



November 16, 2015

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

Re: CHPRC SAF X16-001  
Work Order: 383890  
SDG: GEL383890

Dear Mr. Fitzgerald:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on October 24, 2015. 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,

Sarah Edwards for  
Heather Shaffer  
Project Manager

Purchase Order: 300071JDBA 7H  
Chain of Custody: X16-001-060 and X16-001-061  
Enclosures



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# Case Narrative

November 19, 2015

General Narrative  
for  
CH2MHill Plateau Remediation Company  
CHPRC SAF X16-001  
SDG: GEL383890

November 16, 2015

**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 October 24, 2015, for analysis. The samples were delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. There are no additional comments concerning sample receipt.

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

**Sample Identification**

The laboratory received the following samples:

<b>Laboratory Identification</b>	<b>Sample Description</b>
383890001	B32TJ6
383890002	B32TJ8
383890003	B32TJ5

**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.

November 19, 2015

Data Package

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

This package, to the best of my knowledge, 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.



Sarah Edwards for  
Heather Shaffer  
Project Manager

# **Chain of Custody and Supporting Documentation**

CH2MHill Plateau Remediation Company		C.O.C. #	
CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		X16-001-061	
383890		Page 1 of 1	
Collector	CHRIS FULTON CHPRC	Contact/Requester	Karen Waters-Husted
SAF No.	X16-001	Telephone No.	509-376-4650
Project Title	100-BC-5 RI, OCTOBER 2015	Purchase Order/Charge Code	303271
Shipped To (Lab)	GEL Laboratories, LLC	Ice Chest No.	6005-490
Protocol	CERCLA	Bill of Lading/Air Bill No.	7748 0447 4402
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		Priority:	30 Days
SPECIAL INSTRUCTIONS Hold Time Submit deliverables & invoices to ^CPP Sample Management.		Offsite Property No.	60071
Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			
Sample No.	B32TJ6	Filter	N
		* Date	10/22/2015
		Time	1039
		No/Type Container	1x250-mL G/P
		Sample Analysis	9056_ANIONS_IC: COMMON
		Holding Time	28 Days/48 Hours
		Preservative	Cool <=6C

Relinquished By	CHRIS FULTON CHPRC	Print		Sign		Date/Time	OCT 22 2015 1210
Received By	L.D. Wall CHPRC	Print		Sign		Date/Time	OCT 22 2015 1210
Relinquished By	L.D. Wall CHPRC	Print		Sign	FEDEX	Date/Time	
Received By	M. Easton WLF	Print		Sign		Date/Time	10/24/15 0855
Relinquished By		Print		Sign		Date/Time	
Received By		Print		Sign		Date/Time	

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)

Date/Time

Disposed By

November 19, 2015

Collector: CHRIS FULTON  
 Contact/Requester: Karen Waters-Husted  
 Telephone No. 509-376-4650  
 SAF No. X16-001  
 Sampling Origin: Hanford Site  
 Purchase Order/Charge Code: 303271  
 Project Title: 100-BC-5 RI, OCTOBER 2015  
 Logbook No. HNF-N-506 80/2  
 Ice Chest No. 6005-496  
 Shipped To (Lab): GEL Laboratories, LLC  
 Method of Shipment: Commercial Carrier  
 Bill of Lading/Air Bill No. 7748 0447 4402  
 Protocol: CERCLA  
 Priority: 30 Days  
 Offsite Property No. 6071

**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   
 Submit deliverables & invoices to CPP Sample Management.

Sample No.	Filter	* Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B32TJ8	Y	OCT 22 2015	1039	1x500-mL G/P	6020_METALS_ICPMS: GW 01; 6010_METALS_ICP: GW 04	6 Months	HNO3 to pH <2
B32TJ5	N			1x250-mL G/P	2320_ALKALINITY: COMMON	14 Days	Cool <=6C
B32TJ5	N			1x250-mL G/P	4500D_SULFIDE: COMMON	7 Days	ZnAc+NaOH to pH > 9/Cool <=6C
B32TJ5	N			1x500-mL G/P	6020_METALS_ICPMS: GW 01; 6010_METALS_ICP: GW 04	6 Months	HNO3 to pH <2
B32TJ5	N			1x250-mL aG	9060_TOC: COMMON	28 Days	HCl or H2SO4 to pH <2/Cool <=6C

