GEL Laboratories LLC
a member of The GEL Group INC

PO Box 30712 Charleston, SC 29417
2040 Savage Road Charleston, SC 29407
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gel.com

July 20, 2017

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

Re: CHPRC SAF S17-006
Work Order: 426288
SDG: GEL426288

Dear Mr. Fitzgerald:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on June 24, 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: S17-006-246, S17-006-265, S17-006-266, S17-006-267 and S17-006-269
Enclosures

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Case Narrative

General Narrative
for
CH2MHill Plateau Remediation Company
CHPRC SAF S17-006
SDG: GEL426288

July 20, 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 24, 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
426288001	B39T11
426288002	B39T14
426288003	B39TL0
426288004	B39TL6
426288005	B39TL1
426288006	B39TL7
426288007	B39TM7
426288008	B39TM4
426288009	B39TP7
426288010	B39TP4

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: GC/MS Semivolatile, Metals and Radiochemistry.

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 #: GEL426288
Work Order #: 426288

GC/MS Semivolatile

Analysis of Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry

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 surrogate recovery acceptance criteria. The client established the limits of 70%-130%. Failures are expected. The data were reported per client request.

Sample	Analyte	Value
1203821143 (MB)	2-Fluorobiphenyl	67* (70%-130%)
	2-Fluorophenol	38* (70%-130%)
	Nitrobenzene-d5	69* (70%-130%)
	Phenol-d5	23* (70%-130%)
1203821144 (LCS)	2-Fluorobiphenyl	68* (70%-130%)
	2-Fluorophenol	37* (70%-130%)
	Phenol-d5	24* (70%-130%)
1203821147 (B39T11MS)	2-Fluorophenol	46* (70%-130%)
	Phenol-d5	35* (70%-130%)
1203821148 (B39T11MSD)	2-Fluorophenol	46* (70%-130%)
	Phenol-d5	36* (70%-130%)
426288001 (B39T11)	2-Fluorophenol	34* (70%-130%)
	Phenol-d5	21* (70%-130%)

Laboratory Control Sample (LCS) Recovery
The LCS and/or LCSD (See Below) spike recoveries were not within the acceptance limits. The client established the limits of 70%-130%. Failures are expected. The data were reported per client request.

Sample	Analyte	Value
1203821144 (LCS)	1,4-Dioxane	44* (70%-130%)

Internal Standard (ISTD) Acceptance
Sample 426288001 (B39T11) failed ISTD acceptance criteria. As the associated MS and MSD displayed similar

responses to the parent sample, the failures were attributed to matrix interference and the data were reported.

Metals

Determination of Metals by ICP

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

CRDL/PQL Requirements
The PQL standard recoveries for SW846 6010C or 6010D met the control limits with the exception of potassium. Client sample concentrations were less than the MDL or greater than two times the PQL; therefore the data were not adversely affected. 426288001 (B39T11), 426288002 (B39T14), 426288003 (B39TL0) and 426288004 (B39TL6).

Quality Control (QC) Information

Method Blank (MB) Statement
The samples in this SDG contained analytes at concentrations more than ten times the negative value reported in the method blank, therefore the data was not adversely affected.

Sample	Analyte	Value
1203818798 (MB)	Sodium	See applicable report

Determination of Metals by ICP

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.

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.

Radiochemistry

I129LL_SEP_LEPS_GS: COMMON (low level)

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.

TC99_EIE_LSC: COMMON

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

QC Information
The sample and the duplicate, 1203822883 (Non SDG 425895002DUP), did not meet the relative percent difference requirement; however, they do meet the relative error ratio requirement with a value of 1.48.

TRITIUM_DIST_LSC: COMMON

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

Miscellaneous Information

Additional Comments
The matrix spike, 1203822935 (B39T65MS), aliquot was reduced to conserve sample volume.

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

4262888

C.O.C. # S17-006-246

Page 1 of 1

Collector	Dave Wight CHPRC	**Contact/Requester**	Karen Waters-Husted	**Telephone No.**	509-376-4650
SAF No.	S17-006	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300071
Project Title	SURV, JUNE 2017	**Logbook No.**	HNF-N-506 93 57	**Ice Chest No.**	GW5585
Shipped To (Lab)	GEL Laboratories, LLC	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	7794 8389 9340
Protocol	SURV	**Priority:**	**30 Days** PRIORITY	**Offsite Property No.**	8089

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
B39T11	N	W	JUN 2 3 2017	1327	1x500-mL G/P	6010_METALS_ICP: COMMON	6 Months	HNO3 to pH <2
B39T11	N	W			4x1-L aG	8270_SVOA_GCMS: 1,4 Dioxane (1)	7/40 Days	Cool <=6C
B39T11	N	W			4x1-L G/P	I129LL_SEP_LEPS_GS_LL: COMMON	6 Months	None
B39T11	N	W			1x500-mL G/P	TC99_EIE_LSC: COMMON	6 Months	HNO3 to pH <2
B39T11	N	W			1x250-mL P	TRITIUM_DIST_LSC: COMMON	6 Months	None
B39T14	Y	W			1x500-mL G/P	6010_METALS_ICP: COMMON	6 Months	HNO3 to pH <2

July 20, 2017

	Print	Sign	Date/Time		Print	Sign	Date/Time
Relinquished By	Dave Wight CHPRC		JUN 2 3 2017 1355	Received By	Troy Bacon CHPRC	Troy L. Bacon	JUN 2 3 2017 1355
Relinquished By	Troy Bacon CHPRC	Troy L. Bacon	JUN 2 3 2017 1400	Received By	FEDEX		
Relinquished By			FED EX	Received By	Christie Gaines	Christie Gaines	6/24/17 8:45am
Relinquished By			FED EX	Received By	Christie Gaines	Christie Gaines	6/24/17 8:45am

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 4/26/2017

FSR ID = FSR44817

A-6004-842 (REV 2)

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

4262888

C.O.C. # S17-006-265

Page 1 of 1

Collector	Dave Wight CHPRC	**Contact/Requester**	Karen Waters-Husted	**Telephone No.**	509-376-4650
SAF No.	S17-006	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300071
Project Title	SURV, JUNE 2017	**Logbook No.**	HNF-N-506 95 159	**Ice Chest No.**	GWS-6014
Shipped To (Lab)	GEL Laboratories, LLC	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	7794 8060 3670
Protocol	SURV	**Priority:**	30 Days **PRIORITY**	**Offsite Property No.**	8088

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
B39TL0	N	W	JUN 2 3 2017	0905	1x500-mL G/P	6020_METALS_ICPMS: GW 01; 6010_METALS_ICP: GW 04	6 Months	HNO3 to pH <2
B39TL0	N	W			4x1-L G/P	I129LL_SEP_LEPS_GS_LL: COMMON	6 Months	None
B39TL0	N	W			1x250-mL P	TRITIUM_DIST_LSC: COMMON	6 Months	None
B39TL6	Y	W	JUN 2 3 2017		1x500-mL G/P	6020_METALS_ICPMS: GW 01; 6010_METALS_ICP: GW 04	6 Months	HNO3 to pH <2

July 20, 2017

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
	Dave Wight CHPRC		JUN 2 3 2017 0910		Janelle Zunker CHPRC		JUN 2 3 2017 0910
Relinquished By	Janelle Zunker CHPRC		Date/Time JUN 2 3 2017 1400	Received By	FEDEX		Date/Time
Relinquished By			Date/Time FEDEX	Received By	Christle Gaines		Date/Time 6/24/17 8:45am
Relinquished By			Date/Time FEDEX	Received By	Christle Gaines		Date/Time 6/24/17 8:45am

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 4/26/2017

FSR ID = FSR44295

A-6004-842 (REV 2)

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

4262888

C.O.C. # S17-006-266

Page 1 of 1

Collector	Dave Wight CHPRC	**Contact/Requester**	Karen Waters-Husted	**Telephone No.**	509-376-4650
SAF No.	S17-006	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300071
Project Title	SURV, JUNE 2017	**Logbook No.**	HNF-N-506 93 / 57	**Ice Chest No.**	GLOS-6164
Shipped To (Lab)	GEL Laboratories, LLC	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	7794 8960 3670
Protocol	SURV	**Priority:**	30 Days **PRIORITY**	**Offsite Property No.**	8088

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
B39TL1	N	W	JUN 2 3 2017	0805	1x500-mL G/P	6020_METALS_ICPMS: GW 01; 6010_METALS_ICP: GW 04	6 Months	HNO3 to pH <2
B39TL1	N	W			4x1-L G/P	I129LL_SEP_LEPS_GS_LL: COMMON	6 Months	None
B39TL1	N	W			1x250-mL P	TRITIUM_DIST_LSC: COMMON	6 Months	None
B39TL7	Y	W	JUN 2 3 2017		1x500-mL G/P	6020_METALS_ICPMS: GW 01; 6010_METALS_ICP: GW 04	6 Months	HNO3 to pH <2

July 20, 2017

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Dave Wight CHPRC			JUN 2 3 2017 0910	Janelle Zunker CHPRC			JUN 2 3 2017 0910
Janelle Zunker CHPRC			JUN 2 3 2017 1400	FEDEX			
			FED EX	Christie Gains			6/24/17 8:45 am
~~FED EX~~				~~Christie Gains~~			~~6/24/17 8:45 am~~ 6/24 HP

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

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PRINTED ON 4/26/2017

FSR ID = FSR44295

A-6004-842 (REV 2)

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

426288

C.O.C. # S17-006-267

Page 1 of 1

Collector	Dave Wight CHPRC	**Contact/Requester**	Karen Waters-Husted
SAF No.	S17-006	**Sampling Origin**	Hanford Site
Project Title	SURV, JUNE 2017	**Logbook No.**	HNF-N-506 93 157
Shipped To (Lab)	GEL Laboratories, LLC	**Method of Shipment**	Commercial Carrier
Protocol	SURV	**Priority:**	30 Days **PRIORITY**

Telephone No.	509-376-4650
Purchase Order/Charge Code	300071
Ice Chest No.	GWS-614
Bill of Lading/Air Bill No.	7794 8040 3670 8088
Offsite Property No.	

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
B39TM7	Y	W	JUN 2 3 2017	0908	1x500-mL G/P	6010_METALS_ICP: COMMON	6 Months	HNO3 to pH <2
B39TM4	N	W	↓	↓	1x500-mL G/P	6010_METALS_ICP: COMMON	6 Months	HNO3 to pH <2
B39TM4	N	W	↓	↓	1x250-mL P	TRITIUM_DIST_LSC: COMMON	6 Months	None

July 20, 2017

	Print	Sign	Date/Time		Print	Sign	Date/Time
Relinquished By	Dave Wight CHPRC		JUN 2 3 2017 0910	Received By	Janelle Zunker CHPRC		JUN 2 3 2017 0910
Relinquished By	Janelle Zunker CHPRC		JUN 2 3 2017 1400	Received By	FEDEX		Date/Time
Relinquished By			FED EX	Received By	Christie Stein	Christie Gaines	6/24/17 8:45am
Relinquished By			FED EX	Received By	Christie Stein	Christie Gaines	6/24/17 8:45am

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	

6/26/17 DS

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

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PRINTED ON 4/26/2017

FSR ID = FSR44297

A-6004-842 (REV 2)

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

426288

C.O.C. # S17-006-269

Page 1 of 1

Collector	Dave Wight CHPRC	**Contact/Requester**	Karen Waters-Husted	**Telephone No.**	509-376-4650
SAF No.	S17-006	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300071
Project Title	SURV, JUNE 2017	**Logbook No.**	HNF-N-506 93 / 57	**Ice Chest No.**	GWS-585
Shipped To (Lab)	GEL Laboratories, LLC	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	7794 8389 9340
Protocol	SURV	**Priority:**	30 Days **PRIORITY**	**Offsite Property No.**	8089

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
B39TP7	Y	W	JUN 2 3 2017	1036	1x500-mL G/P	6010_METALS_ICP: COMMON	6 Months	HNO3 to pH <2
B39TP4	N	W	↓	↓	1x500-mL G/P	6010_METALS_ICP: COMMON	6 Months	HNO3 to pH <2
B39TP4	N	W	JUN 2 3 2017	↓	1x250-mL P	TRITIUM_DIST_LSC: COMMON	6 Months	None

July 20, 2017

	Print	Sign	Date/Time		Print	Sign	Date/Time
Relinquished By	Dave Wight CHPRC		JUN 2 3 2017 1255	Received By	Janelle Zunker CHPRC		JUN 2 3 2017 1255
Relinquished By	Janelle Zunker CHPRC		JUN 2 3 2017 1400	Received By	FEDEX		
Relinquished By			FED EX	Received By	Chrisette Gaines		6/24/17 8:45 am
Relinquished By			FED EX	Received By			6/24/17 8:45 am

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 4/26/2017 | FSR ID = FSR44849 | A-6004-842 (REV 2)

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: CPRC	SDG/AR/COC/Work Order: 426288
Received By: STACY BOONE	Date Received: JUNE 24, 2017
Carrier and Tracking Number	Circle Applicable: FedEx Express FedEx Ground UPS Field Services Courier Other 7794 7796 4478 → 1°C 7794 7796 4077 → 1°C 7794 8060 3670 → 1°C 7794 8389 9340 → 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 6/26/17 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: 20−JUL−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 20 July 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

Semi-Volatile Analysis

Case Narrative

GC/MS Semivolatile
Technical Case Narrative
CH2MHill Plateau Remediation Company (CPRC)
SDG #: GEL426288
Work Order #: 426288

Product: **Analysis of Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry**
Analytical Method: SW846 3510C/8270D
Analytical Procedure: GL-OA-E-009 REV# 39
Analytical Batch: 1678170

Preparation Method: SW846 3510C
Preparation Procedure: GL-OA-E-013 REV# 31
Preparation Batch: 1678169

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

GEL Sample ID#	Client Sample Identification
426288001	B39T11
1203821143	Method Blank (MB)
1203821144	Laboratory Control Sample (LCS)
1203821147	426288001(B39T11) Matrix Spike (MS)
1203821148	426288001(B39T11) 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 surrogate recovery acceptance criteria. The client established the limits of 70%-130%. Failures are expected. The data were reported per client request.

