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 27, 2017

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

Re: CHPRC SAF W17-006
Work Order: 425498
SDG: GEL425498

Dear Mr. Fitzgerald:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on June 15, 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: W17-006-123, W17-006-124, W17-006-125, W17-006-129, W17-006-134, W17-006-224, W17-006-225 and W17-006-226
Enclosures

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Case Narrative

General Narrative
for
CH2MHill Plateau Remediation Company
CHPRC SAF W17-006
SDG: GEL425498

June 27, 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 15, 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
425498001	B39NY6
425498002	B39NY2
425498003	B39P00
425498004	B39P15
425498005	B39P33
425498006	B3BCV4
425498007	B3BCV0
425498008	B3BCV3
425498009	B3BCV2

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 and Metals.

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 #: GEL425498
Work Order #: 425498

Metals

Determination of Metals by ICP-MS

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.

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 sample 425498001 (B39NY6) was diluted because target analyte concentrations exceeded the calibration range.

Analyte	425498 001
Chloride	5X
Nitrate	5X
Sulfate	5X

Miscellaneous Information

Manual Integrations
Samples 1203812031 (Non SDG 425500002DUP) and 1203812032 (Non SDG 425500002PS) were manually integrated to correctly position the baseline as set in the calibration standards.

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

Holding Times

Sample (See Below) was analyzed outside of the method specified holding time. The analysis was performed as soon as possible by the analyst. The data is qualified.

Sample	Analyte	Value
1203812121 (B3BCV0PS)	Nitrate and Sulfate	Received 15-JUN-17, within holding, analyzed 16-JUN-17, out of holding 16-JUN-17

Sample (See Below) was initially analyzed within holding; however, the holding time had expired prior to reanalysis of sample. The data is qualified.

Sample	Analyte	Value
1203812121 (B3BCV0PS)	Nitrate and Sulfate	Received 15-JUN-17, within holding, analyzed 16-JUN-17, out of holding 16-JUN-17

Sample Dilutions

The following samples 1203812120 (B3BCV0DUP), 1203812121 (B3BCV0PS), 425498002 (B39NY2), 425498003 (B39P00), 425498004 (B39P15), 425498005 (B39P33) and 425498007 (B3BCV0) were diluted because target analyte concentrations exceeded the calibration range.

Analyte	425498				
	002	003	004	005	007
Chloride	5X	1X	2X	5X	1X
Nitrate	5X	5X	1X	5X	10X
Sulfate	5X	1X	1X	5X	10X

Sample Re-analysis

Sample1203812121 (B3BCV0PS) was reanalyzed due to PS failure. The reanalysis data was reported.

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

425498

C.O.C. # W17-006-123

Page 1 of 1

Collector	Chris Fulton CHPRC	**Contact/Requester**	Karen Waters-Husted	**Telephone No.**	509-376-4650
SAF No.	W17-006	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300071
Project Title	RCRA, JUNE 2017	**Logbook No.**	HNF-N-506 93153	**Ice Chest No.**	926-1417 GWS-578 360
Shipped To (Lab)	GEL Laboratories, LLC	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	7794 04703735
Protocol	RCRA	**Priority:**	30 Days PRIORITY	**Offsite Property No.**	8039

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
B39NY2	N	W	JUN 14 2017	0925	1x125-mL G/P	9056_ANIONS_IC: COMMON	48 Hours	Cool <=6C

July 10, 2017

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Chris Fulton CHPRC			JUN 14 2017 1015	Janelle Zunker CHPRC			JUN 14 2017 1015
Janelle Zunker CHPRC			JUN 14 2017 1400			FEDEX	
			FEDEX	STACY BOONE			6/15/17 9:05

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 5/8/2017 FSR ID = FSR38411 A-6004-842 (REV 2)

