorder: **425388**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time

T Spike and/or spike duplicate 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

o Analyte failed to recover within LCS limits (0rganics only)

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.

Surrogate Recovery Report

SDG Number: GEL425388

Matrix Type: LIQUID

Sample ID	Client ID	OTP %REC
1203814479	MB for batch 1675331	69
1203814480	LCS for batch 1675331	75
425388007	B39M73	69
1203814481	B39M73MS	67
1203814482	B39M73MSD	79
425388008	B39M74	58 *

Surrogate		Acceptance Limits
OTP	= o-Terphenyl	(60%-140%)

* Recovery outside Acceptance Limits
# Column to be used to flag recovery values
D Sample Diluted

General Chem Analysis

Case Narrative

General Chemistry
Technical Case Narrative
CH2MHill Plateau Remediation Company (CPRC)
SDG #: GEL425388
Work Order #: 425388

Product: **Ion Chromatography**
Analytical Method: 9056_ANIONS_IC
Analytical Procedure: GL-GC-E-086 REV# 25
Analytical Batch: 1673906

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

GEL Sample ID#	Client Sample Identification
425388001	B39M75
425388002	B39M76
425388003	B39M83
425388004	B39M89
425388005	B39MX4
425388006	B39MX5
1203811168	Method Blank (MB)
1203811169	Laboratory Control Sample (LCS)
1203811170	425388006(B39MX5) Sample Duplicate (DUP)
1203811171	425388006(B39MX5) 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.

Technical Information

Sample Dilutions
The following samples 425388001 (B39M75), 425388002 (B39M76) and 425388003 (B39M83) were diluted because target analyte concentrations exceeded the calibration range. Dilutions may be required for many reasons, including to minimize matrix interferences or to bring over range target analyte concentrations into the linear calibration range.

Analyte	425388		
	001	002	003
Sulfate	2X	2X	2X

Miscellaneous Information

Manual Integrations
Samples 425388001 (B39M75), 425388002 (B39M76), 425388003 (B39M83) and 425388004 (B39M89) were manually integrated to correctly position the baseline as set in the calibration standards.

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.

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Qualifier Definition Report
for

CPRC001 CH2MHill Plateau Remediation Company

Client SDG: GEL425388 GEL Work Order: 425388

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).

D Results are reported from a diluted aliquot of sample.

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: 26 JUN 2017 **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: June 26, 2017

Company : CH2MHill Plateau Remediation Company
Address : MSIN R3-50 CHPRC
PO Box 1600
Richland, Washington 99352
Contact: Mr. Scot Fitzgerald
Project: CHPRC SAF I17-008

Client Sample ID: B39M75
Sample ID: 425388001
Matrix: WATER
Collect Date: 13-JUN-17 10:18
Receive Date: 14-JUN-17
Collector: Client

Project: CPRC0I17008
Client ID: CPRC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
9056_ANIONS_IC: COMMON "As Received"												
Chloride		1400	67.0	200	ug/L		1	MXL2	06/14/17	1154	1673906	1
Fluoride	B	83.9	33.0	500	ug/L		1					
Nitrate-N		744	33.0	250	ug/L		1					
Nitrite-N	U	33.0	33.0	250	ug/L		1					
Sulfate	D	28200	266	800	ug/L		2	MXL2	06/14/17	1649	1673906	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	9056_ANIONS_IC	
2	9056_ANIONS_IC	

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: June 26, 2017

Company : CH2MHill Plateau Remediation Company
Address : MSIN R3-50 CHPRC
PO Box 1600
Richland, Washington 99352
Contact: Mr. Scot Fitzgerald
Project: CHPRC SAF I17-008

Client Sample ID: B39M76
Sample ID: 425388002
Matrix: WATER
Collect Date: 13-JUN-17 10:18
Receive Date: 14-JUN-17
Collector: Client

Project: CPRC0I17008
Client ID: CPRC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
9056_ANIONS_IC: COMMON "As Received"												
Chloride		1350	67.0	200	ug/L		1	MXL2	06/14/17	1224	1673906	1
Fluoride	B	81.0	33.0	500	ug/L		1					
Nitrate-N		741	33.0	250	ug/L		1					
Nitrite-N	U	33.0	33.0	250	ug/L		1					
Sulfate	D	28000	266	800	ug/L		2	MXL2	06/14/17	1718	1673906	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	9056_ANIONS_IC	
2	9056_ANIONS_IC	

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: June 26, 2017

Company : CH2MHill Plateau Remediation Company
Address : MSIN R3-50 CHPRC
PO Box 1600
Richland, Washington 99352
Contact: Mr. Scot Fitzgerald
Project: CHPRC SAF I17-008

Client Sample ID: B39M83
Sample ID: 425388003
Matrix: WATER
Collect Date: 13-JUN-17 11:17
Receive Date: 14-JUN-17
Collector: Client

Project: CPRC0I17008
Client ID: CPRC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
9056_ANIONS_IC: COMMON "As Received"												
Chloride		2060	67.0	200	ug/L		1	MXL2	06/14/17	1253	1673906	1
Fluoride	B	125	33.0	500	ug/L		1					
Nitrate-N		2150	33.0	250	ug/L		1					
Nitrite-N	U	33.0	33.0	250	ug/L		1					
Sulfate	D	30800	266	800	ug/L		2	MXL2	06/14/17	1747	1673906	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	9056_ANIONS_IC	
2	9056_ANIONS_IC	