Sample	Analyte	Value
1203821143 (MB)	2-Fluorobiphenyl	67* (70%-130%)
	2-Fluorophenol	38* (70%-130%)
	Nitrobenzene-d5	69* (70%-130%)
	Phenol-d5	23* (70%-130%)
1203821144 (LCS)	2-Fluorobiphenyl	68* (70%-130%)
	2-Fluorophenol	37* (70%-130%)
	Phenol-d5	24* (70%-130%)
1203821147 (B39T11MS)	2-Fluorophenol	46* (70%-130%)
	Phenol-d5	35* (70%-130%)

1203821148 (B39T11MSD)	2-Fluorophenol	46* (70%-130%)
	Phenol-d5	36* (70%-130%)
426288001 (B39T11)	2-Fluorophenol	34* (70%-130%)
	Phenol-d5	21* (70%-130%)

Laboratory Control Sample (LCS) Recovery
The LCS and/or LCSD (See Below) spike recoveries were not within the acceptance limits. The client established the limits of 70%-130%. Failures are expected. The data were reported per client request.

Sample	Analyte	Value
1203821144 (LCS)	1,4-Dioxane	44* (70%-130%)

Internal Standard (ISTD) Acceptance
Sample 426288001 (B39T11) failed ISTD acceptance criteria. As the associated MS and MSD displayed similar responses to the parent sample, the failures were attributed to matrix interference and the data were 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.

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Qualifier Definition Report
for

CPRC001 CH2MHill Plateau Remediation Company

Client SDG: GEL426288 GEL Work Order: 426288

The Qualifiers in this report are defined as follows:

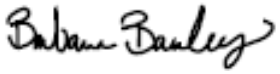
U Analyzed for but not detected above limiting criteria. Includes MDL, MDA, PQL, zero, counting error, and total analytical error.

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: Barbara Bailey**

Date: 20 JUL 2017 **Title: Data Validator**

Sample Data Summary

Semi- Volatile

Certificate of Analysis
Sample Summary

SDG Number:	**GEL426288**	**Date Collected:**	**06/23/2017 13:27**	**Matrix:**	**WATER**
Lab Sample ID:	**426288001**	**Date Received:**	**06/24/2017 08:45**		
		Client:	**CPRC001**	**Project:**	**CPRC0S17006**
Client ID:	**B39T11**	**Method:**	**SW846 3510C/8270D**	**SOP Ref:**	**GL-OA-E-009**
Batch ID:	**1678170**	**Inst:**	**MSD3.I**	**Dilution:**	**1**
Run Date:	**06/29/2017 16:16**	**Analyst:**	**JLD1**	**Inj. Vol:**	**1 uL**
Prep Date:	**06/29/2017 05:30**	**Aliquot:**	**1000 mL**	**Final Volume:**	**1 mL**
Data File:	**s062917.B\s3f2915.D**	**Column:**	**DB-5ms**		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
123-91-1	1,4-Dioxane	U	3.00	ug/L	3.00	10.0

Quality Control Summary

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

QC Summary

Report Date: June 30, 2017

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

Contact: **Mr. Scot Fitzgerald**

Workorder: **426288**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch 1678170											
QC1203821144 LCS											
1,4-Dioxane	50.0			21.8	ug/L		44*	(70%-130%)	JLD1	06/29/17	12:19
**2,4,6-Tribromophenol	100			78.5	ug/L		78	(70%-130%)			
**2-Fluorobiphenyl	50.0			34.0	ug/L		68*	(70%-130%)			
**2-Fluorophenol	100			36.9	ug/L		37*	(70%-130%)			
**Nitrobenzene-d5	50.0			34.8	ug/L		70	(70%-130%)			
**Phenol-d5	100			24.4	ug/L		24*	(70%-130%)			
**p-Terphenyl-d14	50.0			35.4	ug/L		71	(70%-130%)			
QC1203821143 MB											
1,4-Dioxane			U	3.00	ug/L					06/29/17	11:50
**2,4,6-Tribromophenol	100			70.8	ug/L		71	(70%-130%)			
**2-Fluorobiphenyl	50.0			33.3	ug/L		67*	(70%-130%)			
**2-Fluorophenol	100			37.8	ug/L		38*	(70%-130%)			
**Nitrobenzene-d5	50.0			34.4	ug/L		69*	(70%-130%)			
**Phenol-d5	100			23.1	ug/L		23*	(70%-130%)			

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QC Summary

Workorder: **426288**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Semi-Volatile-GC/MS											
Batch 1678170											
**p-Terphenyl-d14	50.0				38.9	ug/L		78	(70%-130%)	JLD1	06/29/17 11:50
QC1203821147 426288001 MS											
1,4-Dioxane	100	U	3.00		57.8	ug/L		58	(25%-103%)		06/29/17 16:45
**2,4,6-Tribromophenol	200		79.8		162	ug/L		81	(70%-130%)		
**2-Fluorobiphenyl	100		36.8		74.5	ug/L		75	(70%-130%)		
**2-Fluorophenol	200		34.2		92.5	ug/L		46*	(70%-130%)		
**Nitrobenzene-d5	100		35.8		73.1	ug/L		73	(70%-130%)		
**Phenol-d5	200		21.3		70.8	ug/L		35*	(70%-130%)		
**p-Terphenyl-d14	100		48.6		86.5	ug/L		87	(70%-130%)		
QC1203821148 426288001 MSD											
1,4-Dioxane	100	U	3.00		56.7	ug/L	2	57	(0%-20%)		06/29/17 17:15
**2,4,6-Tribromophenol	200		79.8		170	ug/L		85	(70%-130%)		
**2-Fluorobiphenyl	100		36.8		74.5	ug/L		75	(70%-130%)		
**2-Fluorophenol	200		34.2		92.9	ug/L		46*	(70%-130%)		
**Nitrobenzene-d5	100		35.8		74.5	ug/L		74	(70%-130%)		
**Phenol-d5	200		21.3		71.6	ug/L		36*	(70%-130%)		

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QC Summary

Workorder: **426288**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Semi-Volatile-GC/MS										
Batch 1678170										
**p-Terphenyl-d14	100	48.6		83.1	ug/L		83	(70%-130%)	JLD1	06/29/17 17:15

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.
- 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.

Semi-Volatile

Surrogate Recovery Report

SDG Number: GEL426288

Matrix Type: LIQUID

Sample ID	Client ID	2FP %REC	PHL %REC	NBZ %REC	FBP %REC	TBP %REC	TPH %REC
1203821143	MB for batch 1678169	38 *	23 *	69 *	67 *	71	78
1203821144	LCS for batch 1678169	37 *	24 *	70	68 *	78	71
426288001	B39T11	34 *	21 *	72	74	80	97
1203821147	B39T11MS	46 *	35 *	73	75	81	87
1203821148	B39T11MSD	46 *	36 *	74	75	85	83

Surrogate		Acceptance Limits
2FP	= 2-Fluorophenol	(70%-130%)
PHL	= Phenol-d5	(70%-130%)
NBZ	= Nitrobenzene-d5	(70%-130%)
FBP	= 2-Fluorobiphenyl	(70%-130%)
TBP	= 2,4,6-Tribromophenol	(70%-130%)
TPH	= p-Terphenyl-d14	(70%-130%)

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

Metals Analysis

Case Narrative

Metals
Technical Case Narrative
CH2MHill Plateau Remediation Company (CPRC)
SDG #: GEL426288
Work Order #: 426288

Product: Determination of Metals by ICP
Analytical Method: SW846 3005A/6010D
Analytical Procedure: GL-MA-E-013 REV# 28
Analytical Batches: 1677151 and 1677153

Product: Determination of Metals by ICP-MS
Analytical Method: SW846 3005A/6020B
Analytical Procedure: GL-MA-E-014 REV# 30
Analytical Batch: 1677157

Preparation Method: SW846 3005A
Preparation Procedure: GL-MA-E-006 REV# 13
Preparation Batches: 1677150, 1677152 and 1677156

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

GEL Sample ID#	Client Sample Identification
426288001	B39T11
426288002	B39T14
426288003	B39TL0
426288004	B39TL6
426288005	B39TL1
426288006	B39TL7
426288007	B39TM7
426288008	B39TM4
426288009	B39TP7
426288010	B39TP4
1203818798	Method Blank (MB)**ICP**
1203818803	Method Blank (MB)**ICP**
1203818799	Laboratory Control Sample (LCS)
1203818804	Laboratory Control Sample (LCS)
1203818802	426283001(NonSDGL) Serial Dilution (SD)
1203818807	426288005(B39TL1L) Serial Dilution (SD)
1203818800	426283001(NonSDGS) Matrix Spike (MS)
1203818805	426288005(B39TL1S) Matrix Spike (MS)
1203818801	426283001(NonSDGSD) Matrix Spike Duplicate (MSD)
1203818806	426288005(B39TL1SD) Matrix Spike Duplicate (MSD)
1203818813	Method Blank (MB)**ICP-MS**
1203818814	Laboratory Control Sample (LCS)
1203818817	426288003(B39TL0L) Serial Dilution (SD)
1203818815	426288003(B39TL0S) Matrix Spike (MS)
1203818816	426288003(B39TL0SD) 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

CRDL/PQL Requirements
The PQL standard recoveries for SW846 6010C or 6010D met the control limits with the exception of potassium. Client sample concentrations were less than the MDL or greater than two times the PQL; therefore the data were not adversely affected. 426288001 (B39T11), 426288002 (B39T14), 426288003 (B39TL0) and 426288004 (B39TL6)-ICP.

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

Quality Control (QC) Information

Method Blank (MB) Statement
The samples in this SDG contained analytes at concentrations more than ten times the negative value reported in the method blank, therefore the data was not adversely affected.

Sample	Analyte	Value
1203818798 (MB)	Sodium	See applicable report

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: GEL426288 GEL Work Order: 426288

The Qualifiers in this report are defined as follows:

* Duplicate analysis not within control limits

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.

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.

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: 17 JUL 2017 **Title: Analyst I**

Sample Data Summary

METALS
−1−
INORGANICS ANALYSIS DATA PACKAGE

SDG No: GEL426288 **CONTRACT:** CPRC0S17006 **METHOD TYPE:** SW846

SAMPLE ID: 426288001 **BASIS:** As Received **DATE COLLECTED** 23−JUN−17

CLIENT ID: B39T11 **LEVEL:** Low **DATE RECEIVED** 24−JUN−17

MATRIX: WATER **%SOLIDS:** 0

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440−36−0	Antimony	3.5	ug/L	U	3.5	10	10	1	P	HSC	06/30/17 16:35	063017−1	1677151
7440−38−2	Arsenic	5	ug/L	U	5	30	30	1	P	HSC	06/30/17 16:35	063017−1	1677151
7440−39−3	Barium	56	ug/L		1	5	5	1	P	HSC	06/30/17 16:35	063017−1	1677151
7440−43−9	Cadmium	1	ug/L	U	1	5	5	1	P	HSC	06/30/17 16:35	063017−1	1677151
7440−70−2	Calcium	54600	ug/L		50	200	200	1	P	HSC	06/30/17 16:35	063017−1	1677151
7440−47−3	Chromium	1.52	ug/L	B	1	5	5	1	P	HSC	06/30/17 16:35	063017−1	1677151
7440−48−4	Cobalt	1	ug/L	U	1	5	5	1	P	HSC	06/30/17 16:35	063017−1	1677151
7440−50−8	Copper	3	ug/L	U	3	10	10	1	P	HSC	06/30/17 16:35	063017−1	1677151
7439−89−6	Iron	370	ug/L		30	100	100	1	P	HSC	06/30/17 16:35	063017−1	1677151
7439−95−4	Magnesium	16500	ug/L		110	300	300	1	P	HSC	06/30/17 16:35	063017−1	1677151
7439−96−5	Manganese	6.35	ug/L	B	2	10	10	1	P	HSC	06/30/17 16:35	063017−1	1677151
7440−02−0	Nickel	1.5	ug/L	U	1.5	5	5	1	P	HSC	06/30/17 16:35	063017−1	1677151
7440−09−7	Potassium	5910	ug/L		50	150	150	1	P	HSC	06/30/17 16:35	063017−1	1677151
7440−22−4	Silver	1	ug/L	U	1	5	5	1	P	HSC	06/30/17 16:35	063017−1	1677151
7440−23−5	Sodium	29500	ug/L		100	300	300	1	P	HSC	06/30/17 16:35	063017−1	1677151
7440−62−2	Vanadium	13.3	ug/L		1	5	5	1	P	HSC	06/30/17 16:35	063017−1	1677151
7440−66−6	Zinc	5.09	ug/L	B	3.3	10	10	1	P	HSC	06/30/17 16:35	063017−1	1677151