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

425498

C.O.C. # **W17-006-124**

Page 1 of 1

Collector	Juan Aguilar /CHPRC	**Contact/Requester**	Karen Waters-Husted	**Telephone No.**	509-376-4650
SAF No.	W17-006	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300071
Project Title	RCRA, JUNE 2017	**Logbook No.**	HNF-N-506 88/79	**Ice Chest No.**	GWS-610
Shipped To (Lab)	GEL Laboratories, LLC	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	779397818328
Protocol	RCRA	**Priority:**	**30 Days** PRIORITY	**Offsite Property No.**	8038

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
B39NY6	N	W	6-13-17	1340	1x125-mL G/P	9056_ANIONS_IC: COMMON	48 Hours	Cool <=6C

July 10, 2017

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Juan Aguilar /CHPRC			JUN 13 2017 1410	SSU-1			JUN 13 2017 1410
SSU-1			JUN 14 2017 0700	Janelle Zunker CHPRC			JUN 14 2017 0700
Janelle Zunker CHPRC			JUN 14 2017 1400			FEDEX	
			Date/Time				Date/Time
			FEDEX	STACY BOONE			6/15/17 9:05

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 5/8/2017 FSR ID = FSR44818 A-6004-842 (REV 2)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST 425498	C.O.C. # W17-006-125 Page 1 of 1

Collector	Chris Fulton CHPRC	**Contact/Requester**	Karen Waters-Husted	**Telephone No.**	509-376-4650
SAF No.	W17-006	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300071
Project Title	RCRA, JUNE 2017	**Logbook No.**	HNF-N-506 93153	**Ice Chest No.**	REC 6/14/17 GWS 578, 560
Shipped To (Lab)	GEL Laboratories, LLC	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	7794 047035135
Protocol	RCRA	**Priority:**	30 Days PRIORITY	**Offsite Property No.**	8039

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
B39P00	N	VM	JUN 14 2017	0957	1x125-mL G/P	9056_ANIONS_IC: COMMON	48 Hours	Cool <=6C

July 10, 2017

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
	Chris Fulton CHPRC		JUN 14 2017 1015		Janelle Zunker CHPRC		JUN 14 2017 1015
Relinquished By	Janelle Zunker CHPRC		JUN 14 2017 1400	Received By		FEDEX	Date/Time
Relinquished By			FED EX	Received By		STACY BOONE	6/15/17 9:05
Relinquished By			Date/Time	Received 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		

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

PRINTED ON 5/8/2017 FSR ID = FSR45040 A-6004-842 (REV 2)

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

425498

C.O.C. # W17-006-129

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Collector	Chris Fulton CHPRC	**Contact/Requester**	Karen Waters-Husted	**Telephone No.**	509-376-4650
SAF No.	W17-006	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300071
Project Title	RCRA, JUNE 2017	**Logbook No.**	HNF-N-506 93153	**Ice Chest No.**	GWS-560
Shipped To (Lab)	GEL Laboratories, LLC	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	7794 0470 3935
Protocol	RCRA	**Priority:**	**30 Days** PRIORITY	**Offsite Property No.**	8039

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
B39P15	N	W	JUN 14 2017	1230	1x125-mL G/P	9056_ANIONS_IC: COMMON	48 Hours	Cool <=6C

July 10, 2017

Relinquished By: Chris Fulton CHPRC — Print / Sign — Date/Time: JUN 14 2017 1342	Received By: Janelle Zunker CHPRC — Print / Sign — Date/Time: JUN 14 2017 1342	Matrix *	
Relinquished By: Janelle Zunker CHPRC — Date/Time: JUN 14 2017 1400	Received By: FEDEX — Date/Time	S = Soil; SE = Sediment; SO = Solid; SL = Sludge; W = Water; O = Oil; A = Air	DS = Drum Solids; DL = Drum Liquids; T = Tissue; WI = Wipe; L = Liquid; V = Vegetation; X = Other
Relinquished By: ECO EK — Date/Time	Received By: Stacy Brown C — Date/Time: 6/15/17 9:05		
Relinquished By — Date/Time	Received By — Date/Time		

