GEL Laboratories LLC
a member of The GEL Group INC

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

gel.com

December 07, 2020

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

Re: CHPRC SAF I21-006
Work Order: 526986
SDG: GEL526986

Dear Mr. Fitzgerald:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on November 11, 2020. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Test results for NELAP or ISO 17025 accredited tests are verified to meet the requirements of those standards, with any exceptions noted. The results reported relate only to the items tested and to the sample as received by the laboratory. These results may not be reproduced except as full reports without approval by the laboratory. Copies of GEL's accreditations and certifications can be found on our website at www.gel.com.

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,

Meredith Boddiford

Meredith Boddiford for
Heather Shaffer
Project Manager

Purchase Order: 300071 - 7H
Chain of Custody: I21-006-063, I21-006-065, I21-006-081, I21-006-082, I21-006-083, I21-006-087, I21-006-088, I21-006-089, I21-006-090, I21-006-091, I21-006-102, I21-006-103 and I21-006-105
Enclosures

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Case Narrative

General Narrative
for
CH2MHill Plateau Remediation Company (74393)
CHPRC SAF I21-006
SDG: GEL526986

December 07, 2020

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 November 11, 2020, 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
526986001	B3XRY6
526986002	B3XRP8
526986003	B3XRK8
526986004	B3XRL5
526986005	B3XRY4
526986006	B3XRK6
526986007	B3XRJ5
526986008	B3XRW4
526986009	B3XRW5
526986010	B3XRW0
526986011	B3XRW8
526986012	B3XRP4
526986013	B3XRY2

Case Narrative

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

Data Package

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

We certify that this package is in compliance with the Analytical Laboratory Services for CH2M Hill Plateau Remediation Company Statement of Work, 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 data package deliverable 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.

Meredith Boddiford

Meredith Boddiford for
Heather Shaffer
Project Manager

GEL Laboratories LLC PO Box 30712 Charleston, SC 29417 2040 Savage Road Charleston, SC 29407 P 843.556.8171 F 843.766.1178 www.gel.com

Technical Case Narrative
CH2MHill Plateau Remediation Company
SDG #: GEL526986
Work Order #: 526986

General Chemistry

Carbon, Total Organic

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

Technical Information

Sample Dilutions
The following sample 526986013 (B3XRY2) in this sample group was diluted due to limited sample quantity.

Analyte	526986
	013
Total Organic Carbon #1	2X
Total Organic Carbon #2	2X
Total Organic Carbon #3	2X
Total Organic Carbon #4	2X
Total Organic Carbon Average	2X

Ion Chromatography

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

Technical Information

Sample Dilutions
The following samples 1204691488 (B3XRY4DUP), 1204691489 (B3XRY4PS), 526986005 (B3XRY4) and 526986006 (B3XRK6) were diluted because target analyte concentrations exceeded the calibration range. The following samples 1204691488 (B3XRY4DUP), 1204691489 (B3XRY4PS), 526986005 (B3XRY4) and 526986006 (B3XRK6) in this sample group were diluted due to matrix interference.

Analyte	526986	
	005	006
Chloride	10X	25X
Nitrate	10X	25X
Sulfate	10X	25X

Hexavalent Chromium

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

Technical Information

Holding Times
Samples (See Below) were not available for analysis until after the holding time had expired. The data is qualified.

Sample	Analyte	Value
1204691214 (B3XRY6DUP)		Received 11-NOV-20, within holding, analyzed 11-NOV-20, out of holding 11-NOV-20
1204691215 (B3XRY6PS)		Received 11-NOV-20, within holding, analyzed 11-NOV-20, out of holding 11-NOV-20
526986001 (B3XRY6)		Received 11-NOV-20, within holding, analyzed 11-NOV-20, out of holding 11-NOV-20

Sample Dilutions
The following samples 526986003 (B3XRK8) and 526986004 (B3XRL5) were diluted because target analyte concentrations exceeded the calibration range.

Analyte	526986	
	003	004
Hexavalent Chromium	5X	5X

Sample Re-analysis
Sample526986001 (B3XRY6) was re-analyzed due to instrument failure. The results from the reanalysis are reported.

Radiochemistry

SMR_I129LOWLEVEL_RAD

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

Duplication Criteria between QC Sample and Duplicate Sample
The Sample and the Duplicate, (See Below), did not meet the relative error ratio requirement; however, both sample and duplicate results are less than the minimum detectable concentration.

Sample	Analyte	Value

1204687681 (Non SDG 526410007DUP)	Iodine-129	RPD 0 N/A RER 2.08* (0-2)

Technical Information

Recounts
Sample 1204687683 (LCS) was recounted due to low recovery. The recount is reported.

SMR_TC99_LSC

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.

SMR_TRITIUM_LSC

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

Technical Information

Recounts
Sample 526986012 (B3XRP4) was recounted due to high MDC. The recount is reported.

Certification Statement

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

Chain of Custody and Supporting Documentation

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST 526980	C.O.C. # I21-006-088 Page 1 of 1

Collector: Juan Aguilar CHPRC	**Contact/Requester:** Karen Waters-Husted	**Telephone No.:** 509-376-4650
SAF No.: I21-006	**Sampling Origin:** Hanford Site	**Purchase Order/Charge Code:** 300071
Project Title: CERCLA, November 2020	**Logbook No.:** HNF-N-506-115188	**Ice Chest No.:** GWS-166
Shipped To (Lab): GEL Laboratories, LLC	**Method of Shipment** Commercial Carrier	**Bill of Lading/Air Bill No.:** 7720 4526 2058
Protocol: CERCLA	**Priority:** 30 Days	**Offsite Property No.:** N/A

POSSIBLE SAMPLE HAZARDS/REMARK
** ** 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
N/A

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3XRY6	Y	W	NOV 10 2020	0810	1x60-mL aG	7196_CR6: COMMON	24 Hours	Cool <=6C

Relinquished By			Received By		
Print First and Last Name	*Signature*	*Date/Time*	*Print First and Last Name*	*Signature*	*Date/Time*
Juan Aguilar CHPRC		NOV 10 2020 1000	Lesly Wall /CHPRC		NOV 10 2020 1000
Lesly Wall /CHPRC		NOV 10 2020 1400	FEDEX		
		FED EX	Stacy Boone GEL Laboratories		NOV 11 2020 1010

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 9/29/2020

FSR ID = FSR99373

A-6004-842 (REV 4)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST 526986	C.O.C. # I21-006-091 Page 1 of 1

Collector: Juan Aguilar CHPRC	**Contact/Requester:** Karen Waters-Husted	**Telephone No.:** 509-376-4650
SAF No.: I21-006	**Sampling Origin:** Hanford Site	**Purchase Order/Charge Code:** 300071
Project Title: CERCLA, November 2020	**Logbook No.:** HNF-N-506 -11S188	**Ice Chest No.:** CWS-166
Shipped To (Lab): GEL Laboratories, LLC	**Method of Shipment** Commercial Carrier	**Bill of Lading/Air Bill No.:** 7720 4526 2052
Protocol: CERCLA	**Priority:** 30 Days	**Offsite Property No.:** N/A

POSSIBLE SAMPLE HAZARDS/REMARK
** ** 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
N/A

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3XRP8	Y	W	NOV 10 2020	0923	1x60-mL aG	7196_CR6: COMMON	24 Hours	Cool <=6C

Relinquished By			Received By		
Print First and Last Name	*Signature*	*Date/Time*	*Print First and Last Name*	*Signature*	*Date/Time*
Juan Aguilar CHPRC		NOV 10 2020 1000	Lesly Wall /CHPRC		NOV 10 2020 1000
Lesly Wall /CHPRC		NOV 10 2020 1400 FED EX	FEDEX		
			Stacy Boone GEL Laboratories		NOV 11 2020 1010

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 9/29/2020

FSR ID = FSR99374

A-6004-842 (REV 4)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST 526980	C.O.C. # I21-006-102 Page 1 of 1