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
1677151	1677150	SW846 3005A	50	mL	50	mL	06/26/17	SXW1

***Analytical Methods:**

P **SW846 3005A/6010D**

METALS
−1−
INORGANICS ANALYSIS DATA PACKAGE

SDG No: GEL426288 **CONTRACT:** CPRC0S17006 **METHOD TYPE:** SW846

SAMPLE ID: 426288002 **BASIS:** As Received **DATE COLLECTED** 23−JUN−17

CLIENT ID: B39T14 **LEVEL:** Low **DATE RECEIVED** 24−JUN−17

MATRIX: WATER **%SOLIDS:** 0

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440−36−0	Antimony	3.5	ug/L	U	3.5	10	10	1	P	HSC	06/30/17 16:38	063017−1	1677151
7440−38−2	Arsenic	5	ug/L	U	5	30	30	1	P	HSC	06/30/17 16:38	063017−1	1677151
7440−39−3	Barium	56.3	ug/L		1	5	5	1	P	HSC	06/30/17 16:38	063017−1	1677151
7440−43−9	Cadmium	1	ug/L	U	1	5	5	1	P	HSC	06/30/17 16:38	063017−1	1677151
7440−70−2	Calcium	53200	ug/L		50	200	200	1	P	HSC	06/30/17 16:38	063017−1	1677151
7440−47−3	Chromium	1	ug/L	U	1	5	5	1	P	HSC	06/30/17 16:38	063017−1	1677151
7440−48−4	Cobalt	1	ug/L	U	1	5	5	1	P	HSC	06/30/17 16:38	063017−1	1677151
7440−50−8	Copper	3	ug/L	U	3	10	10	1	P	HSC	06/30/17 16:38	063017−1	1677151
7439−89−6	Iron	30	ug/L	U	30	100	100	1	P	HSC	06/30/17 16:38	063017−1	1677151
7439−95−4	Magnesium	16200	ug/L		110	300	300	1	P	HSC	06/30/17 16:38	063017−1	1677151
7439−96−5	Manganese	2	ug/L	U	2	10	10	1	P	HSC	06/30/17 16:38	063017−1	1677151
7440−02−0	Nickel	1.5	ug/L	U	1.5	5	5	1	P	HSC	06/30/17 16:38	063017−1	1677151
7440−09−7	Potassium	5800	ug/L		50	150	150	1	P	HSC	06/30/17 16:38	063017−1	1677151
7440−22−4	Silver	1	ug/L	U	1	5	5	1	P	HSC	06/30/17 16:38	063017−1	1677151
7440−23−5	Sodium	29300	ug/L		100	300	300	1	P	HSC	06/30/17 16:38	063017−1	1677151
7440−62−2	Vanadium	13.4	ug/L		1	5	5	1	P	HSC	06/30/17 16:38	063017−1	1677151
7440−66−6	Zinc	3.3	ug/L	U	3.3	10	10	1	P	HSC	06/30/17 16:38	063017−1	1677151

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
1677151	1677150	SW846 3005A	50	mL	50	mL	06/26/17	SXW1

***Analytical Methods:**

P **SW846 3005A/6010D**

METALS
−1−
INORGANICS ANALYSIS DATA PACKAGE

SDG No: GEL426288 **CONTRACT:** CPRC0S17006 **METHOD TYPE:** SW846

SAMPLE ID: 426288003 **BASIS:** As Received **DATE COLLECTED** 23−JUN−17

CLIENT ID: B39TL0 **LEVEL:** Low **DATE RECEIVED** 24−JUN−17

MATRIX: WATER **%SOLIDS:** 0

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429−90−5	Aluminum	19.7	ug/L	B	19.3	50	50	1	MS	BAJ	07/07/17 22:34	170707−3	1677157
7440−36−0	Antimony	1	ug/L	U	1	3	3	1	MS	BAJ	07/08/17 04:15	170707−4	1677157
7440−38−2	Arsenic	3.3	ug/L	B	2	5	5	1	MS	BAJ	07/07/17 22:34	170707−3	1677157
7440−39−3	Barium	40.1	ug/L		0.67	2	2	1	MS	BAJ	07/07/17 22:34	170707−3	1677157
7440−41−7	Beryllium	0.20	ug/L	U	0.2	0.5	0.5	1	MS	BAJ	07/07/17 22:34	170707−3	1677157
7440−42−8	Boron	17	ug/L	B	15	50	50	1	P	HSC	06/30/17 16:41	063017−1	1677151
7440−43−9	Cadmium	0.30	ug/L	U	0.3	1	1	1	MS	BAJ	07/07/17 22:34	170707−3	1677157
7440−70−2	Calcium	40300	ug/L		50	200	200	1	P	HSC	06/30/17 16:41	063017−1	1677151
7440−47−3	Chromium	104	ug/L		3	10	10	1	MS	BAJ	07/07/17 22:34	170707−3	1677157
7440−48−4	Cobalt	0.30	ug/L	U	0.3	1	1	1	MS	BAJ	07/07/17 22:34	170707−3	1677157
7440−50−8	Copper	0.914	ug/L	B	0.3	1	1	1	MS	BAJ	07/07/17 22:34	170707−3	1677157
7439−89−6	Iron	30	ug/L	U	30	100	100	1	P	HSC	06/30/17 16:41	063017−1	1677151
7439−92−1	Lead	0.50	ug/L	U	0.5	2	2	1	MS	BAJ	07/07/17 22:34	170707−3	1677157
7439−95−4	Magnesium	13500	ug/L		110	300	300	1	P	HSC	06/30/17 16:41	063017−1	1677151
7439−96−5	Manganese	4.02	ug/L	B	1	5	5	1	MS	BAJ	07/07/17 22:34	170707−3	1677157
7439−98−7	Molybdenum	8.07	ug/L		0.2	0.5	0.5	1	MS	BAJ	07/07/17 22:34	170707−3	1677157
7440−02−0	Nickel	0.619	ug/L	B	0.6	2	2	1	MS	BAJ	07/07/17 22:34	170707−3	1677157
7440−09−7	Potassium	5080	ug/L		50	150	150	1	P	HSC	06/30/17 16:41	063017−1	1677151
7782−49−2	Selenium	2.65	ug/L	B	2	5	5	1	MS	BAJ	07/07/17 22:34	170707−3	1677157
7440−22−4	Silver	0.30	ug/L	U	0.3	1	1	1	MS	BAJ	07/07/17 22:34	170707−3	1677157
7440−23−5	Sodium	20500	ug/L		100	300	300	1	P	HSC	06/30/17 16:41	063017−1	1677151
7440−24−6	Strontium	208	ug/L		2	10	10	1	MS	BAJ	07/07/17 22:34	170707−3	1677157
7440−28−0	Thallium	0.60	ug/L	U	0.6	2	2	1	MS	BAJ	07/07/17 22:34	170707−3	1677157
7440−29−1	Thorium	0.70	ug/L	U	0.7	2	2	1	MS	BAJ	07/07/17 22:34	170707−3	1677157
7440−31−5	Tin	1	ug/L	U	1	5	5	1	MS	BAJ	07/07/17 22:34	170707−3	1677157
7440−61−1	Uranium	3.49	ug/L		0.067	0.2	0.2	1	MS	BAJ	07/07/17 22:34	170707−3	1677157
7440−62−2	Vanadium	15.8	ug/L		1	5	5	1	P	HSC	06/30/17 16:41	063017−1	1677151
7440−66−6	Zinc	7.96	ug/L	B	3.3	10	10	1	MS	BAJ	07/07/17 22:34	170707−3	1677157

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
1677151	1677150	SW846 3005A	50	mL	50	mL	06/26/17	SXW1
1677157	1677156	SW846 3005A	50	mL	50	mL	06/26/17	SXW1

***Analytical Methods:**

METALS
−1−
INORGANICS ANALYSIS DATA PACKAGE

P	**SW846 3005A/6010D**
MS	**SW846 3005A/6020B**

METALS
−1−
INORGANICS ANALYSIS DATA PACKAGE

SDG No: GEL426288 **CONTRACT:** CPRC0S17006 **METHOD TYPE:** SW846

SAMPLE ID: 426288004 **BASIS:** As Received **DATE COLLECTED** 23−JUN−17

CLIENT ID: B39TL6 **LEVEL:** Low **DATE RECEIVED** 24−JUN−17

MATRIX: WATER **%SOLIDS:** 0

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429−90−5	Aluminum	19.3	ug/L	U	19.3	50	50	1	MS	BAJ	07/07/17 22:57	170707−3	1677157
7440−36−0	Antimony	1	ug/L	U	1	3	3	1	MS	BAJ	07/08/17 04:38	170707−4	1677157
7440−38−2	Arsenic	3.22	ug/L	B	2	5	5	1	MS	BAJ	07/07/17 22:57	170707−3	1677157
7440−39−3	Barium	37.9	ug/L		0.67	2	2	1	MS	BAJ	07/07/17 22:57	170707−3	1677157
7440−41−7	Beryllium	0.20	ug/L	U	0.2	0.5	0.5	1	MS	BAJ	07/07/17 22:57	170707−3	1677157
7440−42−8	Boron	17.7	ug/L	B	15	50	50	1	P	HSC	06/30/17 16:44	063017−1	1677151
7440−43−9	Cadmium	0.30	ug/L	U	0.3	1	1	1	MS	BAJ	07/07/17 22:57	170707−3	1677157
7440−70−2	Calcium	40200	ug/L		50	200	200	1	P	HSC	06/30/17 16:44	063017−1	1677151
7440−47−3	Chromium	101	ug/L		3	10	10	1	MS	BAJ	07/07/17 22:57	170707−3	1677157
7440−48−4	Cobalt	0.30	ug/L	U	0.3	1	1	1	MS	BAJ	07/07/17 22:57	170707−3	1677157
7440−50−8	Copper	0.618	ug/L	B	0.3	1	1	1	MS	BAJ	07/07/17 22:57	170707−3	1677157
7439−89−6	Iron	30	ug/L	U	30	100	100	1	P	HSC	06/30/17 16:44	063017−1	1677151
7439−92−1	Lead	0.50	ug/L	U	0.5	2	2	1	MS	BAJ	07/07/17 22:57	170707−3	1677157
7439−95−4	Magnesium	13600	ug/L		110	300	300	1	P	HSC	06/30/17 16:44	063017−1	1677151
7439−96−5	Manganese	2.72	ug/L	B	1	5	5	1	MS	BAJ	07/07/17 22:57	170707−3	1677157
7439−98−7	Molybdenum	7.95	ug/L		0.2	0.5	0.5	1	MS	BAJ	07/07/17 22:57	170707−3	1677157
7440−02−0	Nickel	0.60	ug/L	U	0.6	2	2	1	MS	BAJ	07/07/17 22:57	170707−3	1677157
7440−09−7	Potassium	5060	ug/L		50	150	150	1	P	HSC	06/30/17 16:44	063017−1	1677151
7782−49−2	Selenium	2.64	ug/L	B	2	5	5	1	MS	BAJ	07/07/17 22:57	170707−3	1677157
7440−22−4	Silver	0.30	ug/L	U	0.3	1	1	1	MS	BAJ	07/07/17 22:57	170707−3	1677157
7440−23−5	Sodium	21100	ug/L		100	300	300	1	P	HSC	06/30/17 16:44	063017−1	1677151
7440−24−6	Strontium	211	ug/L		2	10	10	1	MS	BAJ	07/07/17 22:57	170707−3	1677157
7440−28−0	Thallium	0.60	ug/L	U	0.6	2	2	1	MS	BAJ	07/07/17 22:57	170707−3	1677157
7440−29−1	Thorium	0.70	ug/L	U	0.7	2	2	1	MS	BAJ	07/07/17 22:57	170707−3	1677157
7440−31−5	Tin	1	ug/L	U	1	5	5	1	MS	BAJ	07/07/17 22:57	170707−3	1677157
7440−61−1	Uranium	3.37	ug/L		0.067	0.2	0.2	1	MS	BAJ	07/07/17 22:57	170707−3	1677157
7440−62−2	Vanadium	16.7	ug/L		1	5	5	1	P	HSC	06/30/17 16:44	063017−1	1677151
7440−66−6	Zinc	5.33	ug/L	B	3.3	10	10	1	MS	BAJ	07/07/17 22:57	170707−3	1677157

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
1677151	1677150	SW846 3005A	50	mL	50	mL	06/26/17	SXW1
1677157	1677156	SW846 3005A	50	mL	50	mL	06/26/17	SXW1