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

PRINTED ON 5/8/2017 — FSR ID = FSR31677 — A-6004-842 (REV 2)

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

425498

C.O.C. # W17-006-134

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Collector	Chris Fulton CHPRC	**Contact/Requester**	Karen Waters-Husted	**Telephone No.**	509-376-4650
SAF No.	W17-006	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300071
Project Title	RCRA, JUNE 2017	**Logbook No.**	HNF-N-506 93 / 53	**Ice Chest No.**	9260417 GWS-578 560
Shipped To (Lab)	GEL Laboratories, LLC	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	7794 0470 3935
Protocol	RCRA	**Priority:**	30 Days **PRIORITY**	**Offsite Property No.**	8039

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
B39P33	N	W	JUN 14 2017	1108	1x125-mL G/P	9056_ANIONS_IC: COMMON	48 Hours	Cool <=6C

July 10, 2017

Relinquished By	Chris Fulton CHPRC	Print / Sign	Date/Time JUN 14 2017 1149	Received By	Troy Bacon CHPRC	Troy L. Bacon	Date/Time JUN 14 2017 1149
Relinquished By	Troy Bacon CHPRC	Troy L. Bacon	Date/Time JUN 14 2017 1400	Received By	FEDEX		Date/Time
Relinquished By			Date/Time FEDEX	Received By	Stacy Boone		Date/Time 6/15/17 9:05
Relinquished By			Date/Time	Received 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	

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

PRINTED ON 5/8/2017 **FSR ID = FSR45034** A-6004-842 (REV 2)

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

425498

C.O.C. # W17-006-225

Page 1 of 1

Collector	Roger Friesz Jr. /CHPRC	**Contact/Requester**	Karen Waters-Husted	**Telephone No.**	509-376-4650
SAF No.	W17-006	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300071
Project Title	RCRA, JUNE 2017	**Logbook No.**	HNF-N-506 88181	**Ice Chest No.**	926427 GWS 578 5760
Shipped To (Lab)	GEL Laboratories, LLC	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	7794 0470 3935
Protocol	RCRA	**Priority:**	30 Days **PRIORITY**	**Offsite Property No.**	8039

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
B3BCV4	N	W	6-14-17	1014	1x125-mL G/P	9056_ANIONS_IC: COMMON	48 Hours	Cool <=6C

July 10, 2017

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
	Roger Friesz Jr. /CHPRC		JUN 14 2017/1047		Janelle Zunker CHPRC		JUN 14 2017 / 1047
Relinquished By	Janelle Zunker CHPRC		JUN 14 2017 1400	Received By	FEDEX		Date/Time
Relinquished By			Date/Time FED EX	Received By	STACY BOONT		Date/Time 6/15/17 9:05
Relinquished By			Date/Time	Received 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		

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

PRINTED ON 6/12/2017 FSR ID = FSR26535 A-6004-842 (REV 2)

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CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

425498

C.O.C. # W17-006-226

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Collector	Roger Friesz Jr. /CHPRC	**Contact/Requester**	Karen Waters-Husted	**Telephone No.**	509-376-4650
SAF No.	W17-006	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300071
Project Title	RCRA, JUNE 2017	**Logbook No.**	HNF-N-506 88181	**Ice Chest No.**	GWS 5478-560
Shipped To (Lab)	GEL Laboratories, LLC	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	7794 04703935
Protocol	RCRA	**Priority:**	30 Days **PRIORITY**	**Offsite Property No.**	8039

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
B3BCV0	N	W	6-14-17	1106	1x125-mL G/P	9056_ANIONS_IC: COMMON	48 Hours	Cool <=6C

July 10, 2017

Relinquished By	Print / Sign	Date/Time	Received By	Print / Sign	Date/Time
	Roger Friesz Jr. /CHPRC	JUN 14 2017 1200		Lesly Wall /CHPRC	JUN 14 2017 1200
Relinquished By	Lesly Wall /CHPRC	JUN 14 2017 1400	Received By	FEDEX	
Relinquished By		FEDEX	Received By	STACY BOONT	6-15-17 9:05
Relinquished By		Date/Time	Received 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		