Collector: Juan Aguilar CHPRC	**Contact/Requester:** Karen Waters-Husted	**Telephone No.:** 509-376-4650
SAF No.: I21-006	**Sampling Origin:** Hanford Site	**Purchase Order/Charge Code:** 300071
Project Title: CERCLA, November 2020	**Logbook No.:** HNF-N-506-11518 8	**Ice Chest No.:** GWS-166
Shipped To (Lab): GEL Laboratories, LLC	**Method of Shipment** Commercial Carrier	**Bill of Lading/Air Bill No.:** 7720 4526 2052
Protocol: CERCLA	**Priority:** 30 Days	**Offsite Property No.:** N/A

POSSIBLE SAMPLE HAZARDS/REMARK
** ** 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
N/A

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3XRK8	Y	W	NOV 10 2020	1042	1x60-mL aG	7196_CR6: COMMON	24 Hours	Cool <=6C

Relinquished By			Received By		
Print First and Last Name	*Signature*	*Date/Time*	*Print First and Last Name*	*Signature*	*Date/Time*
Juan Aguilar CHPRC		NOV 10 2020 1200	Lesly Wall /CHPRC		NOV 10 2020 1200
Lesly Wall /CHPRC		NOV 10 2020 1400 FED EX	FEDEX Stacy Boone GEL Laboratories		NOV 11 2020 1010

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 10/6/2020 FSR ID = FSR99634 A-6004-842 (REV 4)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST 526992O	C.O.C. # I21-006-105 Page 1 of 1

Collector: Juan Aguilar CHPRC	**Contact/Requester:** Karen Waters-Husted	**Telephone No.:** 509-376-4650
SAF No.: I21-006	**Sampling Origin:** Hanford Site	**Purchase Order/Charge Code:** 300071
Project Title: CERCLA, November 2020	**Logbook No.:** HNF-N-506-11S188	**Ice Chest No.:** GWS-1166
Shipped To (Lab): GEL Laboratories, LLC	**Method of Shipment** Commercial Carrier	**Bill of Lading/Air Bill No.:** 7720 4526 2052
Protocol: CERCLA	**Priority:** 30 Days	**Offsite Property No.:** N/A

POSSIBLE SAMPLE HAZARDS/REMARK
** ** 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
N/A

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3XRL5	Y	W	NOV 10 2020	1122	1x60-mL aG	7196_CR6: COMMON	24 Hours	Cool <=6C

Relinquished By			Received By		
Print First and Last Name	*Signature*	*Date/Time*	*Print First and Last Name*	*Signature*	*Date/Time*
Juan Aguilar CHPRC		NOV 10 2020 1200	Lesly Wall /CHPRC		NOV 10 2020 1200
Lesly Wall /CHPRC		NOV 10 2020 1400	FEDEX		11/12/20
FED EX			Stacy Boone GEL Laboratories		NOV 11 2020 1010

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 10/13/2020 FSR ID = FSR99632 A-6004-842 (REV 4)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST 526986	C.O.C. # I21-006-089 Page 1 of 1

Collector: Juan Aguilar CHPRC	**Contact/Requester:** Karen Waters-Husted	**Telephone No.:** 509-376-4650
SAF No.: I21-006	**Sampling Origin:** Hanford Site	**Purchase Order/Charge Code:** 300071
Project Title: CERCLA, November 2020	**Logbook No.:** HNF-N-506-115188	**Ice Chest No.:** GWS-166
Shipped To (Lab): GEL Laboratories, LLC	**Method of Shipment** Commercial Carrier	**Bill of Lading/Air Bill No.:** 7720 4526 2092
Protocol: CERCLA	**Priority:** 30 Days	**Offsite Property No.:** N/A

POSSIBLE SAMPLE HAZARDS/REMARK
* ** 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
Low Volume Wells. Do not use for QC.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3XRY4	N	W	NOV 10 2020	0810	1x60-mL G/P	9056_ANIONS_IC: COMMON	48 Hours	Cool <=6C

Relinquished By			Received By		
Print First and Last Name	*Signature*	*Date/Time*	*Print First and Last Name*	*Signature*	*Date/Time*
Juan Aguilar CHPRC	NOV 10 2020	1000	Lesly Wall /CHPRC	Lesly Wall	NOV 10 2020 1000
Lesly Wall /CHPRC	Lesly Wall	NOV 10 2020 1400	FEDEX		
FED EX			Stacy Boone GEL Laboratories		NOV 11 2020 1010

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 9/29/2020 FSR ID = FSR99373 A-6004-842 (REV 4)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST 526986	C.O.C. # I21-006-103 Page 1 of 1

Collector: Juan Aguilar CHPRC	**Contact/Requester:** Karen Waters-Husted	**Telephone No.:** 509-376-4650
SAF No.: I21-006	**Sampling Origin:** Hanford Site	**Purchase Order/Charge Code:** 300071
Project Title: CERCLA, November 2020	**Logbook No.:** HNF-N-506 -115/88	**Ice Chest No.:** GCOS-166
Shipped To (Lab): GEL Laboratories, LLC	**Method of Shipment** Commercial Carrier	**Bill of Lading/Air Bill No.:** 7752 7720 4526 2852 via Fedex
Protocol: CERCLA	**Priority:** 30 Days	**Offsite Property No.:** N/A

POSSIBLE SAMPLE HAZARDS/REMARK
** ** 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
Low Volume Wells. Do not use for QC.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3XRK6	N	W	NOV 10 2020	1042	1x60-mL G/P	9056_ANIONS_IC: COMMON	48 Hours	Cool <=6C

Relinquished By			Received By		
Print First and Last Name	*Signature*	*Date/Time*	*Print First and Last Name*	*Signature*	*Date/Time*
Juan Aguilar CHPRC		NOV 10 2020 1200	Lesly Wall /CHPRC		NOV 10 2020 1200
Lesly Wall /CHPRC		NOV 10 2020 1400	FEDEX		
FED EX			Stacy Boone GEL Laboratories		NOV 11 2020 1016

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:

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST 526984	C.O.C. # I21-006-063 Page 1 of 1

Collector: Jim Lochridge	**Contact/Requester:** Karen Waters-Husted	**Telephone No.:** 509-376-4650
SAF No.: I21-006	**Sampling Origin:** Hanford Site	**Purchase Order/Charge Code:** 300071
Project Title: CERCLA, November 2020	**Logbook No.:** HNF-N-506 114	**Ice Chest No.:** GWS-163
Shipped To (Lab): GEL Laboratories, LLC	**Method of Shipment** Commercial Carrier	**Bill of Lading/Air Bill No.:** 7720 3898 2936
Protocol: CERCLA	**Priority:** 30 Days	**Offsite Property No.:** N/A

POSSIBLE SAMPLE HAZARDS/REMARK
** ** 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
N/A

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3XRJ5	N	W	NOV 09 2020	1037	1x250-mL G/P	SMR_TC99_LSC	6 Months	HNO3 to pH <2

Relinquished By			Received By		
Print First and Last Name	*Signature*	*Date/Time*	*Print First and Last Name*	*Signature*	*Date/Time*
Jim Lochridge		NOV 09 2020 1056	Lesly Wall /CHPRC		NOV 09 2020 1056
Lesly Wall /CHPRC		NOV 09 2020 1115	SSU-1		NOV 09 2020 1115
SSU-1		NOV 10 2020 0610	Troy Bacon /CHPRC		NOV 10 2020 0610
Troy Bacon /CHPRC		NOV 10 2020 1400	FEDEX		
FED EX			Stacy Boone GEL Laboratories		NOV 11 2020 1010

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:

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST 526986	C.O.C. # I21-006-081 Page 1 of 1

Collector: Kathy Turner CHPRC	**Contact/Requester:** Karen Waters-Husted	**Telephone No.:** 509-376-4650
SAF No.: I21-006	**Sampling Origin:** Hanford Site	**Purchase Order/Charge Code:** 300071
Project Title: CERCLA, November 2020	**Logbook No.:** HNF-N-506 - 116	**Ice Chest No.:** GWS-085
Shipped To (Lab): GEL Laboratories, LLC	**Method of Shipment** Commercial Carrier	**Bill of Lading/Air Bill No.:** 7720 4030 9990
Protocol: CERCLA	**Priority:** 30 Days	**Offsite Property No.:** N/A