Relinquished By: CHRIS FULTON  
 Date/Time: OCT 22 2015 1400  
 Sign: [Signature]  
 Received By: L.D. Wall  
 Date/Time: OCT 22 2015 1200  
 Sign: [Signature]  
 Relinquished By: L.D. Wall  
 Date/Time: OCT 22 2015 1400  
 Sign: [Signature]  
 Received By: M. Kuslan  
 Date/Time: 10-24-15 0830  
 Sign: [Signature]

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

8 of 54  
 Relinquished By: [Signature]  
 Date/Time: [Blank]

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

PRINTED ON: 9/29/2015  
 FSR ID = FSR5357  
 A-6004-842 (REV 2)



November 19, 2015

Client: CPRC SDG/AR/COC/Work Order: \_\_\_\_\_

Received By: M/K Date Received: 10-24-15

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

COC/Samples marked as radioactive?  Yes  No  
 Maximum Net Counts Observed\* (Observed Counts - Area Background Counts): cpm 0

Classified Radioactive II or III by RSO?  Yes  No  
 If yes, Were swipes taken of sample containers < action levels?

COC/Samples marked containing PCBs?  Yes  No

Package, COC, and/or Samples marked as Cesium, Plutonium or asbestos containing?  Yes  No  
 If yes, samples are to be segregated as Safety Controlled Samples, and opened by the GEL Safety Group.

Shipped as a DOT Hazardous?  Yes  No  
 Hazard Class Shipped: \_\_\_\_\_ UN#: \_\_\_\_\_

Samples identified as Foreign Soil?  Yes  No

Sample Receipt Criteria		Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2	Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Preservation Method: Ice bags Blue ice Dry ice None Other (describe) *all temperatures are recorded in Celsius <u>ic dc</u>
2a	Daily check performed and passed on IR temperature gun?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Temperature Device Serial #: <u>84092024932</u> Secondary Temperature Device Serial # (If Applicable):
3	Chain of custody documents included with shipment?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
4	Sample containers intact and sealed?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
5	Samples requiring chemical preservation at proper pH?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6	Do Low Level Perchlorate samples have headspace as required?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Sample ID's and containers affected:
7	VOA vials contain acid preservation?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	(If unknown, select No)
8	VOA vials free of headspace (defined as < 6mm bubble)?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Sample ID's and containers affected:
9	Are Encore containers present?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	(If yes, immediately deliver to Volatiles laboratory)
10	Samples received within holding time?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	ID's and tests affected:
11	Sample ID's on COC match ID's on bottles?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Sample ID's and containers affected:
12	Date & time on COC match date & time on bottles?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Sample ID's affected:
13	Number of containers received match number indicated on COC?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Sample ID's affected:
14	Are sample containers identifiable as GEL provided?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
15	COC form is properly signed in relinquished/received sections?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
16	Carrier and tracking number.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Circle Applicable: <u>FedEx Air</u> FedEx Ground UPS Field Services Courier Other 7748 0447 4402 2 <sup>c</sup> FRI 7748 1517 1722 2 <sup>c</sup> 7748 1213 1167 1 <sup>c</sup> 7748 1213 1351 1 <sup>c</sup>

Comments (Use Continuation Form if needed):