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

PRINTED ON 6/12/2017

FSR ID = FSR44209

A-6004-842 (REV 2)

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

425498

C.O.C. # W17-006-224

Page 1 of 1

Collector	Roger Friesz Jr. /CHPRC	**Contact/Requester**	Karen Waters-Husted	**Telephone No.**	509-376-4650
SAF No.	W17-006	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300071
Project Title	RCRA, JUNE 2017	**Logbook No.**	HNF-N-506 88/81	**Ice Chest No.**	PC 6-1417 GWS-578 560
Shipped To (Lab)	GEL Laboratories, LLC	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	7794 0470 3935
Protocol	RCRA	**Priority:**	30 Days **PRIORITY**	**Offsite Property No.**	8039

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
B3BCV3	N	W	6-14-17	1014	1x500-mL G/P	6020_METALS_ICPMS: Chromium (1)	6 Months	HNO3 to pH <2
B3BCV2	Y	W	6-14-17	1014	1x500-mL G/P	6020_METALS_ICPMS: Chromium (1)	6 Months	HNO3 to pH <2

Relinquished By	Print / Sign	Date/Time	Received By	Print / Sign	Date/Time
Roger Friesz Jr. /CHPRC		JUN 14 2017 1042	Janelle Zunker CHPRC		JUN 14 2017 1047
Janelle Zunker CHPRC		JUN 14 2017 1400		FEDEX	
		FEDEX		STACY BOONE	6/15/17 9:05

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 6/12/2017 FSR ID = FSR26535 A-6004-842 (REV 2)

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: CPRC	SDG/AR/COC/Work Order: 425498
Received By: Stacy Boone	Date Received: 6-15-17
Carrier and Tracking Number	Circle Applicable: FedEx Express FedEx Ground UPS Field Services Courier Other 7794 0470 3935 - 1 c 7793 9781 8328 1 c 7794 0471 3579 - 1 c

Suspected Hazard Information	Yes	No	*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
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:

	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 DS Date 6/16/17 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: 27−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 27 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

Metals Analysis

Case Narrative

Metals
Technical Case Narrative
CH2MHill Plateau Remediation Company (CPRC)
SDG #: GEL425498
Work Order #: 425498

Product: **Determination of Metals by ICP-MS**
Analytical Method: SW846 3005A/6020B
Analytical Procedure: GL-MA-E-014 REV# 29
Analytical Batch: 1674484

Preparation Method: SW846 3005A
Preparation Procedure: GL-MA-E-006 REV# 13
Preparation Batch: 1674483

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

GEL Sample ID#	Client Sample Identification
425498008	B3BCV3
425498009	B3BCV2
1203812472	Method Blank (MB)**ICP-MS**
1203812473	Laboratory Control Sample (LCS)
1203812476	425498008(B3BCV3L) Serial Dilution (SD)
1203812474	425498008(B3BCV3S) Matrix Spike (MS)
1203812475	425498008(B3BCV3SD) 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.

Calibration Information

ICSA/ICSAB Statement
For the ICP-MS analysis, the ICSA solution contains analyte concentrations which are verified trace impurities indigenous to the purchased standard.

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: GEL425498 GEL Work Order: 425498

The Qualifiers in this report are defined as follows:

* Duplicate analysis not within control limits
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:  **Name: Nik-Cole Elmore**

Date: 28 JUN 2017 **Title: Data Validator**

Sample Data Summary

METALS
−1−
INORGANICS ANALYSIS DATA PACKAGE

SDG No: GEL425498 **CONTRACT:** CPRC0W17006 **METHOD TYPE:** SW846

SAMPLE ID: 425498008 **BASIS:** As Received **DATE COLLECTED** 14−JUN−17

CLIENT ID: B3BCV3 **LEVEL:** Low **DATE RECEIVED** 15−JUN−17

MATRIX: WATER **%SOLIDS:** 0

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440−47−3	Chromium	3	ug/L	U	3	10	10	1	MS	SKJ	06/20/17 01:06	170619−1	1674484