POSSIBLE SAMPLE HAZARDS/REMARK
** ** 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
N/A

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3XRW4	N	W	NOV 10 2020	0825	1x250-mL G/P	SMR_TC99_LSC	6 Months	HNO3 to pH <2

Relinquished By			Received By		
Print First and Last Name	*Signature*	*Date/Time*	*Print First and Last Name*	*Signature*	*Date/Time*
Kathy Turner CHPRC	Kathy Turner	NOV 10 2020 0825	Lesly Wall /CHPRC	Lesly Wall	NOV 10 2020 0825
Lesly Wall /CHPRC	Lesly Wall	NOV 10 2020 1400	FEDEX		
FED EX			Stacy Boone GEL Laboratories		NOV 11 2020 1010

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 9/29/2020 FSR ID = FSR99394 A-6004-842 (REV 4)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST 5260986	C.O.C. # I21-006-082 Page 1 of 1

Collector: Kathy Turner CHPRC	**Contact/Requester:** Karen Waters-Husted	**Telephone No.:** 509-376-4650
SAF No.: I21-006	**Sampling Origin:** Hanford Site	**Purchase Order/Charge Code:** 300071
Project Title: CERCLA, November 2020	**Logbook No.:** HNF-N-506 -116	**Ice Chest No.:** GW-085
Shipped To (Lab): GEL Laboratories, LLC	**Method of Shipment** Commercial Carrier	**Bill of Lading/Air Bill No.:** 7720 4030 9990
Protocol: CERCLA	**Priority:** 30 Days	**Offsite Property No.:** N/A

POSSIBLE SAMPLE HAZARDS/REMARK
** ** 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
N/A

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3XRW5	N	W	NOV 10 2020	0752	1x250-mL G/P	SMR_TC99_LSC	6 Months	HNO3 to pH <2

Relinquished By			Received By		
Print First and Last Name	*Signature*	*Date/Time*	*Print First and Last Name*	*Signature*	*Date/Time*
Kathy Turner CHPRC	Kathy Turner	NOV 10 2020 0825	Lesly Wall /CHPRC	Lesly Wall	NOV 10 2020 0825
Lesly Wall /CHPRC	Lesly Wall	NOV 10 2020 1400 FED EX	FEDEX		
			Stacy Boone GEL Laboratories		NOV 11 2020 1010

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 9/29/2020 FSR ID = FSR99395 A-6004-842 (REV 4)

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CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST 526986	C.O.C. # I21-006-065 Page 1 of 1

Collector: Kathy Turner CHPRC	**Contact/Requester:** Karen Waters-Husted	**Telephone No.:** 509-376-4650
SAF No.: I21-006	**Sampling Origin:** Hanford Site	**Purchase Order/Charge Code:** 300071
Project Title: CERCLA, November 2020	**Logbook No.:** HNF-N-506 -116	**Ice Chest No.:** GWS-101
Shipped To (Lab): GEL Laboratories, LLC	**Method of Shipment** Commercial Carrier	**Bill of Lading/Air Bill No.:** 7720 4293 2200
Protocol: CERCLA	**Priority:** 30 Days	**Offsite Property No.:** N/A

POSSIBLE SAMPLE HAZARDS/REMARK
** ** 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
N/A

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3XRW0	N	W	NOV 10 2020	0956	1x250-mL G/P	SMR_TC99_LSC	6 Months	HNO3 to pH <2
B3XRW0	N	W	"	"	1x250-mL P	SMR_TRITIUM_LSC	6 Months	None

Relinquished By			Received By		
Print First and Last Name	*Signature*	*Date/Time*	*Print First and Last Name*	*Signature*	*Date/Time*
Kathy Turner CHPRC	Kathy Turner	NOV 10 2020 1050	Lesly Wall FEDEX	Lesly Wall	NOV 10 2020 1050
Lesly Wall CHPRC	Lesly Wall	NOV 10 2020 1400 FED EX	~~Stacy Boone~~ GEL Laboratories		NOV 11 2020 1010

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 9/29/2020 FSR ID = FSR99391 A-6004-842 (REV 4)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST 526986	C.O.C. # I21-006-083 Page 1 of 1

Collector: Kathy Turner CHPRC	**Contact/Requester:** Karen Waters-Husted	**Telephone No.:** 509-376-4650
SAF No.: I21-006	**Sampling Origin:** Hanford Site	**Purchase Order/Charge Code:** 300071
Project Title: CERCLA, November 2020	**Logbook No.:** HNF-N-506 -116	**Ice Chest No.:** GWS-101
Shipped To (Lab): GEL Laboratories, LLC	**Method of Shipment** Commercial Carrier	**Bill of Lading/Air Bill No.:** 7720 4293 2288
Protocol: CERCLA	**Priority:** 30 Days	**Offsite Property No.:** N/A

POSSIBLE SAMPLE HAZARDS/REMARK
** ** 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
N/A

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3XRW8	N	W	NOV 10 2020	0900	1x4-L G/P	SMR_I129LOWLEVEL_RAD	6 Months	None
B3XRW8	N	W	"	"	1x250-mL P	SMR_TRITIUM_LSC	6 Months	None

Relinquished By			Received By		
Print First and Last Name	*Signature*	*Date/Time*	*Print First and Last Name*	*Signature*	*Date/Time*
Kathy Turner CHPRC	Kathy Turner	NOV 10 2020 0950	Lesly Wall /CHPRC	Lesly Wall	NOV 10 2020 0950
Lesly Wall /CHPRC	Lesly Wall	NOV 10 2020 1400	FEDEX		
FED EX			Stacy Boone GEL Laboratories		NOV 11 2020 1010

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 9/29/2020 FSR ID = FSR99396 A-6004-842 (REV 4)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST 526984	C.O.C. # I21-006-090 Page 1 of 1

Collector: Juan Aguilar CHPRC	**Contact/Requester:** Karen Waters-Husted	**Telephone No.:** 509-376-4650
SAF No.: I21-006	**Sampling Origin:** Hanford Site	**Purchase Order/Charge Code:** 300071
Project Title: CERCLA, November 2020	**Logbook No.:** HNF-N-506-11S/88	**Ice Chest No.:** GWS-101
Shipped To (Lab): GEL Laboratories, LLC	**Method of Shipment** Commercial Carrier	**Bill of Lading/Air Bill No.:** 7720 4293 2280
Protocol: CERCLA	**Priority:** 30 Days	**Offsite Property No.:** N/A

POSSIBLE SAMPLE HAZARDS/REMARK
** ** 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
Low Volume Wells. Do not use for QC.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3XRP4	N	W	NOV 10 2020	0923	2x1-L G/P	SMR_I129LOWLEVEL_RAD	6 Months	None
B3XRP4	N		NOV 10 2020	0923	1x60-mL P	SMR_TRITIUM_LSC	6 Months	None

Relinquished By			Received By		
Print First and Last Name	*Signature*	*Date/Time*	*Print First and Last Name*	*Signature*	*Date/Time*
Juan Aguilar CHPRC		NOV 10 2020 1000	Lesly Wall /CHPRC		NOV 10 2020 1000
Lesly Wall /CHPRC		NOV 10 2020 1400	FEDEX Stacy Boone GEL Laboratories		NOV 11 2020 1010
		FED EX			

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 9/29/2020 FSR ID = FSR99374 A-6004-842 (REV 4)

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST 526984	C.O.C. # I21-006-087 Page 1 of 1

Collector: Juan Aguilar CHPRC	**Contact/Requester:** Karen Waters-Husted	**Telephone No.:** 509-376-4650
SAF No.: I21-006	**Sampling Origin:** Hanford Site	**Purchase Order/Charge Code:** 300071
Project Title: CERCLA, November 2020	**Logbook No.:** HNF-N-506-115/88	**Ice Chest No.:** GWS-101
Shipped To (Lab): GEL Laboratories, LLC	**Method of Shipment** Commercial Carrier	**Bill of Lading/Air Bill No.:** 7720 4293 2200
Protocol: CERCLA	**Priority:** 30 Days	**Offsite Property No.:** N/A