***Analytical Methods:**

METALS
−1−
INORGANICS ANALYSIS DATA PACKAGE

P	**SW846 3005A/6010D**
MS	**SW846 3005A/6020B**

METALS
−1−
INORGANICS ANALYSIS DATA PACKAGE

SDG No: GEL426288 **CONTRACT:** CPRC0S17006 **METHOD TYPE:** SW846

SAMPLE ID: 426288005 **BASIS:** As Received **DATE COLLECTED** 23−JUN−17

CLIENT ID: B39TL1 **LEVEL:** Low **DATE RECEIVED** 24−JUN−17

MATRIX: WATER **%SOLIDS:** 0

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429−90−5	Aluminum	19.3	ug/L	B	19.3	50	50	1	MS	BAJ	07/07/17 23:00	170707−3	1677157
7440−36−0	Antimony	1	ug/L	U	1	3	3	1	MS	BAJ	07/08/17 04:41	170707−4	1677157
7440−38−2	Arsenic	3.18	ug/L	B	2	5	5	1	MS	BAJ	07/07/17 23:00	170707−3	1677157
7440−39−3	Barium	39.3	ug/L		0.67	2	2	1	MS	BAJ	07/07/17 23:00	170707−3	1677157
7440−41−7	Beryllium	0.20	ug/L	U	0.2	0.5	0.5	1	MS	BAJ	07/07/17 23:00	170707−3	1677157
7440−42−8	Boron	20.3	ug/L	B	15	50	50	1	P	HSC	07/05/17 07:45	070517A−2	1677153
7440−43−9	Cadmium	0.30	ug/L	U	0.3	1	1	1	MS	BAJ	07/07/17 23:00	170707−3	1677157
7440−70−2	Calcium	40900	ug/L		50	200	200	1	P	HSC	07/05/17 07:45	070517A−2	1677153
7440−47−3	Chromium	104	ug/L		3	10	10	1	MS	BAJ	07/07/17 23:00	170707−3	1677157
7440−48−4	Cobalt	0.30	ug/L	U	0.3	1	1	1	MS	BAJ	07/07/17 23:00	170707−3	1677157
7440−50−8	Copper	0.915	ug/L	B	0.3	1	1	1	MS	BAJ	07/07/17 23:00	170707−3	1677157
7439−89−6	Iron	30	ug/L	U	30	100	100	1	P	HSC	07/05/17 07:45	070517A−2	1677153
7439−92−1	Lead	0.50	ug/L	U	0.5	2	2	1	MS	BAJ	07/07/17 23:00	170707−3	1677157
7439−95−4	Magnesium	13800	ug/L		110	300	300	1	P	HSC	07/05/17 07:45	070517A−2	1677153
7439−96−5	Manganese	3.61	ug/L	B	1	5	5	1	MS	BAJ	07/07/17 23:00	170707−3	1677157
7439−98−7	Molybdenum	8	ug/L		0.2	0.5	0.5	1	MS	BAJ	07/07/17 23:00	170707−3	1677157
7440−02−0	Nickel	0.60	ug/L	U	0.6	2	2	1	MS	BAJ	07/07/17 23:00	170707−3	1677157
7440−09−7	Potassium	5250	ug/L		50	150	150	1	P	HSC	07/05/17 07:45	070517A−2	1677153
7782−49−2	Selenium	2.73	ug/L	B	2	5	5	1	MS	BAJ	07/07/17 23:00	170707−3	1677157
7440−22−4	Silver	0.30	ug/L	U	0.3	1	1	1	MS	BAJ	07/07/17 23:00	170707−3	1677157
7440−23−5	Sodium	18800	ug/L		100	300	300	1	P	HSC	07/05/17 07:45	070517A−2	1677153
7440−24−6	Strontium	208	ug/L		2	10	10	1	MS	BAJ	07/07/17 23:00	170707−3	1677157
7440−28−0	Thallium	0.60	ug/L	U	0.6	2	2	1	MS	BAJ	07/07/17 23:00	170707−3	1677157
7440−29−1	Thorium	0.70	ug/L	U	0.7	2	2	1	MS	BAJ	07/07/17 23:00	170707−3	1677157
7440−31−5	Tin	1	ug/L	U	1	5	5	1	MS	BAJ	07/07/17 23:00	170707−3	1677157
7440−61−1	Uranium	3.51	ug/L		0.067	0.2	0.2	1	MS	BAJ	07/07/17 23:00	170707−3	1677157
7440−62−2	Vanadium	16	ug/L		1	5	5	1	P	HSC	07/05/17 07:45	070517A−2	1677153
7440−66−6	Zinc	7.41	ug/L	B	3.3	10	10	1	MS	BAJ	07/07/17 23:00	170707−3	1677157

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
1677153	1677152	SW846 3005A	50	mL	50	mL	06/26/17	SXW1
1677157	1677156	SW846 3005A	50	mL	50	mL	06/26/17	SXW1

***Analytical Methods:**

METALS
−1−
INORGANICS ANALYSIS DATA PACKAGE

P	**SW846 3005A/6010D**
MS	**SW846 3005A/6020B**

METALS
−1−
INORGANICS ANALYSIS DATA PACKAGE

SDG No: GEL426288 **CONTRACT:** CPRC0S17006 **METHOD TYPE:** SW846

SAMPLE ID: 426288006 **BASIS:** As Received **DATE COLLECTED** 23−JUN−17

CLIENT ID: B39TL7 **LEVEL:** Low **DATE RECEIVED** 24−JUN−17

MATRIX: WATER **%SOLIDS:** 0

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429−90−5	Aluminum	19.3	ug/L	U	19.3	50	50	1	MS	BAJ	07/07/17 23:03	170707−3	1677157
7440−36−0	Antimony	1	ug/L	U	1	3	3	1	MS	BAJ	07/08/17 04:44	170707−4	1677157
7440−38−2	Arsenic	3.37	ug/L	B	2	5	5	1	MS	BAJ	07/07/17 23:03	170707−3	1677157
7440−39−3	Barium	40.1	ug/L		0.67	2	2	1	MS	BAJ	07/07/17 23:03	170707−3	1677157
7440−41−7	Beryllium	0.20	ug/L	U	0.2	0.5	0.5	1	MS	BAJ	07/07/17 23:03	170707−3	1677157
7440−42−8	Boron	21.2	ug/L	B	15	50	50	1	P	HSC	07/05/17 08:04	070517A−2	1677153
7440−43−9	Cadmium	0.30	ug/L	U	0.3	1	1	1	MS	BAJ	07/07/17 23:03	170707−3	1677157
7440−70−2	Calcium	41400	ug/L		50	200	200	1	P	HSC	07/05/17 08:04	070517A−2	1677153
7440−47−3	Chromium	108	ug/L		3	10	10	1	MS	BAJ	07/07/17 23:03	170707−3	1677157
7440−48−4	Cobalt	0.30	ug/L	U	0.3	1	1	1	MS	BAJ	07/07/17 23:03	170707−3	1677157
7440−50−8	Copper	0.575	ug/L	B	0.3	1	1	1	MS	BAJ	07/07/17 23:03	170707−3	1677157
7439−89−6	Iron	30	ug/L	U	30	100	100	1	P	HSC	07/05/17 08:04	070517A−2	1677153
7439−92−1	Lead	0.50	ug/L	U	0.5	2	2	1	MS	BAJ	07/07/17 23:03	170707−3	1677157
7439−95−4	Magnesium	14100	ug/L		110	300	300	1	P	HSC	07/05/17 08:04	070517A−2	1677153
7439−96−5	Manganese	2.96	ug/L	B	1	5	5	1	MS	BAJ	07/07/17 23:03	170707−3	1677157
7439−98−7	Molybdenum	8.3	ug/L		0.2	0.5	0.5	1	MS	BAJ	07/07/17 23:03	170707−3	1677157
7440−02−0	Nickel	0.60	ug/L	U	0.6	2	2	1	MS	BAJ	07/07/17 23:03	170707−3	1677157
7440−09−7	Potassium	5350	ug/L		50	150	150	1	P	HSC	07/05/17 08:04	070517A−2	1677153
7782−49−2	Selenium	3.08	ug/L	B	2	5	5	1	MS	BAJ	07/07/17 23:03	170707−3	1677157
7440−22−4	Silver	0.30	ug/L	U	0.3	1	1	1	MS	BAJ	07/07/17 23:03	170707−3	1677157
7440−23−5	Sodium	18800	ug/L		100	300	300	1	P	HSC	07/05/17 08:04	070517A−2	1677153
7440−24−6	Strontium	217	ug/L		2	10	10	1	MS	BAJ	07/07/17 23:03	170707−3	1677157
7440−28−0	Thallium	0.60	ug/L	U	0.6	2	2	1	MS	BAJ	07/07/17 23:03	170707−3	1677157
7440−29−1	Thorium	0.70	ug/L	U	0.7	2	2	1	MS	BAJ	07/07/17 23:03	170707−3	1677157
7440−31−5	Tin	1	ug/L	U	1	5	5	1	MS	BAJ	07/07/17 23:03	170707−3	1677157
7440−61−1	Uranium	3.51	ug/L		0.067	0.2	0.2	1	MS	BAJ	07/07/17 23:03	170707−3	1677157
7440−62−2	Vanadium	16.5	ug/L		1	5	5	1	P	HSC	07/05/17 08:04	070517A−2	1677153
7440−66−6	Zinc	5.64	ug/L	B	3.3	10	10	1	MS	BAJ	07/07/17 23:03	170707−3	1677157

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
1677153	1677152	SW846 3005A	50	mL	50	mL	06/26/17	SXW1
1677157	1677156	SW846 3005A	50	mL	50	mL	06/26/17	SXW1

***Analytical Methods:**

METALS
−1−
INORGANICS ANALYSIS DATA PACKAGE

P	**SW846 3005A/6010D**
MS	**SW846 3005A/6020B**

METALS
−1−
INORGANICS ANALYSIS DATA PACKAGE

SDG No: GEL426288 **CONTRACT:** CPRC0S17006 **METHOD TYPE:** SW846

SAMPLE ID: 426288007 **BASIS:** As Received **DATE COLLECTED** 23−JUN−17

CLIENT ID: B39TM7 **LEVEL:** Low **DATE RECEIVED** 24−JUN−17

MATRIX: WATER **%SOLIDS:** 0

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440−36−0	Antimony	3.5	ug/L	U	3.5	10	10	1	P	HSC	07/05/17 08:07	070517A−2	1677153
7440−38−2	Arsenic	5	ug/L	U	5	30	30	1	P	HSC	07/05/17 08:07	070517A−2	1677153
7440−39−3	Barium	32.1	ug/L		1	5	5	1	P	HSC	07/05/17 08:07	070517A−2	1677153
7440−43−9	Cadmium	1	ug/L	U	1	5	5	1	P	HSC	07/05/17 08:07	070517A−2	1677153
7440−70−2	Calcium	38400	ug/L		50	200	200	1	P	HSC	07/05/17 08:07	070517A−2	1677153
7440−47−3	Chromium	43.8	ug/L		1	5	5	1	P	HSC	07/05/17 08:07	070517A−2	1677153
7440−48−4	Cobalt	1	ug/L	U	1	5	5	1	P	HSC	07/05/17 08:07	070517A−2	1677153
7440−50−8	Copper	3	ug/L	U	3	10	10	1	P	HSC	07/05/17 08:07	070517A−2	1677153
7439−89−6	Iron	30	ug/L	U	30	100	100	1	P	HSC	07/05/17 08:07	070517A−2	1677153
7439−95−4	Magnesium	12400	ug/L		110	300	300	1	P	HSC	07/05/17 08:07	070517A−2	1677153
7439−96−5	Manganese	5.07	ug/L	B	2	10	10	1	P	HSC	07/05/17 08:07	070517A−2	1677153
7440−02−0	Nickel	1.5	ug/L	U	1.5	5	5	1	P	HSC	07/05/17 08:07	070517A−2	1677153
7440−09−7	Potassium	4680	ug/L		50	150	150	1	P	HSC	07/05/17 08:07	070517A−2	1677153
7440−22−4	Silver	1	ug/L	U	1	5	5	1	P	HSC	07/05/17 08:07	070517A−2	1677153
7440−23−5	Sodium	18100	ug/L		100	300	300	1	P	HSC	07/05/17 08:07	070517A−2	1677153
7440−62−2	Vanadium	19.1	ug/L		1	5	5	1	P	HSC	07/05/17 08:07	070517A−2	1677153
7440−66−6	Zinc	114	ug/L		3.3	10	10	1	P	HSC	07/05/17 08:07	070517A−2	1677153

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
1677153	1677152	SW846 3005A	50	mL	50	mL	06/26/17	SXW1