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
1674484	1674483	SW846 3005A	50	mL	50	mL	06/16/17	SXW1

***Analytical Methods:**

MS **SW846 3005A/6020B**

METALS
−1−
INORGANICS ANALYSIS DATA PACKAGE

SDG No: GEL425498 **CONTRACT:** CPRC0W17006 **METHOD TYPE:** SW846

SAMPLE ID: 425498009 **BASIS:** As Received **DATE COLLECTED** 14−JUN−17

CLIENT ID: B3BCV2 **LEVEL:** Low **DATE RECEIVED** 15−JUN−17

MATRIX: WATER **%SOLIDS:** 0

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440−47−3	Chromium	3	ug/L	U	3	10	10	1	MS	SKJ	06/20/17 01:26	170619−1	1674484

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
1674484	1674483	SW846 3005A	50	mL	50	mL	06/16/17	SXW1

***Analytical Methods:**

MS **SW846 3005A/6020B**

Quality Control Summary

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

QC Summary

Report Date: June 28, 2017

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

Contact: **Mr. Scot Fitzgerald**

Workorder: **425498**

Parmname			NOM		Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Metals Analysis - ICPMS														
Batch 1674484														
QC1203812473	LCS													
Chromium			50.0				50.3	ug/L		101	(80%-120%)	SKJ	06/20/17	01:02
QC1203812472	MB													
Chromium						U	3.00	ug/L					06/20/17	00:58
QC1203812474	425498008	MS												
Chromium			50.0	U	3.00		51.5	ug/L		98.7	(75%-125%)		06/20/17	01:10
QC1203812475	425498008	MSD												
Chromium			50.0	U	3.00		51.2	ug/L	0.423	98.2	(0%-20%)		06/20/17	01:14
QC1203812476	425498008	SDILT												
Chromium				U	2.13	DU	15.0	ug/L	N/A		(0%-20%)		06/20/17	01:22

Notes:

The Qualifiers in this report are defined as follows:

- * Duplicate analysis not within control limits
- + Correlation coefficient for Method of Standard Additions (MSA) is < 0.995
- 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.
- E Reported value is estimated due to interferences. See comment in narrative.
- M Duplicate precision not met.
- N Spike Sample recovery is outside control limits.
- S Reported value determined by the Method of Standard Additions (MSA)
- U Analyzed for but not detected above limiting criteria. Includes MDL, MDA, PQL, zero, counting error, and total analytical error.
- W Post-digestion spike recovery for GFAA out of control limit. Sample absorbency < 50% of spike absorbency.
- 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

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QC Summary

Workorder: **425498**

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

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.

General Chem Analysis

Case Narrative

General Chemistry
Technical Case Narrative
CH2MHill Plateau Remediation Company (CPRC)
SDG #: GEL425498
Work Order #: 425498

Product: **Ion Chromatography**
Analytical Method: 9056_ANIONS_IC
Analytical Procedure: GL-GC-E-086 REV# 25
Analytical Batches: 1674284 and 1674333

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

GEL Sample ID#	Client Sample Identification
425498001	B39NY6
425498002	B39NY2
425498003	B39P00
425498004	B39P15
425498005	B39P33
425498006	B3BCV4
425498007	B3BCV0
1203812029	Method Blank (MB)
1203812030	Laboratory Control Sample (LCS)
1203812031	425500002(NonSDG) Sample Duplicate (DUP)
1203812032	425500002(NonSDG) Post Spike (PS)
1203812118	Method Blank (MB)
1203812119	Laboratory Control Sample (LCS)
1203812120	425498007(B3BCV0) Sample Duplicate (DUP)
1203812121	425498007(B3BCV0) 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

Holding Times
Sample (See Below) was analyzed outside of the method specified holding time. The analysis was performed as soon as possible by the analyst. The data is qualified.