POSSIBLE SAMPLE HAZARDS/REMARK
** ** 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
Low Volume Wells. Do not use for QC.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B3XRY2	N	W	NOV 10 2020	0810	1x60-mL aG	9060_TOC: COMMON	28 Days	HCl or H2SO4 to pH <2 / Cool <=6C
B3XRY2	N	W	NOV 10 2020	0810	2x1-L G/P	SMR_I129LOWLEVEL_RAD	6 Months	None
B3XRY2	N	W	NOV 10 2020	0810	1x60-mL G/P	SMR_TC99_LSC	6 Months	HNO3 to pH <2

Relinquished By			Received By		
Print First and Last Name	*Signature*	*Date/Time*	*Print First and Last Name*	*Signature*	*Date/Time*
Juan Aguilar CHPRC	NOV 10 2020	1000	Lesly Wall /CHPRC	NOV 10 2020	1000
Lesly Wall /CHPRC	NOV 10 2020	1400	FEDEX		
FED EX			Stacy Boone GEL Laboratories	NOV 11 2020	1010

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 9/29/2020

FSR ID = FSR99373

A-6004-842 (REV 4)

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: CPRC	SDG/AR/COC/Work Order: 526986
Received By: BOONE, S	Date Received: 11/11/20
Carrier and Tracking Number	Circle Applicable: FedEx Express FedEx Ground UPS Field Services Courier Other 7720 4526 2052 1c 7720 3848 2930 1c 7720 4293 2200 1c

Suspected Hazard Information	Yes	No	
			*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
A)Shipped as a DOT Hazardous?		✓	Hazard Class Shipped: UN#: If UN2910, Is the Radioactive Shipment Survey Compliant? Yes___ No___
B) Did the client designate the samples are to be received as radioactive?	✓		COC notation or radioactive stickers on containers equal client designation.
C) Did the RSO classify the samples as radioactive?	✓		Maximum Net Counts Observed* (Observed Counts - Area Background Counts): Ø CPM / mR/Hr Classified as: Rad 1 Rad 2 Rad 3
D) Did the client designate samples are hazardous?		✓	COC notation or hazard labels on containers equal client designation.
E) Did the RSO identify possible hazards?		✓	If D or E is yes, select Hazards below. 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?	✓			Circle Applicable: Client contacted and provided COC COC created upon receipt
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 #: IR1-20 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 for solids? Yes___ No___ NA___(If yes, take to VOA Freezer) Do liquid VOA vials contain acid preservation? Yes ✓ No___ NA___(If unknown, select No) Are liquid VOA vials free of headspace? Yes ✓ No___ NA___ 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?	✓			ID's and containers affected:
10	Date & time on COC match date & time on bottles?	✓			Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)
11	Number of containers received match number indicated on COC?	✓			Circle Applicable: No container count on COC Other (describe)
12	Are sample containers identifiable as GEL provided by use of GEL labels?	✓			
13	COC form is properly signed in relinquished/received sections?	✓			Circle Applicable: Not relinquished Other (describe)

Comments (Use Continuation Form if needed):

7720 4030 9990 1c 7720 3840 3241 1c 7720 4223 5851 1c

PM (or PMA) review: Initials CD Date 11/12/20 Page 1 of 1

GL-CHL-SR-001 Rev 7

Data Review Qualifier Definitions

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

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.		
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 analyte was detected in the associated method blank >/= MDC or >5% sample activity.	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	
o	Analyte failed to recover within LCS limits	Radiological	Rad

Laboratory Certifications

List of current GEL Certifications as of 07 December 2020

State	Certification
Alabama	42200
Alaska	17−018
Alaska Drinking Water	SC00012
Arkansas	88−0651
CLIA	42D0904046
California	2940
Colorado	SC00012
Connecticut	PH−0169
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	SC00012
Illinois NELAP	200029
Indiana	C−SC−01
Kansas NELAP	E−10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana Drinking Water	LA024
Louisiana NELAP	03046 (AI33904)
Maine	2019020
Maryland	270
Massachusetts	M−SC012
Massachusetts PFAS Approv	Letter
Michigan	9976
Mississippi	SC00012
Nebraska	NE−OS−26−13
Nevada	SC000122021−1
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R−158
Oklahoma	2019−165
Pennsylvania NELAP	68−00485
Puerto Rico	SC00012
S. Carolina Radiochem	10120002
Sanitation Districts of L	9255651
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235−20−17
Utah NELAP	SC000122020−33
Vermont	VT87156
Virginia NELAP	460202
Washington	C780

General Chem Analysis

Case Narrative

General Chemistry
Technical Case Narrative
CH2MHill Plateau Remediation Company
SDG #: GEL526986
Work Order #: 526986

Product: **Carbon, Total Organic**
Analytical Method: SW846 9060A
Analytical Procedure: GL-GC-E-093 REV# 16
Analytical Batch: 2062512

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

GEL Sample ID#	Client Sample Identification
526986013	B3XRY2
1204696236	Method Blank (MB)
1204696237	Laboratory Control Sample (LCS)
1204696239	527473006(B3XRV8) Sample Duplicate (DUP)
1204696241	526657002(NonSDG) Sample Duplicate (DUP)
1204696243	527473006(B3XRV8) Post Spike (PS)
1204696245	526657002(NonSDG) Post Spike (PS)

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

Data Summary:

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

Technical Information

Sample Dilutions
The following sample 526986013 (B3XRY2) in this sample group was diluted due to limited sample quantity. Dilutions may be required for many reasons, including to minimize matrix interferences or to bring over range target analyte concentrations into the linear calibration range.

Analyte	526986 013
Total Organic Carbon #1	2X
Total Organic Carbon #2	2X
Total Organic Carbon #3	2X
Total Organic Carbon #4	2X
Total Organic Carbon Average	2X

Product: **Ion Chromatography**
Analytical Method: 9056_ANIONS_IC
Analytical Procedure: GL-GC-E-086 REV# 28
Analytical Batch: 2061499

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

GEL Sample ID#	Client Sample Identification
526986005	B3XRY4
526986006	B3XRK6
1204691486	Method Blank (MB)
1204691487	Laboratory Control Sample (LCS)
1204691488	526986005(B3XRY4) Sample Duplicate (DUP)
1204691489	526986005(B3XRY4) Post Spike (PS)

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

Data Summary:

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

Technical Information

Sample Dilutions
The following samples 1204691488 (B3XRY4DUP), 1204691489 (B3XRY4PS), 526986005 (B3XRY4) and 526986006 (B3XRK6) were diluted because target analyte concentrations exceeded the calibration range. The following samples 1204691488 (B3XRY4DUP), 1204691489 (B3XRY4PS), 526986005 (B3XRY4) and 526986006 (B3XRK6) in this sample group were diluted due to matrix interference. Dilutions may be required for many reasons, including to minimize matrix interferences or to bring over range target analyte concentrations into the linear calibration range.

Analyte	526986	
	005	006
Chloride	10X	25X
Nitrate	10X	25X
Sulfate	10X	25X

Product: **Hexavalent Chromium**
Analytical Method: 7196_CR6
Analytical Procedure: GL-GC-E-132 REV# 3
Analytical Batch: 2061363

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

GEL Sample ID#	Client Sample Identification
526986001	B3XRY6
526986002	B3XRP8
526986003	B3XRK8
526986004	B3XRL5
1204691212	Method Blank (MB)
1204691213	Laboratory Control Sample (LCS)
1204691214	526986001(B3XRY6) Sample Duplicate (DUP)
1204691215	526986001(B3XRY6) Post Spike (PS)
1204691301	526998001(NonSDG) Sample Duplicate (DUP)
1204691302	526998001(NonSDG) Post Spike (PS)

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

Data Summary:

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

Technical Information

Holding Times
Samples (See Below) were not available for analysis until after the holding time had expired. The data is qualified.

Sample	Analyte	Value
1204691214 (B3XRY6DUP)		Received 11-NOV-20, within holding, analyzed 11-NOV-20, out of holding 11-NOV-20
1204691215 (B3XRY6PS)		Received 11-NOV-20, within holding, analyzed 11-NOV-20, out of holding 11-NOV-20
526986001 (B3XRY6)		Received 11-NOV-20, within holding, analyzed 11-NOV-20, out of holding 11-NOV-20

Sample Dilutions
The following samples 526986003 (B3XRK8) and 526986004 (B3XRL5) were diluted because target analyte concentrations exceeded the calibration range. Dilutions may be required for many reasons, including to minimize matrix interferences or to bring over range target analyte concentrations into the linear calibration range.