***Analytical Methods:**

P **SW846 3005A/6010D**

METALS
−1−
INORGANICS ANALYSIS DATA PACKAGE

SDG No: GEL426288 **CONTRACT:** CPRC0S17006 **METHOD TYPE:** SW846

SAMPLE ID: 426288008 **BASIS:** As Received **DATE COLLECTED** 23−JUN−17

CLIENT ID: B39TM4 **LEVEL:** Low **DATE RECEIVED** 24−JUN−17

MATRIX: WATER **%SOLIDS:** 0

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440−36−0	Antimony	3.5	ug/L	U	3.5	10	10	1	P	HSC	07/05/17 08:10	070517A−2	1677153
7440−38−2	Arsenic	5	ug/L	U	5	30	30	1	P	HSC	07/05/17 08:10	070517A−2	1677153
7440−39−3	Barium	32.3	ug/L		1	5	5	1	P	HSC	07/05/17 08:10	070517A−2	1677153
7440−43−9	Cadmium	1	ug/L	U	1	5	5	1	P	HSC	07/05/17 08:10	070517A−2	1677153
7440−70−2	Calcium	38400	ug/L		50	200	200	1	P	HSC	07/05/17 08:10	070517A−2	1677153
7440−47−3	Chromium	43	ug/L		1	5	5	1	P	HSC	07/05/17 08:10	070517A−2	1677153
7440−48−4	Cobalt	1	ug/L	U	1	5	5	1	P	HSC	07/05/17 08:10	070517A−2	1677153
7440−50−8	Copper	3	ug/L	U	3	10	10	1	P	HSC	07/05/17 08:10	070517A−2	1677153
7439−89−6	Iron	169	ug/L		30	100	100	1	P	HSC	07/05/17 08:10	070517A−2	1677153
7439−95−4	Magnesium	12500	ug/L		110	300	300	1	P	HSC	07/05/17 08:10	070517A−2	1677153
7439−96−5	Manganese	7.78	ug/L	B	2	10	10	1	P	HSC	07/05/17 08:10	070517A−2	1677153
7440−02−0	Nickel	1.5	ug/L	U	1.5	5	5	1	P	HSC	07/05/17 08:10	070517A−2	1677153
7440−09−7	Potassium	4740	ug/L		50	150	150	1	P	HSC	07/05/17 08:10	070517A−2	1677153
7440−22−4	Silver	1	ug/L	U	1	5	5	1	P	HSC	07/05/17 08:10	070517A−2	1677153
7440−23−5	Sodium	18100	ug/L		100	300	300	1	P	HSC	07/05/17 08:10	070517A−2	1677153
7440−62−2	Vanadium	20.1	ug/L		1	5	5	1	P	HSC	07/05/17 08:10	070517A−2	1677153
7440−66−6	Zinc	160	ug/L		3.3	10	10	1	P	HSC	07/05/17 08:10	070517A−2	1677153

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
1677153	1677152	SW846 3005A	50	mL	50	mL	06/26/17	SXW1

***Analytical Methods:**

P **SW846 3005A/6010D**

METALS
−1−
INORGANICS ANALYSIS DATA PACKAGE

SDG No: GEL426288 **CONTRACT:** CPRC0S17006 **METHOD TYPE:** SW846

SAMPLE ID: 426288009 **BASIS:** As Received **DATE COLLECTED** 23−JUN−17

CLIENT ID: B39TP7 **LEVEL:** Low **DATE RECEIVED** 24−JUN−17

MATRIX: WATER **%SOLIDS:** 0

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440−36−0	Antimony	3.5	ug/L	U	3.5	10	10	1	P	HSC	07/05/17 08:13	070517A−2	1677153
7440−38−2	Arsenic	5	ug/L	U	5	30	30	1	P	HSC	07/05/17 08:13	070517A−2	1677153
7440−39−3	Barium	42	ug/L		1	5	5	1	P	HSC	07/05/17 08:13	070517A−2	1677153
7440−43−9	Cadmium	1	ug/L	U	1	5	5	1	P	HSC	07/05/17 08:13	070517A−2	1677153
7440−70−2	Calcium	39200	ug/L		50	200	200	1	P	HSC	07/05/17 08:13	070517A−2	1677153
7440−47−3	Chromium	26.2	ug/L		1	5	5	1	P	HSC	07/05/17 08:13	070517A−2	1677153
7440−48−4	Cobalt	1	ug/L	U	1	5	5	1	P	HSC	07/05/17 08:13	070517A−2	1677153
7440−50−8	Copper	3	ug/L	U	3	10	10	1	P	HSC	07/05/17 08:13	070517A−2	1677153
7439−89−6	Iron	30	ug/L	U	30	100	100	1	P	HSC	07/05/17 08:13	070517A−2	1677153
7439−95−4	Magnesium	11600	ug/L		110	300	300	1	P	HSC	07/05/17 08:13	070517A−2	1677153
7439−96−5	Manganese	2	ug/L	U	2	10	10	1	P	HSC	07/05/17 08:13	070517A−2	1677153
7440−02−0	Nickel	1.5	ug/L	U	1.5	5	5	1	P	HSC	07/05/17 08:13	070517A−2	1677153
7440−09−7	Potassium	5010	ug/L		50	150	150	1	P	HSC	07/05/17 08:13	070517A−2	1677153
7440−22−4	Silver	1	ug/L	U	1	5	5	1	P	HSC	07/05/17 08:13	070517A−2	1677153
7440−23−5	Sodium	17900	ug/L		100	300	300	1	P	HSC	07/05/17 08:13	070517A−2	1677153
7440−62−2	Vanadium	23.2	ug/L		1	5	5	1	P	HSC	07/05/17 08:13	070517A−2	1677153
7440−66−6	Zinc	3.3	ug/L	U	3.3	10	10	1	P	HSC	07/05/17 08:13	070517A−2	1677153

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
1677153	1677152	SW846 3005A	50	mL	50	mL	06/26/17	SXW1

***Analytical Methods:**

P **SW846 3005A/6010D**

METALS
−1−
INORGANICS ANALYSIS DATA PACKAGE

SDG No: GEL426288 **CONTRACT:** CPRC0S17006 **METHOD TYPE:** SW846

SAMPLE ID: 426288010 **BASIS:** As Received **DATE COLLECTED** 23−JUN−17

CLIENT ID: B39TP4 **LEVEL:** Low **DATE RECEIVED** 24−JUN−17

MATRIX: WATER **%SOLIDS:** 0

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440−36−0	Antimony	3.5	ug/L	U	3.5	10	10	1	P	HSC	07/05/17 08:17	070517A−2	1677153
7440−38−2	Arsenic	5	ug/L	U	5	30	30	1	P	HSC	07/05/17 08:17	070517A−2	1677153
7440−39−3	Barium	42.3	ug/L		1	5	5	1	P	HSC	07/05/17 08:17	070517A−2	1677153
7440−43−9	Cadmium	1	ug/L	U	1	5	5	1	P	HSC	07/05/17 08:17	070517A−2	1677153
7440−70−2	Calcium	39900	ug/L		50	200	200	1	P	HSC	07/05/17 08:17	070517A−2	1677153
7440−47−3	Chromium	26.2	ug/L		1	5	5	1	P	HSC	07/05/17 08:17	070517A−2	1677153
7440−48−4	Cobalt	1	ug/L	U	1	5	5	1	P	HSC	07/05/17 08:17	070517A−2	1677153
7440−50−8	Copper	3	ug/L	U	3	10	10	1	P	HSC	07/05/17 08:17	070517A−2	1677153
7439−89−6	Iron	30	ug/L	U	30	100	100	1	P	HSC	07/05/17 08:17	070517A−2	1677153
7439−95−4	Magnesium	11800	ug/L		110	300	300	1	P	HSC	07/05/17 08:17	070517A−2	1677153
7439−96−5	Manganese	2	ug/L	U	2	10	10	1	P	HSC	07/05/17 08:17	070517A−2	1677153
7440−02−0	Nickel	1.5	ug/L	U	1.5	5	5	1	P	HSC	07/05/17 08:17	070517A−2	1677153
7440−09−7	Potassium	5120	ug/L		50	150	150	1	P	HSC	07/05/17 08:17	070517A−2	1677153
7440−22−4	Silver	1	ug/L	U	1	5	5	1	P	HSC	07/05/17 08:17	070517A−2	1677153
7440−23−5	Sodium	17800	ug/L		100	300	300	1	P	HSC	07/05/17 08:17	070517A−2	1677153
7440−62−2	Vanadium	23.5	ug/L		1	5	5	1	P	HSC	07/05/17 08:17	070517A−2	1677153
7440−66−6	Zinc	3.97	ug/L	B	3.3	10	10	1	P	HSC	07/05/17 08:17	070517A−2	1677153

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
1677153	1677152	SW846 3005A	50	mL	50	mL	06/26/17	SXW1

***Analytical Methods:**

P **SW846 3005A/6010D**

Quality Control Summary

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

QC Summary

Report Date: July 17, 2017

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

Contact: **Mr. Scot Fitzgerald**

Workorder: **426288**

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Metals Analysis - ICPMS										
Batch 1677157										
QC1203818814 LCS										
Aluminum	2000			2230	ug/L		112	(80%-120%)	BAJ	07/07/17 22:31
Antimony	50.0			50.0	ug/L		99.9	(80%-120%)		07/08/17 04:12
Arsenic	50.0			54.2	ug/L		108	(80%-120%)		07/07/17 22:31
Barium	50.0			51.1	ug/L		102	(80%-120%)		
Beryllium	50.0			59.5	ug/L		119	(80%-120%)		
Cadmium	50.0			52.7	ug/L		105	(80%-120%)		
Chromium	50.0			53.0	ug/L		106	(80%-120%)		
Cobalt	50.0			52.6	ug/L		105	(80%-120%)		
Copper	50.0			52.8	ug/L		106	(80%-120%)		
Lead	50.0			52.0	ug/L		104	(80%-120%)		
Manganese	50.0			51.7	ug/L		103	(80%-120%)		
Molybdenum	50.0			51.3	ug/L		103	(80%-120%)		
Nickel	50.0			52.5	ug/L		105	(80%-120%)		

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QC Summary

Workorder: **426288**

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Metals Analysis - ICPMS										
Batch 1677157										
Selenium	50.0			56.1	ug/L		112	(80%-120%)	BAJ	07/07/17 22:31
Silver	50.0			53.6	ug/L		107	(80%-120%)		
Strontium	50.0			52.0	ug/L		104	(80%-120%)		
Thallium	50.0			50.0	ug/L		100	(80%-120%)		
Thorium	50.0			50.0	ug/L		100	(80%-120%)		
Tin	50.0			53.3	ug/L		107	(80%-120%)		
Uranium	50.0			50.5	ug/L		101	(80%-120%)		
Zinc	50.0			55.8	ug/L		112	(80%-120%)		
QC1203818813 MB										
Aluminum			U	19.3	ug/L					07/07/17 22:27
Antimony			U	1.00	ug/L					07/08/17 04:08
Arsenic			U	2.00	ug/L					07/07/17 22:27
Barium			U	0.670	ug/L					
Beryllium			U	0.200	ug/L					
Cadmium			U	0.300	ug/L					
Chromium			U	3.00	ug/L					

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QC Summary

Workorder: **426288**

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Metals Analysis - ICPMS										
Batch 1677157										
Cobalt			U	0.300	ug/L				BAJ	07/07/17 22:27
Copper			U	0.300	ug/L					
Lead			U	0.500	ug/L					
Manganese			U	1.00	ug/L					
Molybdenum			U	0.200	ug/L					
Nickel			U	0.600	ug/L					
Selenium			U	2.00	ug/L					
Silver			U	0.300	ug/L					
Strontium			U	2.00	ug/L					
Thallium			U	0.600	ug/L					
Thorium			U	0.700	ug/L					
Tin			U	1.00	ug/L					
Uranium			U	0.067	ug/L					
Zinc			U	3.30	ug/L					
QC1203818815 426288003 MS										
Aluminum	2000	B 19.7		2130	ug/L		105	(75%-125%)		07/07/17 22:37

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QC Summary

Workorder: **426288**

Parmname	NOM		Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Metals Analysis - ICPMS											
Batch 1677157											
Antimony	50.0	U	1.00		50.5	ug/L		100	(75%-125%)	BAJ	07/08/17 04:18
Arsenic	50.0	B	3.30		57.1	ug/L		108	(75%-125%)		07/07/17 22:37
Barium	50.0		40.1		89.0	ug/L		97.8	(75%-125%)		
Beryllium	50.0	U	0.200		57.1	ug/L		114	(75%-125%)		
Cadmium	50.0	U	0.300		52.4	ug/L		105	(75%-125%)		
Chromium	50.0		104		148	ug/L		88.6	(75%-125%)		
Cobalt	50.0	U	0.300		49.9	ug/L		99.7	(75%-125%)		
Copper	50.0	B	0.914		49.8	ug/L		97.7	(75%-125%)		
Lead	50.0	U	0.500		49.5	ug/L		99	(75%-125%)		
Manganese	50.0	B	4.02		52.3	ug/L		96.5	(75%-125%)		
Molybdenum	50.0		8.07		61.6	ug/L		107	(75%-125%)		
Nickel	50.0	B	0.619		50.1	ug/L		98.9	(75%-125%)		
Selenium	50.0	B	2.65		57.1	ug/L		109	(75%-125%)		
Silver	50.0	U	0.300		51.9	ug/L		104	(75%-125%)		
Strontium	50.0		208		263	ug/L		N/A	(75%-125%)		