Sample	Analyte	Value
1203812121 (B3BCV0PS)	Nitrate and Sulfate	Received 15-JUN-17, within holding, analyzed 16-JUN-17, out of holding 16-JUN-17

Sample (See Below) was initially analyzed within holding; however, the holding time had expired prior to reanalysis

of sample. The data is qualified.

Sample	Analyte	Value
1203812121 (B3BCV0PS)	Nitrate and Sulfate	Received 15-JUN-17, within holding, analyzed 16-JUN-17, out of holding 16-JUN-17

Sample Dilutions
The following samples 425498001 (B39NY6), 1203812120 (B3BCV0DUP), 1203812121 (B3BCV0PS), 425498002 (B39NY2), 425498003 (B39P00), 425498004 (B39P15), 425498005 (B39P33) and 425498007 (B3BCV0) 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	425498					
	001	002	003	004	005	007
Several	5X 1X	5X 1X	5X 1X	2X 1X	5X 1X	10X 1X

Sample Re-analysis
Sample1203812121 (B3BCV0PS) was reanalyzed due to PS failure. The reanalysis data was reported.

Miscellaneous Information

Manual Integrations
Samples 1203812031 (Non SDG 425500002DUP) and 1203812032 (Non SDG 425500002PS) 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.

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: GEL425498 GEL Work Order: 425498

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.

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

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: Aubrey Kingsbury**

Date: 27 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 27, 2017

Company : CH2MHill Plateau Remediation Company
Address : MSIN R3-50 CHPRC
PO Box 1600
Richland, Washington 99352
Contact: Mr. Scot Fitzgerald
Project: CHPRC SAF W17-006

Client Sample ID: B39NY6
Sample ID: 425498001
Matrix: WATER
Collect Date: 13-JUN-17 13:40
Receive Date: 15-JUN-17
Collector: Client

Project: CPRC0W17006
Client ID: CPRC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
9056_ANIONS_IC: COMMON "As Received"												
Fluoride	B	400	33.0	500	ug/L		1	MXL2	06/15/17	1025	1674284	1
Nitrite-N	U	33.0	33.0	250	ug/L		1					
Chloride	D	19900	335	1000	ug/L		5	MXL2	06/15/17	1249	1674284	2
Nitrate-N	D	16700	165	500	ug/L		5					
Sulfate	D	35000	665	2000	ug/L		5					

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 27, 2017

Company : CH2MHill Plateau Remediation Company
Address : MSIN R3-50 CHPRC
PO Box 1600
Richland, Washington 99352
Contact: Mr. Scot Fitzgerald
Project: CHPRC SAF W17-006

Client Sample ID: B39NY2
Sample ID: 425498002
Matrix: WATER
Collect Date: 14-JUN-17 09:25
Receive Date: 15-JUN-17
Collector: Client

Project: CPRC0W17006
Client ID: CPRC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
9056_ANIONS_IC: COMMON "As Received"												
Fluoride	B	401	33.0	500	ug/L		1	MXL2	06/15/17	1353	1674333	1
Nitrite-N	U	33.0	33.0	250	ug/L		1					
Chloride	D	9050	335	1000	ug/L		5	MXL2	06/15/17	1945	1674333	2
Nitrate-N	D	9160	165	500	ug/L		5					
Sulfate	D	19300	665	2000	ug/L		5					

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 27, 2017

Company : CH2MHill Plateau Remediation Company
Address : MSIN R3-50 CHPRC
PO Box 1600
Richland, Washington 99352
Contact: Mr. Scot Fitzgerald
Project: CHPRC SAF W17-006

Client Sample ID: B39P00
Sample ID: 425498003
Matrix: WATER
Collect Date: 14-JUN-17 09:57
Receive Date: 15-JUN-17
Collector: Client