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: June 26, 2017

Company : CH2MHill Plateau Remediation Company
Address : MSIN R3-50 CHPRC
PO Box 1600
Richland, Washington 99352
Contact: Mr. Scot Fitzgerald
Project: CHPRC SAF I17-008

Client Sample ID: B39M89
Sample ID: 425388004
Matrix: WATER
Collect Date: 13-JUN-17 12:05
Receive Date: 14-JUN-17
Collector: Client

Project: CPRC0I17008
Client ID: CPRC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
9056_ANIONS_IC: COMMON "As Received"												
Chloride		983	67.0	200	ug/L		1	MXL2	06/14/17	1323	1673906	1
Fluoride	B	122	33.0	500	ug/L		1					
Nitrate-N	B	249	33.0	250	ug/L		1					
Nitrite-N	U	33.0	33.0	250	ug/L		1					
Sulfate		7300	133	500	ug/L		1					

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	9056_ANIONS_IC	

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: June 26, 2017

Company : CH2MHill Plateau Remediation Company
Address : MSIN R3-50 CHPRC
PO Box 1600
Richland, Washington 99352
Contact: Mr. Scot Fitzgerald
Project: CHPRC SAF I17-008

Client Sample ID: B39MX4
Sample ID: 425388005
Matrix: WATER
Collect Date: 13-JUN-17 08:00
Receive Date: 14-JUN-17
Collector: Client

Project: CPRC0I17008
Client ID: CPRC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
9056_ANIONS_IC: COMMON "As Received"												
Chloride	B	128	67.0	200	ug/L		1	MXL2	06/14/17	1352	1673906	1
Fluoride	U	33.0	33.0	500	ug/L		1					
Nitrate-N	U	33.0	33.0	250	ug/L		1					
Nitrite-N	U	33.0	33.0	250	ug/L		1					
Sulfate	U	133	133	500	ug/L		1					

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	9056_ANIONS_IC	

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: June 26, 2017

Company : CH2MHill Plateau Remediation Company
Address : MSIN R3-50 CHPRC
PO Box 1600
Richland, Washington 99352
Contact: Mr. Scot Fitzgerald
Project: CHPRC SAF I17-008

Client Sample ID: B39MX5
Sample ID: 425388006
Matrix: WATER
Collect Date: 13-JUN-17 09:23
Receive Date: 14-JUN-17
Collector: Client

Project: CPRC0I17008
Client ID: CPRC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
9056_ANIONS_IC: COMMON "As Received"												
Chloride		1000	67.0	200	ug/L		1	MXL2	06/14/17	1421	1673906	1
Fluoride	B	90.6	33.0	500	ug/L		1					
Nitrate-N		275	33.0	250	ug/L		1					
Nitrite-N	U	33.0	33.0	250	ug/L		1					
Sulfate		7610	133	500	ug/L		1					

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	9056_ANIONS_IC	

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: June 26, 2017

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

Contact: **Mr. Scot Fitzgerald**

Workorder: **425388**

Parmname	NOM		Sample	Qual	QC	Units	RPD%		REC%	Range	Anlst	Date	Time
Ion Chromatography													
Batch 1673906													
QC1203811170 425388006 DUP													
Chloride			1000		999	ug/L	0.509	^		(+/-200)	MXL2	06/14/17	14:51
Fluoride		B	90.6	B	93.4	ug/L	3.04	^		(+/-500)			
Nitrate-N			275		275	ug/L	0.0364	^		(+/-250)			
Nitrite-N		U	33.0	U	33.0	ug/L	N/A						
Sulfate			7610		7580	ug/L	0.338			(0%-20%)			
QC1203811169 LCS													
Chloride	5000				4630	ug/L			92.7	(80%-120%)		06/14/17	11:25
Fluoride	2500				2370	ug/L			94.8	(80%-120%)			
Nitrate-N	2500				2350	ug/L			93.8	(80%-120%)			
Nitrite-N	2500				2400	ug/L			96.1	(80%-120%)			
Sulfate	10000				9620	ug/L			96.2	(80%-120%)			
QC1203811168 MB													
Chloride				U	67.0	ug/L						06/14/17	10:56
Fluoride				U	33.0	ug/L							
Nitrate-N				U	33.0	ug/L							

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Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Ion Chromatography											
Batch 1673906											
Nitrite-N				U	33.0	ug/L				MXL2	06/14/17 10:56
Sulfate				U	133	ug/L					
QC1203811171 425388006 PS											
Chloride	5.00		1.00		5.60	mg/L		92	(75%-125%)		06/14/17 15:20
Fluoride	2.50	B	0.0906		2.38	mg/L		91.6	(75%-125%)		
Nitrate-N	2.50		0.275		2.56	mg/L		91.6	(75%-125%)		
Nitrite-N	2.50	U	0.00		2.36	mg/L		94.4	(75%-125%)		
Sulfate	10.0		7.61		17.8	mg/L		101	(75%-125%)		

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

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time

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.