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QC Summary

Workorder: **426288**

Parmname	NOM		Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Metals Analysis - ICPMS											
Batch 1677157											
Thallium	50.0	U	0.600		47.5	ug/L		94.7	(75%-125%)	BAJ	07/07/17 22:37
Thorium	50.0	U	0.700		49.9	ug/L		98.7	(75%-125%)		
Tin	50.0	U	1.00		53.3	ug/L		106	(75%-125%)		
Uranium	50.0		3.49		53.8	ug/L		101	(75%-125%)		
Zinc	50.0	B	7.96		59.9	ug/L		104	(75%-125%)		
QC1203818816 426288003 MSD											
Aluminum	2000	B	19.7		2060	ug/L	3.13	102	(0%-20%)		07/07/17 22:40
Antimony	50.0	U	1.00		50.5	ug/L	0.0851	100	(0%-20%)		07/08/17 04:21
Arsenic	50.0	B	3.30		56.0	ug/L	1.95	105	(0%-20%)		07/07/17 22:40
Barium	50.0		40.1		87.7	ug/L	1.56	95.1	(0%-20%)		
Beryllium	50.0	U	0.200		54.4	ug/L	4.88	109	(0%-20%)		
Cadmium	50.0	U	0.300		51.1	ug/L	2.39	102	(0%-20%)		
Chromium	50.0		104		146	ug/L	0.967	85.7	(0%-20%)		
Cobalt	50.0	U	0.300		49.1	ug/L	1.76	97.9	(0%-20%)		
Copper	50.0	B	0.914		49.2	ug/L	1.15	96.6	(0%-20%)		
Lead	50.0	U	0.500		49.6	ug/L	0.0525	99	(0%-20%)		

GEL LABORATORIES LLC
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QC Summary

Workorder: **426288**

Parmname	NOM		Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Metals Analysis - ICPMS											
Batch 1677157											
Manganese	50.0	B	4.02		51.6	ug/L	1.38	95.1	(0%-20%)	BAJ	07/07/17 22:40
Molybdenum	50.0		8.07		60.0	ug/L	2.65	104	(0%-20%)		
Nickel	50.0	B	0.619		48.6	ug/L	3.11	95.9	(0%-20%)		
Selenium	50.0	B	2.65		55.6	ug/L	2.53	106	(0%-20%)		
Silver	50.0	U	0.300		50.7	ug/L	2.33	101	(0%-20%)		
Strontium	50.0		208		258	ug/L	1.61	N/A	(0%-20%)		
Thallium	50.0	U	0.600		47.9	ug/L	0.843	95.5	(0%-20%)		
Thorium	50.0	U	0.700		49.4	ug/L	0.957	97.8	(0%-20%)		
Tin	50.0	U	1.00		53.3	ug/L	0.0582	106	(0%-20%)		
Uranium	50.0		3.49		53.1	ug/L	1.29	99.2	(0%-20%)		
Zinc	50.0	B	7.96		58.8	ug/L	1.79	102	(0%-20%)		
QC1203818817 426288003 SDILT											
Aluminum		B	19.7	DU	96.5	ug/L	N/A		(0%-20%)		07/07/17 22:47
Antimony		U	0.347	DU	5.00	ug/L	N/A		(0%-20%)		07/08/17 04:28
Arsenic		B	3.30	DU	10.0	ug/L	N/A		(0%-20%)		07/07/17 22:47
Barium			40.1	D	7.78	ug/L	3.1		(0%-20%)		

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QC Summary

Workorder: **426288**

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Metals Analysis - ICPMS										
Batch 1677157										
Beryllium	U	0.010	DU	1.00	ug/L	N/A		(0%-20%)	BAJ	07/07/17 22:47
Cadmium	U	0.006	DU	1.50	ug/L	N/A		(0%-20%)		
Chromium		104	D	21.2	ug/L	2.16		(0%-20%)		
Cobalt	U	0.080	DU	1.50	ug/L	N/A		(0%-20%)		
Copper	B	0.914	BD	0.766	ug/L	319		(0%-20%)		
Lead	U	0.050	DU	2.50	ug/L	N/A		(0%-20%)		
Manganese	B	4.02	DU	5.00	ug/L	N/A		(0%-20%)		
Molybdenum		8.07	D	1.54	ug/L	4.66		(0%-20%)		
Nickel	B	0.619	DU	3.00	ug/L	N/A		(0%-20%)		
Selenium	B	2.65	DU	10.0	ug/L	N/A		(0%-20%)		
Silver	U	0.008	DU	1.50	ug/L	N/A		(0%-20%)		
Strontium		208	D	40.1	ug/L	3.89		(0%-20%)		
Thallium	U	0.134	DU	3.00	ug/L	N/A		(0%-20%)		
Thorium	U	0.524	DU	3.50	ug/L	N/A		(0%-20%)		
Tin	U	0.356	DU	5.00	ug/L	N/A		(0%-20%)		

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QC Summary

Workorder: **426288**

Parmname	NOM		Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Metals Analysis - ICPMS											
Batch 1677157											
Uranium			3.49	D	0.696	ug/L	.229		(0%-20%)	BAJ	07/07/17 22:47
Zinc		B	7.96	DU	16.5	ug/L	N/A		(0%-20%)		
Metals Analysis-ICP											
Batch 1677151											
QC1203818799 LCS											
Antimony	500				484	ug/L		96.8	(80%-120%)	HSC	06/30/17 15:19
Arsenic	500				485	ug/L		96.9	(80%-120%)		
Barium	500				500	ug/L		99.9	(80%-120%)		
Boron	500				505	ug/L		101	(80%-120%)		
Cadmium	500				485	ug/L		97	(80%-120%)		
Calcium	5000				5030	ug/L		101	(80%-120%)		
Chromium	500				481	ug/L		96.2	(80%-120%)		
Cobalt	500				498	ug/L		99.5	(80%-120%)		
Copper	500				494	ug/L		98.8	(80%-120%)		
Iron	5000				5170	ug/L		103	(80%-120%)		
Magnesium	5000				5140	ug/L		103	(80%-120%)		
Manganese	500				488	ug/L		97.7	(80%-120%)		

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QC Summary

Workorder: **426288**

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Metals Analysis-ICP										
Batch 1677151										
Nickel	500			491	ug/L		98.3	(80%-120%)	HSC	06/30/17 15:19
Potassium	5000			5050	ug/L		101	(80%-120%)		
Silver	500			483	ug/L		96.5	(80%-120%)		
Sodium	5000			5280	ug/L		106	(80%-120%)		
Vanadium	500			491	ug/L		98.3	(80%-120%)		
Zinc	500			465	ug/L		93.1	(80%-120%)		
QC1203818798 MB										
Antimony			U	3.50	ug/L					06/30/17 15:16
Arsenic			U	5.00	ug/L					
Barium			U	1.00	ug/L					
Boron			U	15.0	ug/L					
Cadmium			U	1.00	ug/L					
Calcium			U	50.0	ug/L					
Chromium			U	1.00	ug/L					
Cobalt			U	1.00	ug/L					
Copper			U	3.00	ug/L					

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QC Summary

Workorder: **426288**

Parmname	NOM		Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Metals Analysis-ICP											
Batch 1677151											
Iron				U	30.0	ug/L				HSC	06/30/17 15:16
Magnesium				U	110	ug/L					
Manganese				U	2.00	ug/L					
Nickel				U	1.50	ug/L					
Potassium				U	50.0	ug/L					
Silver				U	1.00	ug/L					
Sodium				B	-159	ug/L					
Vanadium				U	1.00	ug/L					
Zinc				U	3.30	ug/L					
QC1203818800 426283001 MS											
Antimony	500	U	3.50		502	ug/L		100	(75%-125%)		06/30/17 15:25
Arsenic	500	U	5.00		509	ug/L		101	(75%-125%)		
Barium	500		24.7		536	ug/L		102	(75%-125%)		
Boron	500	U	15.0		530	ug/L		105	(75%-125%)		
Cadmium	500	U	1.00		496	ug/L		99.2	(75%-125%)		
Calcium	5000		20400		25000	ug/L		N/A	(75%-125%)		

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QC Summary

Workorder: **426288**

Parmname	NOM		Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Metals Analysis-ICP											
Batch 1677151											
Chromium	500	U	1.00		494	ug/L		98.6	(75%-125%)	HSC	06/30/17 15:25
Cobalt	500	U	1.00		502	ug/L		100	(75%-125%)		
Copper	500	U	3.00		509	ug/L		102	(75%-125%)		
Iron	5000	U	30.0		5200	ug/L		104	(75%-125%)		
Magnesium	5000		3840		8870	ug/L		101	(75%-125%)		
Manganese	500	U	2.00		497	ug/L		99.3	(75%-125%)		
Nickel	500	U	1.50		494	ug/L		98.8	(75%-125%)		
Potassium	5000		1070		6140	ug/L		102	(75%-125%)		
Silver	500	U	1.00		498	ug/L		99.7	(75%-125%)		
Sodium	5000		4450		9370	ug/L		98.3	(75%-125%)		
Vanadium	500	B	2.18		510	ug/L		102	(75%-125%)		
Zinc	500	B	9.07		479	ug/L		94	(75%-125%)		
QC1203818801 426283001 MSD											
Antimony	500	U	3.50		483	ug/L	3.82	96.5	(0%-20%)		06/30/17 15:29
Arsenic	500	U	5.00		490	ug/L	3.81	97.6	(0%-20%)		
Barium	500		24.7		515	ug/L	4.01	98.1	(0%-20%)		

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QC Summary

Workorder: **426288**

Parmname	NOM		Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Metals Analysis-ICP											
Batch 1677151											
Boron	500	U	15.0		512	ug/L	3.54	101	(0%-20%)	HSC	06/30/17 15:29
Cadmium	500	U	1.00		478	ug/L	3.8	95.5	(0%-20%)		
Calcium	5000		20400		25500	ug/L	1.9	N/A	(0%-20%)		
Chromium	500	U	1.00		473	ug/L	4.26	94.5	(0%-20%)		
Cobalt	500	U	1.00		482	ug/L	4.1	96.3	(0%-20%)		
Copper	500	U	3.00		486	ug/L	4.44	97.2	(0%-20%)		
Iron	5000	U	30.0		5270	ug/L	1.2	105	(0%-20%)		
Magnesium	5000		3840		8920	ug/L	0.514	102	(0%-20%)		
Manganese	500	U	2.00		477	ug/L	4.14	95.3	(0%-20%)		
Nickel	500	U	1.50		474	ug/L	4.17	94.8	(0%-20%)		
Potassium	5000		1070		6130	ug/L	0.156	101	(0%-20%)		
Silver	500	U	1.00		481	ug/L	3.5	96.3	(0%-20%)		
Sodium	5000		4450		9860	ug/L	5.11	108	(0%-20%)		
Vanadium	500	B	2.18		490	ug/L	4.1	97.5	(0%-20%)		
Zinc	500	B	9.07		461	ug/L	3.91	90.3	(0%-20%)		

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QC Summary

Workorder: **426288**

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Metals Analysis-ICP										
Batch 1677151										
QC1203818802 426283001 SDILT										
Antimony	U	0.693	DU	17.5	ug/L	N/A		(0%-20%)	HSC	06/30/17 15:32
Arsenic	U	2.67	DU	25.0	ug/L	N/A		(0%-20%)		
Barium		24.7	BD	4.66	ug/L	5.74		(0%-20%)		
Boron	U	5.96	DU	75.0	ug/L	N/A		(0%-20%)		
Cadmium	U	-0.109	DU	5.00	ug/L	N/A		(0%-20%)		
Calcium		20400	D	3990	ug/L	2.29		(0%-20%)		
Chromium	U	0.494	DU	5.00	ug/L	N/A		(0%-20%)		
Cobalt	U	-0.0905	DU	5.00	ug/L	N/A		(0%-20%)		
Copper	U	0.544	DU	15.0	ug/L	N/A		(0%-20%)		
Iron	U	-7.51	DU	150	ug/L	N/A		(0%-20%)		
Magnesium		3840	D	764	ug/L	.526		(0%-20%)		
Manganese	U	0.0454	DU	10.0	ug/L	N/A		(0%-20%)		
Nickel	U	0.197	DU	7.50	ug/L	N/A		(0%-20%)		
Potassium		1070	D	231	ug/L	8.44		(0%-20%)		
Silver	U	-0.257	DU	5.00	ug/L	N/A		(0%-20%)		

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QC Summary

Workorder: **426288**

Parmname	NOM		Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Metals Analysis-ICP											
Batch 1677151											
Sodium			4450	D	818	ug/L	8.1		(0%-20%)	HSC	06/30/17 15:32
Vanadium		B	2.18	DU	5.00	ug/L	N/A		(0%-20%)		
Zinc		B	9.07	BD	4.00	ug/L	121		(0%-20%)		
Batch 1677153											
QC1203818804 LCS											
Antimony	500				502	ug/L		100	(80%-120%)	HSC	07/05/17 07:42
Arsenic	500				522	ug/L		104	(80%-120%)		
Barium	500				523	ug/L		105	(80%-120%)		
Boron	500				526	ug/L		105	(80%-120%)		
Cadmium	500				517	ug/L		103	(80%-120%)		
Calcium	5000				5190	ug/L		104	(80%-120%)		
Chromium	500				514	ug/L		103	(80%-120%)		
Cobalt	500				534	ug/L		107	(80%-120%)		
Copper	500				508	ug/L		102	(80%-120%)		
Iron	5000				5230	ug/L		105	(80%-120%)		
Magnesium	5000				5330	ug/L		107	(80%-120%)		
Manganese	500				507	ug/L		101	(80%-120%)		