Project: CPRC0W17006
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		8620	67.0	200	ug/L		1	MXL2	06/15/17	1422	1674333	1
Fluoride	B	452	33.0	500	ug/L		1					
Nitrite-N	U	33.0	33.0	250	ug/L		1					
Sulfate		18500	133	500	ug/L		1					
Nitrate-N	D	13300	165	500	ug/L		5	MXL2	06/15/17	2015	1674333	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 27, 2017

Company : CH2MHill Plateau Remediation Company
Address : MSIN R3-50 CHPRC
PO Box 1600
Richland, Washington 99352
Contact: Mr. Scot Fitzgerald
Project: CHPRC SAF W17-006

Client Sample ID: B39P15
Sample ID: 425498004
Matrix: WATER
Collect Date: 14-JUN-17 12:30
Receive Date: 15-JUN-17
Collector: Client

Project: CPRC0W17006
Client ID: CPRC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
9056_ANIONS_IC: COMMON "As Received"												
Fluoride	B	364	33.0	500	ug/L		1	MXL2	06/15/17	1452	1674333	1
Nitrate-N		2380	33.0	250	ug/L		1					
Nitrite-N	U	33.0	33.0	250	ug/L		1					
Sulfate		19200	133	500	ug/L		1					
Chloride	D	9570	134	400	ug/L		2	MXL2	06/15/17	2044	1674333	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 27, 2017

Company : CH2MHill Plateau Remediation Company
Address : MSIN R3-50 CHPRC
PO Box 1600
Richland, Washington 99352
Contact: Mr. Scot Fitzgerald
Project: CHPRC SAF W17-006

Client Sample ID: B39P33
Sample ID: 425498005
Matrix: WATER
Collect Date: 14-JUN-17 11:08
Receive Date: 15-JUN-17
Collector: Client

Project: CPRC0W17006
Client ID: CPRC001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
9056_ANIONS_IC: COMMON "As Received"												
Fluoride	B	352	33.0	500	ug/L		1	MXL2	06/15/17	1521	1674333	1
Nitrite-N	U	33.0	33.0	250	ug/L		1					
Chloride	D	10600	335	1000	ug/L		5	MXL2	06/15/17	2114	1674333	2
Nitrate-N	D	8950	165	500	ug/L		5					
Sulfate	D	19700	665	2000	ug/L		5					

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 27, 2017

Company : CH2MHill Plateau Remediation Company
Address : MSIN R3-50 CHPRC
PO Box 1600
Richland, Washington 99352
Contact: Mr. Scot Fitzgerald
Project: CHPRC SAF W17-006

Client Sample ID: B3BCV4
Sample ID: 425498006
Matrix: WATER
Collect Date: 14-JUN-17 10:14
Receive Date: 15-JUN-17
Collector: Client

Project: CPRC0W17006
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		2400	67.0	200	ug/L		1	MXL2	06/15/17	1551	1674333	1
Fluoride	B	184	33.0	500	ug/L		1					
Nitrate-N		2360	33.0	250	ug/L		1					
Nitrite-N	U	33.0	33.0	250	ug/L		1					
Sulfate		18300	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 27, 2017

Company : CH2MHill Plateau Remediation Company
Address : MSIN R3-50 CHPRC
PO Box 1600
Richland, Washington 99352
Contact: Mr. Scot Fitzgerald
Project: CHPRC SAF W17-006

Client Sample ID: B3BCV0
Sample ID: 425498007
Matrix: WATER
Collect Date: 14-JUN-17 11:06
Receive Date: 15-JUN-17
Collector: Client

Project: CPRC0W17006
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		7390	67.0	200	ug/L		1	MXL2	06/15/17	1620	1674333	1
Fluoride	B	190	33.0	500	ug/L		1					
Nitrite-N	U	33.0	33.0	250	ug/L		1					
Nitrate-N	D	12900	330	1000	ug/L		10	MXL2	06/15/17	2143	1674333	2
Sulfate	D	68400	1330	4000	ug/L		10					