Analyte	526986	
	003	004
Hexavalent Chromium	5X	5X

Sample Re-analysis
Sample526986001 (B3XRY6) was re-analyzed due to instrument failure. The results from the reanalysis are 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.

GEL LABORATORIES LLC

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

Qualifier Definition Report
for

CPRC002 CH2MHill Plateau Remediation Company (74393)

Client SDG: GEL526986 GEL Work Order: 526986

The Qualifiers in this report are defined as follows:

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

D Results are reported from a diluted aliquot of sample.

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

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

Review/Validation

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

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

Signature:  **Name: Aubrey Kingsbury**

Date: 03 DEC 2020 **Title: Data Validator**

Sample Data Summary

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

Certificate of Analysis

Report Date: December 3, 2020

Company :	CH2MHill Plateau Remediation Company
Address :	MSIN R3-50 CHPRC PO Box 1600 Richland, Washington 99352
Contact:	Mr. Scot Fitzgerald
Project:	CHPRC SAF I21-006

Client Sample ID:	B3XRY6	Project:	CPRC0I21006
Sample ID:	526986001	Client ID:	CPRC002
Matrix:	WATER		
Collect Date:	10-NOV-20 08:10		
Receive Date:	11-NOV-20		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Nutrient Analysis												
7196_CR6: COMMON (Lachat) "As Received"												
Hexavalent Chromium	BX	0.00264	0.00130	0.00400	mg/L		1	AXH3	11/11/20	1225	2061363	1

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	7196_CR6	

Notes:

Column headers are defined as follows:

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

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

Certificate of Analysis

Report Date: December 3, 2020

Company :	CH2MHill Plateau Remediation Company
Address :	MSIN R3-50 CHPRC PO Box 1600 Richland, Washington 99352
Contact:	Mr. Scot Fitzgerald
Project:	CHPRC SAF I21-006

Client Sample ID:	B3XRP8	Project:	CPRC0I21006
Sample ID:	526986002	Client ID:	CPRC002
Matrix:	WATER		
Collect Date:	10-NOV-20 09:23		
Receive Date:	11-NOV-20		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Nutrient Analysis												
7196_CR6: COMMON (Lachat) "As Received"												
Hexavalent Chromium	B	0.00316	0.00130	0.00400	mg/L		1	AXH3	11/11/20	1150	2061363	1

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	7196_CR6	

Notes:

Column headers are defined as follows:

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

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

Certificate of Analysis

Report Date: December 3, 2020

Company :	CH2MHill Plateau Remediation Company
Address :	MSIN R3-50 CHPRC PO Box 1600 Richland, Washington 99352
Contact:	Mr. Scot Fitzgerald
Project:	CHPRC SAF I21-006

Client Sample ID:	B3XRK8	Project:	CPRC0I21006
Sample ID:	526986003	Client ID:	CPRC002
Matrix:	WATER		
Collect Date:	10-NOV-20 10:42		
Receive Date:	11-NOV-20		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Nutrient Analysis												
7196_CR6: COMMON (Lachat) "As Received"												
Hexavalent Chromium	D	0.115	0.00650	0.0200	mg/L		5	AXH3	11/11/20	1218	2061363	1

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	7196_CR6	

Notes:

Column headers are defined as follows:

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

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Certificate of Analysis

Report Date: December 3, 2020

Company :	CH2MHill Plateau Remediation Company
Address :	MSIN R3-50 CHPRC PO Box 1600 Richland, Washington 99352
Contact:	Mr. Scot Fitzgerald
Project:	CHPRC SAF I21-006

Client Sample ID:	B3XRL5	Project:	CPRC0I21006
Sample ID:	526986004	Client ID:	CPRC002
Matrix:	WATER		
Collect Date:	10-NOV-20 11:22		
Receive Date:	11-NOV-20		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Nutrient Analysis												
7196_CR6: COMMON (Lachat) "As Received"												
Hexavalent Chromium	D	0.108	0.00650	0.0200	mg/L		5	AXH3	11/11/20	1224	2061363	1

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	7196_CR6	

Notes:

Column headers are defined as follows:

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

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Certificate of Analysis

Report Date: December 3, 2020

Company :	CH2MHill Plateau Remediation Company
Address :	MSIN R3-50 CHPRC PO Box 1600 Richland, Washington 99352
Contact:	Mr. Scot Fitzgerald
Project:	CHPRC SAF I21-006

Client Sample ID:	B3XRY4	Project:	CPRC0I21006
Sample ID:	526986005	Client ID:	CPRC002
Matrix:	WATER		
Collect Date:	10-NOV-20 08:10		
Receive Date:	11-NOV-20		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
9056_ANIONS_IC: COMMON "As Received"												
Fluoride	B	415	33.0	500	ug/L		1	JLD1	11/11/20	1221	2061499	1
Nitrite-N	U	33.0	33.0	100	ug/L		1					
Chloride	D	21800	670	2000	ug/L		10	JLD1	11/11/20	1849	2061499	2
Nitrate-N	D	7230	330	1000	ug/L		10					
Sulfate	D	53100	1330	4000	ug/L		10					

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	9056_ANIONS_IC	
2	9056_ANIONS_IC	

Notes:

Column headers are defined as follows:

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

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Certificate of Analysis

Report Date: December 3, 2020

Company :	CH2MHill Plateau Remediation Company
Address :	MSIN R3-50 CHPRC PO Box 1600 Richland, Washington 99352
Contact:	Mr. Scot Fitzgerald
Project:	CHPRC SAF I21-006

Client Sample ID:	B3XRK6	Project:	CPRC0I21006
Sample ID:	526986006	Client ID:	CPRC002
Matrix:	WATER		
Collect Date:	10-NOV-20 10:42		
Receive Date:	11-NOV-20		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography												
9056_ANIONS_IC: COMMON "As Received"												
Fluoride	B	306	33.0	500	ug/L		1	JLD1	11/11/20	1250	2061499	1
Nitrite-N	U	33.0	33.0	100	ug/L		1					
Chloride	D	13800	1680	5000	ug/L		25	JLD1	11/11/20	2019	2061499	2
Nitrate-N	D	110000	825	2500	ug/L		25					
Sulfate	D	34300	3330	10000	ug/L		25					

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	9056_ANIONS_IC	
2	9056_ANIONS_IC	

Notes:

Column headers are defined as follows:

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

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Certificate of Analysis

Report Date: December 3, 2020

Company :	CH2MHill Plateau Remediation Company
Address :	MSIN R3-50 CHPRC PO Box 1600 Richland, Washington 99352
Contact:	Mr. Scot Fitzgerald
Project:	CHPRC SAF I21-006

Client Sample ID:	B3XRY2	Project:	CPRC0I21006
Sample ID:	526986013	Client ID:	CPRC002
Matrix:	WATER		
Collect Date:	10-NOV-20 08:10		
Receive Date:	11-NOV-20		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Carbon Analysis												
9060_TOC: COMMON "As Received"												
Total Organic Carbon #1	DU	660	660	2000	ug/L		2	TSM	11/18/20	1542	2062512	1
Total Organic Carbon #2	DU	660	660	2000	ug/L		2					
Total Organic Carbon #3	DU	660	660	2000	ug/L		2					
Total Organic Carbon #4	DU	660	660	2000	ug/L		2					
Total Organic Carbon Average	DU	660	660	2000	ug/L		2					

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9060A	

Notes:

Column headers are defined as follows:

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

Quality Control Summary

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

QC Summary

Report Date: December 3, 2020

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

Contact: **Mr. Scot Fitzgerald**

Workorder: **526986**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Carbon Analysis												
Batch 2062512												
QC1204696239 527473006 DUP												
Total Organic Carbon Average		U	330	U	330	ug/L	N/A			TSM	11/18/20	19:56
QC1204696241 526657002 DUP												
Total Organic Carbon Average		B	406	B	402	ug/L	0.99 ^		(+/-1000)		11/18/20	14:18
QC1204696237 LCS												
Total Organic Carbon Average	10000				9930	ug/L		99.3	(80%-120%)		11/18/20	13:23
QC1204696236 MB												
Total Organic Carbon Average				U	330	ug/L					11/18/20	13:13
QC1204696243 527473006 PS												
Total Organic Carbon Average	10.0	U	0.133		10.5	mg/L		104	(75%-125%)		11/18/20	20:38
QC1204696245 526657002 PS												
Total Organic Carbon Average	10.0	B	0.406		10.8	mg/L		104	(75%-125%)		11/18/20	15:00
Ion Chromatography												
Batch 2061499												
QC1204691488 526986005 DUP												
Chloride		D	21800	D	21900	ug/L	0.242		(0%-20%)	JLD1	11/11/20	19:19
Fluoride		B	415	B	398	ug/L	4.04 ^		(+/-500)		11/11/20	16:49
Nitrate-N		D	7230	D	7220	ug/L	0.249		(0%-20%)		11/11/20	19:19
Nitrite-N		U	33.0	U	33.0	ug/L	N/A				11/11/20	16:49
Sulfate		D	53100	D	53400	ug/L	0.498		(0%-20%)		11/11/20	19:19

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QC Summary

Workorder: **526986**

Parmname	NOM		Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Ion Chromatography											
Batch 2061499											
QC1204691487 LCS											
Chloride	5000				4730	ug/L		94.5	(80%-120%)	JLD1	11/11/20 16:20
Fluoride	2500				2420	ug/L		96.9	(80%-120%)		
Nitrate-N	2500				2340	ug/L		93.5	(80%-120%)		
Nitrite-N	2500				2560	ug/L		102	(80%-120%)		
Sulfate	10000				9380	ug/L		93.8	(80%-120%)		
QC1204691486 MB											
Chloride				U	67.0	ug/L					11/11/20 15:50
Fluoride				U	33.0	ug/L					
Nitrate-N				U	33.0	ug/L					
Nitrite-N				U	33.0	ug/L					
Sulfate				U	133	ug/L					
QC1204691489 526986005 PS											
Chloride	5.00	D	2.18	D	7.03	mg/L		96.9	(75%-125%)		11/11/20 19:49
Fluoride	2.50	B	0.415		2.79	mg/L		95	(75%-125%)		11/11/20 18:19
Nitrate-N	2.50	D	0.723	D	3.12	mg/L		95.7	(75%-125%)		11/11/20 19:49
Nitrite-N	2.50	U	0.000		2.56	mg/L		102	(75%-125%)		11/11/20 18:19
Sulfate	10.0	D	5.31	D	15.0	mg/L		97.1	(75%-125%)		11/11/20 19:49

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QC Summary

Workorder: **526986**

Parmname	NOM		Sample	Qual	QC	Units	RPD%		REC%	Range	Anlst	Date Time
Nutrient Analysis												
Batch 2061363												
QC1204691214 526986001 DUP												
Hexavalent Chromium		BX	0.00264	BX	0.00262	mg/L	0.76	^		(+/-0.00400)	AXH3	11/11/20 12:13
QC1204691301 526998001 DUP												
Hexavalent Chromium			0.00543		0.00559	mg/L	2.9	^		(+/-0.00400)		11/11/20 12:05
QC1204691213 LCS												
Hexavalent Chromium	0.0500				0.0483	mg/L			96.6	(90%-110%)		11/11/20 11:47
QC1204691212 MB												
Hexavalent Chromium				U	0.00130	mg/L						11/11/20 11:46
QC1204691215 526986001 PS												
Hexavalent Chromium	0.0500	BX	0.00264	X	0.0549	mg/L			105	(90%-110%)		11/11/20 12:15
QC1204691302 526998001 PS												
Hexavalent Chromium	0.0500		0.00543		0.0568	mg/L			103	(90%-110%)		11/11/20 12:06

Notes:

The Qualifiers in this report are defined as follows:

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

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QC Summary

Workorder: **526986**

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

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

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

Radiological Analysis

Case Narrative

Radiochemistry
Technical Case Narrative
CH2MHill Plateau Remediation Company
SDG #: GEL526986
Work Order #: 526986

Product: **SMR_I129LOWLEVEL_RAD**
Analytical Method: DOE EML HASL-300,I-01 Modified
Analytical Procedure: GL-RAD-A-006 REV# 21
Analytical Batch: 2059798

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

GEL Sample ID#	Client Sample Identification
526986011	B3XRW8
526986012	B3XRP4
526986013	B3XRY2
1204687680	Method Blank (MB)
1204687681	526410007(NonSDG) Sample Duplicate (DUP)
1204687682	526410007(NonSDG) Matrix Spike (MS)
1204687683	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

Duplication Criteria between QC Sample and Duplicate Sample
The Sample and the Duplicate, (See Below), did not meet the relative error ratio requirement; however, both sample and duplicate results are less than the minimum detectable concentration.

Sample	Analyte	Value
1204687681 (Non SDG 526410007DUP)	Iodine-129	RPD 0 N/A RER 2.08* (0-2)

Technical Information

Recounts
Sample 1204687683 (LCS) was recounted due to low recovery. The recount is reported.

Product: **SMR_TC99_LSC**
Analytical Method: TC99_LSC
Analytical Procedure: GL-RAD-A-059 REV# 5

Analytical Batch: 2061723

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

GEL Sample ID#	Client Sample Identification
526986007	B3XRJ5
526986008	B3XRW4
526986009	B3XRW5
526986010	B3XRW0
526986013	B3XRY2
1204691866	Method Blank (MB)
1204691867	526490001(NonSDG) Sample Duplicate (DUP)
1204691868	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.

Preparation Information

Aliquot Reduced
526986013 (B3XRY2) Aliquot was reduced due to limited sample volume

Product: **SMR_TRITIUM_LSC**
Analytical Method: TRITIUM_LSC
Analytical Procedure: GL-RAD-A-002 REV# 23
Analytical Batch: 2064234

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

GEL Sample ID#	Client Sample Identification
526986010	B3XRW0
526986011	B3XRW8
526986012	B3XRP4
1204697620	Method Blank (MB)
1204697621	526986010(B3XRW0) Sample Duplicate (DUP)
1204697622	526986010(B3XRW0) Matrix Spike (MS)
1204697623	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.

Preparation Information

Aliquot Reduced
526986012 (B3XRP4) Aliquot was reduced due to limited sample volume

Technical Information

Recounts
Sample 526986012 (B3XRP4) was recounted due to high MDC. The recount is 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

CPRC002 CH2MHill Plateau Remediation Company (74393)

Client SDG: GEL526986 GEL Work Order: 526986

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:  **Name: Theresa Austin**

Date: 08 DEC 2020 **Title: Group Leader**

Sample Data Summary

Certificate of Analysis
Sample Summary

SDG Number:	**GEL526986**	**Client:**	**CPRC002**	**Project:**	**CPRC0I21006**
Lab Sample ID:	**526986007**	**Date Collected:**	**11/09/2020 10:37**	**Matrix:**	**WATER**
		Date Received:	**11/11/2020 10:10**		
Client ID:	**B3XRJ5**			**Prep Basis:**	**"As Received"**
Batch ID:	**2061723**	**Method:**	**TC99_LSC**	**SOP Ref:**	**GL-RAD-A-059**
Run Date:	**11/22/2020 12:20**	**Analyst:**	**JJ3**	**Instrument:**	**LSCGOLD**
Data File:	**E2061723R.xls**	**Aliquot:**	**100 mL**	**Count Time:**	**20 min**
Prep Batch:	**2061723**	**Prep Method:**	**DOE EML HASL-300, Tc-02-**		
Prep Date:	**11/17/2020 12:16**				

CAS No.	Parmname	Qual	Result	Units	Uncert	TPU	MDC	RDL
14133-76-7	Technetium-99		3070	pCi/L	+/-69.0	368	28.0	50.0

Surrogate/Tracer recovery	Result	Nominal	Units	Recovery%	Acceptable Limits
Technetium-99m Tracer	32000	31700	CPM	101	(30%-105%)

Comments:

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

The MDC is a sample specific MDC.