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QC Summary

Workorder: **426288**

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Metals Analysis-ICP										
Batch 1677153										
Nickel	500			522	ug/L		104	(80%-120%)	HSC	07/05/17 07:42
Potassium	5000			5310	ug/L		106	(80%-120%)		
Silver	500			502	ug/L		100	(80%-120%)		
Sodium	5000			5230	ug/L		105	(80%-120%)		
Vanadium	500			508	ug/L		102	(80%-120%)		
Zinc	500			484	ug/L		96.8	(80%-120%)		
QC1203818803 MB										
Antimony			U	3.50	ug/L					07/05/17 07:39
Arsenic			U	5.00	ug/L					
Barium			U	1.00	ug/L					
Boron			U	15.0	ug/L					
Cadmium			U	1.00	ug/L					
Calcium			U	50.0	ug/L					
Chromium			U	1.00	ug/L					
Cobalt			U	1.00	ug/L					
Copper			U	3.00	ug/L					

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QC Summary

Workorder: **426288**

Parmname	NOM		Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Metals Analysis-ICP											
Batch 1677153											
Iron				U	30.0	ug/L				HSC	07/05/17 07:39
Magnesium				U	110	ug/L					
Manganese				U	2.00	ug/L					
Nickel				U	1.50	ug/L					
Potassium				U	50.0	ug/L					
Silver				U	1.00	ug/L					
Sodium				U	100	ug/L					
Vanadium				U	1.00	ug/L					
Zinc				U	3.30	ug/L					
QC1203818805 426288005 MS											
Antimony	500	U	3.50		501	ug/L		100	(75%-125%)		07/05/17 07:48
Arsenic	500	U	5.00		525	ug/L		105	(75%-125%)		
Barium	500		38.9		548	ug/L		102	(75%-125%)		
Boron	500	B	20.3		554	ug/L		107	(75%-125%)		
Cadmium	500	U	1.00		504	ug/L		101	(75%-125%)		
Calcium	5000		40900		46200	ug/L		N/A	(75%-125%)		

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QC Summary

Workorder: **426288**

Parmname	NOM		Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Metals Analysis-ICP											
Batch 1677153											
Chromium	500		99.6		597	ug/L		99.4	(75%-125%)	HSC	07/05/17 07:48
Cobalt	500	U	1.00		501	ug/L		100	(75%-125%)		
Copper	500	U	3.00		501	ug/L		100	(75%-125%)		
Iron	5000	U	30.0		5150	ug/L		103	(75%-125%)		
Magnesium	5000		13800		19000	ug/L		103	(75%-125%)		
Manganese	500	B	3.00		489	ug/L		97.2	(75%-125%)		
Nickel	500	U	1.50		489	ug/L		97.6	(75%-125%)		
Potassium	5000		5250		10500	ug/L		106	(75%-125%)		
Silver	500	U	1.00		494	ug/L		98.8	(75%-125%)		
Sodium	5000		18800		23000	ug/L		85.4	(75%-125%)		
Vanadium	500		16.0		523	ug/L		101	(75%-125%)		
Zinc	500	U	3.30		475	ug/L		94.6	(75%-125%)		
QC1203818806 426288005 MSD											
Antimony	500	U	3.50		507	ug/L	1.01	101	(0%-20%)		07/05/17 07:52
Arsenic	500	U	5.00		536	ug/L	2.05	107	(0%-20%)		
Barium	500		38.9		556	ug/L	1.52	103	(0%-20%)		

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QC Summary

Workorder: **426288**

Parmname	NOM		Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Metals Analysis-ICP											
Batch 1677153											
Boron	500	B	20.3		565	ug/L	1.91	109	(0%-20%)	HSC	07/05/17 07:52
Cadmium	500	U	1.00		512	ug/L	1.56	102	(0%-20%)		
Calcium	5000		40900		47200	ug/L	2.05	N/A	(0%-20%)		
Chromium	500		99.6		613	ug/L	2.76	103	(0%-20%)		
Cobalt	500	U	1.00		511	ug/L	1.83	102	(0%-20%)		
Copper	500	U	3.00		508	ug/L	1.26	101	(0%-20%)		
Iron	5000	U	30.0		5290	ug/L	2.69	105	(0%-20%)		
Magnesium	5000		13800		19600	ug/L	2.95	114	(0%-20%)		
Manganese	500	B	3.00		495	ug/L	1.27	98.4	(0%-20%)		
Nickel	500	U	1.50		497	ug/L	1.75	99.4	(0%-20%)		
Potassium	5000		5250		10600	ug/L	0.672	107	(0%-20%)		
Silver	500	U	1.00		498	ug/L	0.816	99.6	(0%-20%)		
Sodium	5000		18800		24800	ug/L	7.23	120	(0%-20%)		
Vanadium	500		16.0		531	ug/L	1.64	103	(0%-20%)		
Zinc	500	U	3.30		481	ug/L	1.32	95.8	(0%-20%)		

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QC Summary

Workorder: **426288**

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Metals Analysis-ICP										
Batch 1677153										
QC1203818807 426288005 SDILT										
Antimony	U	-0.0515	DU	17.5	ug/L	N/A		(0%-20%)	HSC	07/05/17 07:55
Arsenic	U	1.74	DU	25.0	ug/L	N/A		(0%-20%)		
Barium		38.9	D	7.69	ug/L	1.1		(0%-20%)		
Boron	B	20.3	DU	75.0	ug/L	N/A		(0%-20%)		
Cadmium	U	0.266	DU	5.00	ug/L	N/A		(0%-20%)		
Calcium		40900	D	7990	ug/L	2.42		(0%-20%)		
Chromium		99.6	D	19.6	ug/L	1.48		(0%-20%)		
Cobalt	U	-0.13	DU	5.00	ug/L	N/A		(0%-20%)		
Copper	U	0.990	DU	15.0	ug/L	N/A		(0%-20%)		
Iron	U	12.0	DU	150	ug/L	N/A		(0%-20%)		
Magnesium		13800	D	2780	ug/L	.517		(0%-20%)		
Manganese	B	3.00	DU	10.0	ug/L	N/A		(0%-20%)		
Nickel	U	0.682	DU	7.50	ug/L	N/A		(0%-20%)		
Potassium		5250	D	1020	ug/L	2.66		(0%-20%)		
Silver	U	0.120	DU	5.00	ug/L	N/A		(0%-20%)		

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QC Summary

Workorder: **426288**

Parmname	NOM		Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Metals Analysis-ICP											
Batch 1677153											
Sodium			18800	D	3780	ug/L	.802		(0%-20%)	HSC	07/05/17 07:55
Vanadium			16.0	BD	3.09	ug/L	3.39		(0%-20%)		
Zinc		U	2.23	DU	16.5	ug/L	N/A		(0%-20%)		

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
- 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.

Radiological Analysis

Case Narrative

Radiochemistry
Technical Case Narrative
CH2MHill Plateau Remediation Company (CPRC)
SDG #: GEL426288
Work Order #: 426288

Product: **I129LL_SEP_LEPS_GS: COMMON (low level)**
Analytical Method: DOE EML HASL-300,I-01 Modified
Analytical Procedure: GL-RAD-A-006 REV# 21
Analytical Batch: 1677335

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

GEL Sample ID#	Client Sample Identification
426288001	B39T11
426288003	B39TL0
426288005	B39TL1
1203819309	Method Blank (MB)
1203819310	426288001(B39T11) Sample Duplicate (DUP)
1203819311	426288001(B39T11) Matrix Spike (MS)
1203819312	Laboratory Control Sample (LCS)

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

Data Summary:

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

Product: **TC99_EIE_LSC: COMMON**
Analytical Method: TC99_EIE_LSC
Analytical Procedure: GL-RAD-A-059 REV# 5
Analytical Batch: 1678894

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

GEL Sample ID#	Client Sample Identification
426288001	B39T11
1203822882	Method Blank (MB)
1203822883	425895002(NonSDG) Sample Duplicate (DUP)
1203822884	Laboratory Control Sample (LCS)

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

QC Information
All of the QC samples meet the required acceptance limits with the following exceptions: The sample and the duplicate, 1203822883 (Non SDG 425895002DUP), did not meet the relative percent difference requirement; however, they do meet the relative error ratio requirement with a value of 1.48.

Product: **TRITIUM_DIST_LSC: COMMON**
Analytical Method: TRITIUM_DIST_LSC
Analytical Procedure: GL-RAD-A-002 REV# 22
Analytical Batch: 1678920

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

GEL Sample ID#	Client Sample Identification
426288001	B39T11
426288003	B39TL0
426288005	B39TL1
426288008	B39TM4
426288010	B39TP4
1203822933	Method Blank (MB)
1203822934	425783002(B39T65) Sample Duplicate (DUP)
1203822935	425783002(B39T65) Matrix Spike (MS)
1203822936	Laboratory Control Sample (LCS)

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

Data Summary:

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

Miscellaneous Information

Additional Comments
The matrix spike, 1203822935 (B39T65MS), aliquot was reduced to conserve sample volume.

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

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Qualifier Definition Report
for

CPRC001 CH2MHill Plateau Remediation Company

Client SDG: GEL426288 GEL Work Order: 426288

The Qualifiers in this report are defined as follows:

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: Heather McCarty **Name:** **Heather McCarty**

Date: **18 JUL 2017** **Title:** **Analyst II**

Sample Data Summary

Rad

Certificate of Analysis
Sample Summary

SDG Number:	**GEL426288**	**Client:**	**CPRC001**	**Project:**	**CPRC0S17006**
Lab Sample ID:	**426288001**	**Date Collected:**	**06/23/2017 13:27**	**Matrix:**	**WATER**
		Date Received:	**06/24/2017 08:45**		
Client ID:	**B39T11**			**Prep Basis:**	**"As Received"**
Batch ID:	**1677335**	**Method:**	**DOE EML HASL-300,I-01 Mo**	**SOP Ref:**	**GL-RAD-A-006**
Run Date:	**06/28/2017 15:56**	**Analyst:**	**MJH1**	**Instrument:**	**XRAY2**
Data File:	**I426288001.CNF;1**	**Aliquot:**	**1.3 L**	**Count Time:**	**120 min**
Prep Batch:	**1677335**	**Prep Method:**	**DOE EML HASL-300,I-01 M**		
Prep Date:	**06/27/2017 00:00**				

CAS No.	Parmname	Qual	Result	Units	Uncert	TPU	MDC	RDL
15046-84-1	Iodine-129		3.95	pCi/L	+/-1.04	1.11	0.992	1.00

Surrogate/Tracer recovery	Result	Nominal	Units	Recovery%	Acceptable Limits

Comments:

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

The MDC is a sample specific MDC.

Rad

Certificate of Analysis
Sample Summary

SDG Number:	**GEL426288**	**Client:**	**CPRC001**	**Project:**	**CPRC0S17006**
Lab Sample ID:	**426288001**	**Date Collected:**	**06/23/2017 13:27**	**Matrix:**	**WATER**
		Date Received:	**06/24/2017 08:45**		
Client ID:	**B39T11**			**Prep Basis:**	**"As Received"**
Batch ID:	**1678894**	**Method:**	**TC99_EIE_LSC**	**SOP Ref:**	**GL-RAD-A-059**
Run Date:	**07/16/2017 07:13**	**Analyst:**	**CXS7**	**Instrument:**	**LSCRED**
Data File:	**E1678894.xls**	**Aliquot:**	**100 mL**	**Count Time:**	**15 min**
Prep Batch:	**1678894**	**Prep Method:**	**DOE EML HASL-300, Tc-02-**		
Prep Date:	**07/11/2017 10:58**				

CAS No.	Parmname	Qual	Result	Units	Uncert	TPU	MDC	RDL
14133-76-7	Technetium-99		172	pCi/L	+/-34.2	39.2	48.3	50.0

Surrogate/Tracer recovery	Result	Nominal	Units	Recovery%	Acceptable Limits
Technetium-99m Tracer	36200	41100	CPM	88.2	(30%-105%)

Comments:

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

The MDC is a sample specific MDC.

Rad

Certificate of Analysis
Sample Summary

SDG Number:	**GEL426288**	**Client:**	**CPRC001**	**Project:**	**CPRC0S17006**
Lab Sample ID:	**426288001**	**Date Collected:**	**06/23/2017 13:27**	**Matrix:**	**WATER**
		Date Received:	**06/24/2017 08:45**		
Client ID:	**B39T11**			**Prep Basis:**	**"As Received"**
Batch ID:	**1678920**	**Method:**	**TRITIUM_DIST_LSC**	**SOP Ref:**	**GL-RAD-A-002**
Run Date:	**07/07/2017 17:12**	**Analyst:**	**BXM4**	**Instrument:**	**LSCSILVER**
Data File:	**T1678920.xls**	**Aliquot:**	**50 mL**	**Count Time:**	**50 min**
Prep Batch:	**1678920**	**Prep Method:**	**EPA 906.0 Modified**		
Prep Date:	**07/07/2017 08:43**				

CAS No.	Parmname	Qual	Result	Units	Uncert	TPU	MDC	RDL
10028-17-8	Tritium		28000	pCi/L	+/-746	5460	303	400

Surrogate/Tracer recovery	Result	Nominal	Units	Recovery%	Acceptable Limits

Comments:

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

The MDC is a sample specific MDC.