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

Quality Control Summary

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

QC Summary

Report Date: June 27, 2017

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

Contact: **Mr. Scot Fitzgerald**

Workorder: **425498**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Ion Chromatography												
Batch 1674284												
QC1203812031 425500002 DUP												
Chloride			5000		5000	ug/L	0.026		(0%-20%)	MXL2	06/15/17	11:51
Fluoride		B	47.5	B	50.0	ug/L	5.13 ^		(+/-500)			
Nitrate-N			598		601	ug/L	0.6 ^		(+/-250)			
Nitrite-N		U	33.0	U	33.0	ug/L	N/A					
Sulfate			8870		8890	ug/L	0.262		(0%-20%)			
QC1203812030 LCS												
Chloride	5000				4810	ug/L		96.1	(80%-120%)		06/15/17	14:16
Fluoride	2500				2490	ug/L		99.7	(80%-120%)			
Nitrate-N	2500				2460	ug/L		98.3	(80%-120%)			
Nitrite-N	2500				2490	ug/L		99.5	(80%-120%)			
Sulfate	10000				9990	ug/L		99.9	(80%-120%)			
QC1203812029 MB												
Chloride				U	67.0	ug/L					06/15/17	13:47
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 1674284											
Nitrite-N				U	33.0	ug/L				MXL2	06/15/17 13:47
Sulfate				U	133	ug/L					
QC1203812032 425500002 PS											
Chloride	5.00		5.00		10.5	mg/L		109	(75%-125%)		06/15/17 12:20
Fluoride	2.50	B	0.0475		2.46	mg/L		96.4	(75%-125%)		
Nitrate-N	2.50		0.598		3.04	mg/L		97.7	(75%-125%)		
Nitrite-N	2.50	U	0.00		2.44	mg/L		97.5	(75%-125%)		
Sulfate	10.0		8.87		19.5	mg/L		106	(75%-125%)		
Batch 1674333											
QC1203812120 425498007 DUP											
Chloride			7390		7400	ug/L	0.111		(0%-20%)	MXL2	06/15/17 16:49
Fluoride		B	190	B	213	ug/L	11.3 ^		(+/-500)		
Nitrate-N		D	12900	D	13000	ug/L	0.216		(0%-20%)		06/15/17 22:12
Nitrite-N		U	33.0	U	33.0	ug/L	N/A				06/15/17 16:49
Sulfate		D	68400	D	68500	ug/L	0.0877		(0%-20%)		06/15/17 22:12
QC1203812119 LCS											
Chloride	5000				4620	ug/L		92.5	(80%-120%)		06/15/17 18:17
Fluoride	2500				2380	ug/L		95.1	(80%-120%)		

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Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Ion Chromatography											
Batch 1674333											
Nitrate-N	2500				2350	ug/L		94	(80%-120%)	MXL2	06/15/17 18:17
Nitrite-N	2500				2400	ug/L		96.2	(80%-120%)		
Sulfate	10000				9630	ug/L		96.3	(80%-120%)		
QC1203812118 MB											
Chloride				U	67.0	ug/L					06/15/17 17:48
Fluoride				U	33.0	ug/L					
Nitrate-N				U	33.0	ug/L					
Nitrite-N				U	33.0	ug/L					
Sulfate				U	133	ug/L					
QC1203812121 425498007 PS											
Chloride	5.00		7.39		12.8	mg/L		108	(75%-125%)		06/15/17 17:19
Fluoride	2.50	B	0.190		2.50	mg/L		92.6	(75%-125%)		
Nitrate-N	2.50	D	1.29	DX	3.79	mg/L			(75%-125%)		06/16/17 20:44
Nitrite-N	2.50	U	0.00		2.37	mg/L		94.6	(75%-125%)		06/15/17 17:19
Sulfate	10.0	D	6.84	D	17.3	mg/L			(75%-125%)		06/16/17 20:44

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

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

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.