Certificate of Analysis
Sample Summary

SDG Number:	**GEL526986**	**Client:**	**CPRC002**	**Project:**	**CPRC0I21006**
Lab Sample ID:	**526986008**	**Date Collected:**	**11/10/2020 06:25**	**Matrix:**	**WATER**
		Date Received:	**11/11/2020 10:10**		
Client ID:	**B3XRW4**			**Prep Basis:**	**"As Received"**
Batch ID:	**2061723**	**Method:**	**TC99_LSC**	**SOP Ref:**	**GL-RAD-A-059**
Run Date:	**11/22/2020 12:42**	**Analyst:**	**JJ3**	**Instrument:**	**LSCGOLD**
Data File:	**E2061723R.xls**	**Aliquot:**	**100 mL**	**Count Time:**	**20 min**
Prep Batch:	**2061723**	**Prep Method:**	**DOE EML HASL-300, Tc-02-**		
Prep Date:	**11/17/2020 12:16**				

CAS No.	Parmname	Qual	Result	Units	Uncert	TPU	MDC	RDL
14133-76-7	Technetium-99	U	4.27	pCi/L	+/-19.1	19.1	33.2	50.0

Surrogate/Tracer recovery	Result	Nominal	Units	Recovery%	Acceptable Limits
Technetium-99m Tracer	27500	31700	CPM	86.7	(30%-105%)

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.

Certificate of Analysis
Sample Summary

SDG Number:	**GEL526986**	**Client:**	**CPRC002**	**Project:**	**CPRC0I21006**
Lab Sample ID:	**526986009**	**Date Collected:**	**11/10/2020 07:56**	**Matrix:**	**WATER**
		Date Received:	**11/11/2020 10:10**		
Client ID:	**B3XRW5**			**Prep Basis:**	**"As Received"**
Batch ID:	**2061723**	**Method:**	**TC99_LSC**	**SOP Ref:**	**GL-RAD-A-059**
Run Date:	**11/22/2020 13:03**	**Analyst:**	**JJ3**	**Instrument:**	**LSCGOLD**
Data File:	**E2061723R.xls**	**Aliquot:**	**100 mL**	**Count Time:**	**20 min**
Prep Batch:	**2061723**	**Prep Method:**	**DOE EML HASL-300, Tc-02-**		
Prep Date:	**11/17/2020 12:16**				

CAS No.	Parmname	Qual	Result	Units	Uncert	TPU	MDC	RDL
14133-76-7	Technetium-99		19500	pCi/L	+/-169	2300	27.8	50.0

Surrogate/Tracer recovery	Result	Nominal	Units	Recovery%	Acceptable Limits
Technetium-99m Tracer	32900	31700	CPM	104	(30%-105%)

Comments:

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

The MDC is a sample specific MDC.

Certificate of Analysis
Sample Summary

SDG Number:	**GEL526986**	**Client:**	**CPRC002**	**Project:**	**CPRC0I21006**
Lab Sample ID:	**526986010**	**Date Collected:**	**11/10/2020 09:56**	**Matrix:**	**WATER**
		Date Received:	**11/11/2020 10:10**		
Client ID:	**B3XRW0**			**Prep Basis:**	**"As Received"**
Batch ID:	**2061723**	**Method:**	**TC99_LSC**	**SOP Ref:**	**GL-RAD-A-059**
Run Date:	**11/22/2020 13:25**	**Analyst:**	**JJ3**	**Instrument:**	**LSCGOLD**
Data File:	**E2061723R.xls**	**Aliquot:**	**100 mL**	**Count Time:**	**20 min**
Prep Batch:	**2061723**	**Prep Method:**	**DOE EML HASL-300, Tc-02-**		
Prep Date:	**11/17/2020 12:16**				

CAS No.	Parmname	Qual	Result	Units	Uncert	TPU	MDC	RDL
14133-76-7	Technetium-99		241	pCi/L	+/-25.4	38.0	29.1	50.0

Surrogate/Tracer recovery	Result	Nominal	Units	Recovery%	Acceptable Limits
Technetium-99m Tracer	31300	31700	CPM	98.7	(30%-105%)

Comments:

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

The MDC is a sample specific MDC.

Certificate of Analysis
Sample Summary

SDG Number:	**GEL526986**	**Client:**	**CPRC002**	**Project:**	**CPRC0I21006**
Lab Sample ID:	**526986010**	**Date Collected:**	**11/10/2020 09:56**	**Matrix:**	**WATER**
		Date Received:	**11/11/2020 10:10**		
Client ID:	**B3XRW0**			**Prep Basis:**	**"As Received"**
Batch ID:	**2064234**	**Method:**	**TRITIUM_LSC**	**SOP Ref:**	**GL-RAD-A-002**
Run Date:	**12/02/2020 12:23**	**Analyst:**	**TXJ1**	**Instrument:**	**LSCPURPLE**
Data File:	**T2064234R.xls**	**Aliquot:**	**50 mL**	**Count Time:**	**45 min**
Prep Batch:	**2064234**	**Prep Method:**	**EPA 906.0 Modified**		
Prep Date:	**12/02/2020 09:11**				

CAS No.	Parmname	Qual	Result	Units	Uncert	TPU	MDC	RDL
10028-17-8	Tritium		632	pCi/L	+/-203	237	305	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.

Certificate of Analysis
Sample Summary

SDG Number:	**GEL526986**	**Client:**	**CPRC002**	**Project:**	**CPRC0I21006**
Lab Sample ID:	**526986011**	**Date Collected:**	**11/10/2020 09:00**	**Matrix:**	**WATER**
		Date Received:	**11/11/2020 10:10**		
Client ID:	**B3XRW8**			**Prep Basis:**	**"As Received"**
Batch ID:	**2059798**	**Method:**	**DOE EML HASL-300,I-01 Mo**	**SOP Ref:**	**GL-RAD-A-006**
Run Date:	**11/17/2020 17:29**	**Analyst:**	**BSW1**	**Instrument:**	**XRAY7**
Data File:	**I526986011.CNF;2**	**Aliquot:**	**1.2 L**	**Count Time:**	**240 min**
Prep Batch:	**2059798**	**Prep Method:**	**DOE EML HASL-300,I-01 M**		
Prep Date:	**11/16/2020 08:01**				

CAS No.	Parmname	Qual	Result	Units	Uncert	TPU	MDC	RDL
15046-84-1	Iodine-129		1.54	pCi/L	+/-1.07	1.08	0.949	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.

Certificate of Analysis
Sample Summary

SDG Number:	**GEL526986**	**Client:**	**CPRC002**	**Project:**	**CPRC0I21006**
Lab Sample ID:	**526986011**	**Date Collected:**	**11/10/2020 09:00**	**Matrix:**	**WATER**
		Date Received:	**11/11/2020 10:10**		
Client ID:	**B3XRW8**			**Prep Basis:**	**"As Received"**
Batch ID:	**2064234**	**Method:**	**TRITIUM_LSC**	**SOP Ref:**	**GL-RAD-A-002**
Run Date:	**12/02/2020 13:09**	**Analyst:**	**TXJ1**	**Instrument:**	**LSCPURPLE**
Data File:	**T2064234R.xls**	**Aliquot:**	**50 mL**	**Count Time:**	**45 min**
Prep Batch:	**2064234**	**Prep Method:**	**EPA 906.0 Modified**		
Prep Date:	**12/02/2020 09:11**				

CAS No.	Parmname	Qual	Result	Units	Uncert	TPU	MDC	RDL
10028-17-8	Tritium		4810	pCi/L	+/-332	988	300	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.