Rad

Certificate of Analysis
Sample Summary

SDG Number:	**GEL426288**	**Client:**	**CPRC001**	**Project:**	**CPRC0S17006**
Lab Sample ID:	**426288003**	**Date Collected:**	**06/23/2017 08:05**	**Matrix:**	**WATER**
		Date Received:	**06/24/2017 08:45**		
Client ID:	**B39TL0**			**Prep Basis:**	**"As Received"**
Batch ID:	**1677335**	**Method:**	**DOE EML HASL-300,I-01 Mo**	**SOP Ref:**	**GL-RAD-A-006**
Run Date:	**06/28/2017 15:56**	**Analyst:**	**MJH1**	**Instrument:**	**XRAY3**
Data File:	**I426288003.CNF;1**	**Aliquot:**	**1.6 L**	**Count Time:**	**120 min**
Prep Batch:	**1677335**	**Prep Method:**	**DOE EML HASL-300,I-01 M**		
Prep Date:	**06/27/2017 00:00**				

CAS No.	Parmname	Qual	Result	Units	Uncert	TPU	MDC	RDL
15046-84-1	Iodine-129	U	0.0353	pCi/L	+/-0.200	0.201	0.405	1.00

Surrogate/Tracer recovery	Result	Nominal	Units	Recovery%	Acceptable Limits

Comments:

U Analyzed for but not detected above limiting criteria. Includes MDL, MDA, PQL, zero, counting error, and total analytical error.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).
The MDC is a sample specific MDC.

Rad

Certificate of Analysis
Sample Summary

SDG Number:	**GEL426288**	**Client:**	**CPRC001**	**Project:**	**CPRC0S17006**
Lab Sample ID:	**426288003**	**Date Collected:**	**06/23/2017 08:05**	**Matrix:**	**WATER**
		Date Received:	**06/24/2017 08:45**		
Client ID:	**B39TL0**			**Prep Basis:**	**"As Received"**
Batch ID:	**1678920**	**Method:**	**TRITIUM_DIST_LSC**	**SOP Ref:**	**GL-RAD-A-002**
Run Date:	**07/07/2017 18:04**	**Analyst:**	**BXM4**	**Instrument:**	**LSCSILVER**
Data File:	**T1678920.xls**	**Aliquot:**	**50 mL**	**Count Time:**	**50 min**
Prep Batch:	**1678920**	**Prep Method:**	**EPA 906.0 Modified**		
Prep Date:	**07/07/2017 08:43**				

CAS No.	Parmname	Qual	Result	Units	Uncert	TPU	MDC	RDL
10028-17-8	Tritium	U	253	pCi/L	+/-183	190	299	400

Surrogate/Tracer recovery	Result	Nominal	Units	Recovery%	Acceptable Limits

Comments:

U Analyzed for but not detected above limiting criteria. Includes MDL, MDA, PQL, zero, counting error, and total analytical error.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).
The MDC is a sample specific MDC.

Rad

Certificate of Analysis
Sample Summary

SDG Number:	**GEL426288**	**Client:**	**CPRC001**	**Project:**	**CPRC0S17006**
Lab Sample ID:	**426288005**	**Date Collected:**	**06/23/2017 08:05**	**Matrix:**	**WATER**
		Date Received:	**06/24/2017 08:45**		
Client ID:	**B39TL1**			**Prep Basis:**	**"As Received"**
Batch ID:	**1677335**	**Method:**	**DOE EML HASL-300,I-01 Mo**	**SOP Ref:**	**GL-RAD-A-006**
Run Date:	**06/28/2017 15:57**	**Analyst:**	**MJH1**	**Instrument:**	**XRAY4**
Data File:	**I426288005.CNF;1**	**Aliquot:**	**1.6 L**	**Count Time:**	**120 min**
Prep Batch:	**1677335**	**Prep Method:**	**DOE EML HASL-300,I-01 M**		
Prep Date:	**06/27/2017 00:00**				

CAS No.	Parmname	Qual	Result	Units	Uncert	TPU	MDC	RDL
15046-84-1	Iodine-129	U	-0.215	pCi/L	+/-0.235	0.255	0.352	1.00

Surrogate/Tracer recovery	Result	Nominal	Units	Recovery%	Acceptable Limits

Comments:

U Analyzed for but not detected above limiting criteria. Includes MDL, MDA, PQL, zero, counting error, and total analytical error.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).
The MDC is a sample specific MDC.

Rad

Certificate of Analysis
Sample Summary

SDG Number:	**GEL426288**	**Client:**	**CPRC001**	**Project:**	**CPRC0S17006**
Lab Sample ID:	**426288005**	**Date Collected:**	**06/23/2017 08:05**	**Matrix:**	**WATER**
		Date Received:	**06/24/2017 08:45**		
Client ID:	**B39TL1**			**Prep Basis:**	**"As Received"**
Batch ID:	**1678920**	**Method:**	**TRITIUM_DIST_LSC**	**SOP Ref:**	**GL-RAD-A-002**
Run Date:	**07/07/2017 18:56**	**Analyst:**	**BXM4**	**Instrument:**	**LSCSILVER**
Data File:	**T1678920.xls**	**Aliquot:**	**50 mL**	**Count Time:**	**50 min**
Prep Batch:	**1678920**	**Prep Method:**	**EPA 906.0 Modified**		
Prep Date:	**07/07/2017 08:43**				

CAS No.	Parmname	Qual	Result	Units	Uncert	TPU	MDC	RDL
10028-17-8	Tritium	U	257	pCi/L	+/-185	191	302	400

Surrogate/Tracer recovery	Result	Nominal	Units	Recovery%	Acceptable Limits

Comments:

U Analyzed for but not detected above limiting criteria. Includes MDL, MDA, PQL, zero, counting error, and total analytical error.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).
The MDC is a sample specific MDC.

Rad

Certificate of Analysis
Sample Summary

SDG Number:	**GEL426288**	**Client:**	**CPRC001**	**Project:**	**CPRC0S17006**
Lab Sample ID:	**426288008**	**Date Collected:**	**06/23/2017 09:02**	**Matrix:**	**WATER**
		Date Received:	**06/24/2017 08:45**		
Client ID:	**B39TM4**			**Prep Basis:**	**"As Received"**
Batch ID:	**1678920**	**Method:**	**TRITIUM_DIST_LSC**	**SOP Ref:**	**GL-RAD-A-002**
Run Date:	**07/07/2017 19:48**	**Analyst:**	**BXM4**	**Instrument:**	**LSCSILVER**
Data File:	**T1678920.xls**	**Aliquot:**	**50 mL**	**Count Time:**	**50 min**
Prep Batch:	**1678920**	**Prep Method:**	**EPA 906.0 Modified**		
Prep Date:	**07/07/2017 08:43**				

CAS No.	Parmname	Qual	Result	Units	Uncert	TPU	MDC	RDL
10028-17-8	Tritium	U	99.0	pCi/L	+/-173	174	296	400

Surrogate/Tracer recovery	Result	Nominal	Units	Recovery%	Acceptable Limits

Comments:

U Analyzed for but not detected above limiting criteria. Includes MDL, MDA, PQL, zero, counting error, and total analytical error.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).
The MDC is a sample specific MDC.

Rad

Certificate of Analysis
Sample Summary

SDG Number:	**GEL426288**	**Client:**	**CPRC001**	**Project:**	**CPRC0S17006**
Lab Sample ID:	**426288010**	**Date Collected:**	**06/23/2017 10:36**	**Matrix:**	**WATER**
		Date Received:	**06/24/2017 08:45**		
Client ID:	**B39TP4**			**Prep Basis:**	**"As Received"**
Batch ID:	**1678920**	**Method:**	**TRITIUM_DIST_LSC**	**SOP Ref:**	**GL-RAD-A-002**
Run Date:	**07/07/2017 20:40**	**Analyst:**	**BXM4**	**Instrument:**	**LSCSILVER**
Data File:	**T1678920.xls**	**Aliquot:**	**50 mL**	**Count Time:**	**50 min**
Prep Batch:	**1678920**	**Prep Method:**	**EPA 906.0 Modified**		
Prep Date:	**07/07/2017 08:43**				

CAS No.	Parmname	Qual	Result	Units	Uncert	TPU	MDC	RDL
10028-17-8	Tritium	U	49.9	pCi/L	+/-172	173	299	400

Surrogate/Tracer recovery	Result	Nominal	Units	Recovery%	Acceptable Limits

Comments:

U Analyzed for but not detected above limiting criteria. Includes MDL, MDA, PQL, zero, counting error, and total analytical error.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).
The MDC is a sample specific MDC.

Quality Control Summary

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

QC Summary

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

Workorder: 426288

Report Date: July 18, 2017

Parmname	NOM	Sample	Qual	QC	Units	QC Criteria	Range	Analyst	Date Time
Rad Gamma Spec									
Batch 1677335									
QC1203819309 MB									
Iodine-129			U	0.00471	pCi/L			MJH1	06/28/1715:57
Uncert:				+/-0.234					
TPU:				+/-0.234					
QC1203819310 426288001 DUP									
Iodine-129		3.95		3.77	pCi/L				06/28/1715:58
Uncert:		+/-1.04		+/-1.24		RPD: 5	(0% - 20%)		
TPU:		+/-1.11		+/-1.30		RER: 0.208	(0-2)		
QC1203819311 426288001 MS									
Iodine-129	32.0	3.95		37.0	pCi/L	REC: 103	(75%-125%)		06/29/1706:21
Uncert:		+/-1.04		+/-2.86					
TPU:		+/-1.11		+/-4.67					
QC1203819312 LCS									
Iodine-129	26.0			26.2	pCi/L	REC: 101	(80%-120%)		06/29/1706:39
Uncert:				+/-3.55					
TPU:				+/-4.61					
Rad Liquid Scintillation									
Batch 1678894									
QC1203822882 MB									
Technetium-99			U	1.07	pCi/L			CXS7	07/16/1709:58
Uncert:				+/-27.7					
TPU:				+/-27.7					
**Technetium-99m Tracer	41100			35500	CPM	REC: 87	(30%-105%)		
QC1203822883 425895002 DUP									
Technetium-99		232		189	pCi/L				07/16/1710:15
Uncert:		+/-34.8		+/-32.2		RPD: 21*	(0% - 20%)		
TPU:		+/-43.3		+/-38.4		RER: 1.48	(0-2)		
**Technetium-99m Tracer	41100	37900		40100	CPM	REC: 98	(30%-105%)		
QC1203822884 LCS									
Technetium-99	861			840	pCi/L	REC: 98	(80%-120%)		07/16/1710:31
Uncert:				+/-53.8					
TPU:				+/-108					
**Technetium-99m Tracer	41100			34100	CPM	REC: 83	(30%-105%)		
Batch 1678920									
QC1203822933 MB									
Tritium			U	138	pCi/L			BXM4	07/08/1705:57
Uncert:				+/-180					
TPU:				+/-181					
QC1203822934 425783002 DUP									
Tritium		21200		20800	pCi/L				07/08/1706:49
Uncert:		+/-656		+/-652		RPD: 2	(0% - 20%)		
TPU:		+/-4160		+/-4070		RER: 0.147	(0-2)		
QC1203822935 425783002 MS									
Tritium	4480	21200		24900	pCi/L	REC: 81	(75%-125%)		07/08/1707:41

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QC Summary

Workorder: **426288**

Parmname	NOM	Sample	Qual	QC	Units	QC Criteria	Range	Analyst	Date Time
Rad Liquid Scintillation									
Batch 1678920									
	Uncert:	+/-656		+/-1030					
	TPU:	+/-4160		+/-4920					
QC1203822936 LCS									
Tritium	2230			2270	pCi/L	REC: 102	(80%-120%)		07/08/1708:33
	Uncert:			+/-270					
	TPU:			+/-516					

Notes:

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

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
A	The TIC is a suspected aldol-condensation product
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).
B	The analyte was detected in both the associated QC blank and in the sample.
B	The associated QC sample blank has a result >= 2X the MDA and, after corrections, result is >= MDA for this sample
C	Analyte has been confirmed by GC/MS analysis
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	Concentration exceeds the calibration range of the instrument
E	Reported value is estimated due to interferences. See comment in narrative.
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
M	Duplicate precision not met.
N	Spike Sample recovery is outside control limits.
P	Aroclor target analyte with greater than 25% difference between column analyses.
S	Reported value determined by the Method of Standard Additions (MSA)
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.
UX	Gamma Spectroscopy--Uncertain identification
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
Z	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
o	Analyte failed to recover within LCS limits (0rganics only)

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QC Summary

Workorder: **426288**

Parmname	NOM	Sample	Qual	QC	Units	QC Criteria	Range	Analyst	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.
** Indicates analyte is a surrogate compound.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptence 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.
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.