Certificate of Analysis
Sample Summary

SDG Number:	**GEL526986**	**Client:**	**CPRC002**	**Project:**	**CPRC0I21006**
Lab Sample ID:	**526986012**	**Date Collected:**	**11/10/2020 09:23**	**Matrix:**	**WATER**
		Date Received:	**11/11/2020 10:10**		
Client ID:	**B3XRP4**			**Prep Basis:**	**"As Received"**
Batch ID:	**2059798**	**Method:**	**DOE EML HASL-300,I-01 Mo**	**SOP Ref:**	**GL-RAD-A-006**
Run Date:	**11/17/2020 19:58**	**Analyst:**	**BSW1**	**Instrument:**	**XRAY2**
Data File:	**I526986012.CNF;1**	**Aliquot:**	**1.2 L**	**Count Time:**	**120 min**
Prep Batch:	**2059798**	**Prep Method:**	**DOE EML HASL-300,I-01 M**		
Prep Date:	**11/16/2020 08:01**				

CAS No.	Parmname	Qual	Result	Units	Uncert	TPU	MDC	RDL
15046-84-1	Iodine-129	U	-0.311	pCi/L	+/-0.388	0.413	0.615	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.

Certificate of Analysis
Sample Summary

SDG Number:	**GEL526986**	**Client:**	**CPRC002**	**Project:**	**CPRC0I21006**
Lab Sample ID:	**526986012**	**Date Collected:**	**11/10/2020 09:23**	**Matrix:**	**WATER**
		Date Received:	**11/11/2020 10:10**		
Client ID:	**B3XRP4**			**Prep Basis:**	**"As Received"**
Batch ID:	**2064234**	**Method:**	**TRITIUM_LSC**	**SOP Ref:**	**GL-RAD-A-002**
Run Date:	**12/04/2020 05:16**	**Analyst:**	**TXJ1**	**Instrument:**	**LSCPURPLE**
Data File:	**T2064234R.xls**	**Aliquot:**	**25 mL**	**Count Time:**	**120 min**
Prep Batch:	**2064234**	**Prep Method:**	**EPA 906.0 Modified**		
Prep Date:	**12/02/2020 09:11**				

CAS No.	Parmname	Qual	Result	Units	Uncert	TPU	MDC	RDL
10028-17-8	Tritium	U	-84.0	pCi/L	+/-202	202	353	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.

Certificate of Analysis
Sample Summary

SDG Number:	**GEL526986**	**Client:**	**CPRC002**	**Project:**	**CPRC0I21006**
Lab Sample ID:	**526986013**	**Date Collected:**	**11/10/2020 08:10**	**Matrix:**	**WATER**
		Date Received:	**11/11/2020 10:10**		
Client ID:	**B3XRY2**			**Prep Basis:**	**"As Received"**
Batch ID:	**2059798**	**Method:**	**DOE EML HASL-300,I-01 Mo**	**SOP Ref:**	**GL-RAD-A-006**
Run Date:	**11/17/2020 19:58**	**Analyst:**	**BSW1**	**Instrument:**	**XRAY3**
Data File:	**I526986013.CNF;1**	**Aliquot:**	**1.2 L**	**Count Time:**	**120 min**
Prep Batch:	**2059798**	**Prep Method:**	**DOE EML HASL-300,I-01 M**		
Prep Date:	**11/16/2020 08:01**				

CAS No.	Parmname	Qual	Result	Units	Uncert	TPU	MDC	RDL
15046-84-1	Iodine-129	U	0.310	pCi/L	+/-0.374	0.376	0.483	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.

Certificate of Analysis
Sample Summary

SDG Number:	**GEL526986**	**Client:**	**CPRC002**	**Project:**	**CPRC0I21006**
Lab Sample ID:	**526986013**	**Date Collected:**	**11/10/2020 08:10**	**Matrix:**	**WATER**
		Date Received:	**11/11/2020 10:10**		
Client ID:	**B3XRY2**			**Prep Basis:**	**"As Received"**
Batch ID:	**2061723**	**Method:**	**TC99_LSC**	**SOP Ref:**	**GL-RAD-A-059**
Run Date:	**11/22/2020 07:06**	**Analyst:**	**JJ3**	**Instrument:**	**LSCGOLD**
Data File:	**E2061723R.xls**	**Aliquot:**	**45 mL**	**Count Time:**	**90 min**
Prep Batch:	**2061723**	**Prep Method:**	**DOE EML HASL-300, Tc-02-**		
Prep Date:	**11/17/2020 12:16**				

CAS No.	Parmname	Qual	Result	Units	Uncert	TPU	MDC	RDL
14133-76-7	Technetium-99	U	-7.37	pCi/L	+/-23.2	23.2	39.8	50.0

Surrogate/Tracer recovery	Result	Nominal	Units	Recovery%	Acceptable Limits
Technetium-99m Tracer	28900	31700	CPM	91	(30%-105%)

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

Report Date: December 8, 2020
Page 1 of 2

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

Workorder: **526986**

Parmname	NOM	Sample	Qual	QC	Units	QC Criteria	Range	Analyst	Date Time
Rad Gamma Spec									
Batch 2059798									
QC1204687680 MB									
Iodine-129			U	-0.0210	pCi/L			BSW1	11/18/2011:03
Uncert:				+/-0.297					
TPU:				+/-0.297					
QC1204687681 526410007 DUP									
Iodine-129	U	-0.134	U	0.553	pCi/L				11/18/2011:30
Uncert:		+/-0.362		+/-0.468		RPD: 0	N/A		
TPU:		+/-0.367		+/-0.533		RER: 2.08	(0-2)		
QC1204687682 526410007 MS									
Iodine-129	37.6 U	-0.134		28.3	pCi/L	REC: 75.6	(75%-125%)		11/18/2011:31
Uncert:		+/-0.362		+/-2.68					
TPU:		+/-0.367		+/-3.89					
QC1204687683 LCS									
Iodine-129	37.6			31.6	pCi/L	REC: 84	(80%-120%)		11/19/2020:31
Uncert:				+/-2.33					
TPU:				+/-3.93					
Rad Liquid Scintillation									
Batch 2061723									
QC1204691866 MB									
Technetium-99			U	7.33	pCi/L			JJ3	11/22/2014:30
Uncert:				+/-16.7					
TPU:				+/-16.7					
**Technetium-99m Tracer	31700			30800	CPM	REC: 97	(30%-105%)		
QC1204691867 526490001 DUP									
Technetium-99	U	-4.93	U	-5.80	pCi/L				11/22/2014:52
Uncert:		+/-16.8		+/-16.1		RPD: 0	N/A		
TPU:		+/-16.8		+/-16.1		RER: 0.0731	(0-2)		
**Technetium-99m Tracer	31700	29000		31400	CPM	REC: 99	(30%-105%)		
QC1204691868 LCS									
Technetium-99	756			657	pCi/L	REC: 86.9	(80%-120%)		11/22/2015:14
Uncert:				+/-35.2					
TPU:				+/-85.1					
**Technetium-99m Tracer	31700			30900	CPM	REC: 97	(30%-105%)		
Batch 2064234									
QC1204697620 MB									
Tritium			U	97.2	pCi/L			TXJ1	12/03/2004:11
Uncert:				+/-175					
TPU:				+/-176					
QC1204697621 526986010 DUP									
Tritium		632		829	pCi/L				12/03/2004:57
Uncert:		+/-203		+/-210		RPD: 27	(0% - 100%)		
TPU:		+/-237		+/-264		RER: 1.09	(0-2)		
QC1204697622 526986010 MS									
Tritium	5090	632		5130	pCi/L	REC: 88.3	(75%-125%)		12/03/2005:44

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QC Summary

Workorder: **526986**

Parmname	NOM	Sample	Qual	QC	Units	QC Criteria	Range	Analyst	Date Time
Rad Liquid Scintillation									
Batch 2064234									
		Uncert:		+/-203		+/-338			
		TPU:		+/-237		+/-1050			
QC1204697623 LCS									
Tritium	5070			4180	pCi/L	REC: 82.3	(80%-120%)		12/03/20 06:30
		Uncert:		+/-314					
		TPU:		+/-866					

Notes:

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

The Qualifiers in this report are defined as follows:

<	Sample is below the EPA guidance level for Reactive Releasable Cyanide and/or Reactive Releasable Sulfide
>	Result greater than quantifiable range or greater than upper limit of the analysis range
B	The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate).
B	The analyte was detected in the associated method blank >/= MDC or >5% sample activity.
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.
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.
UX	Gamma Spectroscopy--Uncertain identification
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

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.