# **Data Review Qualifier Definitions**

## Project Specific Qualifier Definitions for GEL Client Code: **CPRC**

Code	Status	Qualifier Definition	CofA	Department	Fraction	Additional Comments
U	Programmed	Analyzed for but not detected above limiting criteria. Includes MDL, MDA, PQL, zero, counting error, and total analytical error.	Y			Includes MDA, TPU, count uncert.
J	Programmed	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	Y	Organics		Organics only
P	Programmed	Aroclor target analyte with greater than 25% difference between column analyses.	Y	Organics		PCB only
C	Manual	Analyte has been confirmed by GC/MS analysis	Y	Organics	Pesticide	IF GC/MS confirmation was attempted but unsuccessful do not qualify with C
B	Programmed	The analyte was detected in both the associated QC blank and in the sample.	Y	Organics		
E	Manual	Concentration exceeds the calibration range of the instrument	Y	Organics		Qualifier Uploaded
A	Manual	The TIC is a suspected aldol-condensation product	Y	Organics	Semi-Volatile	Uploaded with TIC
X	Programmed	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier	Y			Replaces H Hold Date In RAD replaces UI. Same usage as standard X as well.
N	Programmed	Spike Sample recovery is outside control limits.	Y			
*	Programmed	Duplicate analysis not within control limits	Y	Inorganics		
>	Programmed	Result greater than quantifiable range or greater than upper limit of the analysis range	Y	General Chemistry		
Z	Manual	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier	Y			
B	Programmed	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).	Y	Inorganics	Metals	Replaces J Estimated Value
D	Programmed	Results are reported from a diluted aliquot of sample.	Y			Dilution
E	Programmed	Reported value is estimated due to interferences. See comment in narrative.	Y	Inorganics	Metals	GEL E
M	Manual	Duplicate precision not met.	Y	Inorganics	Metals	Replaces *
o	Programmed	Analyte failed to recover within LCS limits (Organics only)	Y	Organics		
S	Manual	Reported value determined by the Method of Standard Additions (MSA)	Y	Inorganics		Not coded B/C Rarely performed
T	Programmed	Spike and/or spike duplicate sample recovery is outside control limits.	Y	Organics		GC/MS only
W	Manual	Post-digestion spike recovery for GFAA out of control limit. Sample absorbency < 50% of spike absorbency.	Y	Inorganics		No GFAA in house.
B	Programmed	The associated QC sample blank has a result $\geq 2X$ the MDA and, after corrections, result is $\geq$ MDA for this sample	Y	Radiological		
Y	Manual	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier	Y			
+	Manual	Correlation coefficient for Method of Standard Additions (MSA) is < 0.995	Y	Inorganics		
B	Programmed	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).	Y	General Chemistry		Replaces J Estimated Value
C	Programmed	Target analyte was detected in the sample and the associated blank. The associated blank concentration is $\geq$ EQL or is > 5% of the measured concentration and/or decision level for associated samples.	Y	Inorganics	Metals	Replaces B Blank Detection
C	Programmed	Target analyte was detected in the sample and the associated blank. The associated blank concentration is $\geq$ EQL or is > 5% of the measured concentration and/or decision level for associated samples.	Y	General Chemistry		Replaces B Blank Detection
<	Programmed	Sample is below the EPA guidance level for Reactive Releasable Cyanide and/or Reactive Releasable Sulfide	Y	General Chemistry		for Reactive CN/S

## Project Specific Qualifier Definitions for GEL Client Code: **CPRC**

Code	Status	Qualifier Definition	CofA	Department	Fraction	Additional Comments
UX	Manual	Gamma Spectroscopy--Uncertain identification	Y	Radiological		

# Laboratory Certifications

**List of current GEL Certifications as of 16 November 2015**

<b>State</b>	<b>Certification</b>
Alaska	UST-110
Arkansas	88-0651
CLIA	42D0904046
California	2940 Interim
Colorado	SC00012
Connecticut	PH-0169
Delaware	SC000122013-10
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330-15-00283, P330-15-00253
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC000122013-10
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	LA150001
Maryland	270
Massachusetts	M-SC012
Michigan	9976
Mississippi	SC000122013-10
Nebraska	NE-OS-26-13
Nevada	SC000122016-1
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
Oklahoma	9904
Pennsylvania NELAP	68-00485
S.Carolina Radchem	10120002
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235-15-10
Utah NELAP	SC000122015-19
Vermont	VT87156
Virginia NELAP	460202
Washington	C780
West Virginia	997404

# Metals Analysis

# Case Narrative

**Metals**  
**Technical Case Narrative**  
**CH2MHill Plateau Remediation Company (CPRC)**  
**SDG #: GEL383890**  
**Work Order #: 383890**

<b>Sample ID</b>	<b>Client ID</b>
383890002	B32TJ8
383890003	B32TJ5
1203418143	Method Blank (MB)ICP
1203418144	Laboratory Control Sample (LCS)
1203418147	383922001(B32NF7L) Serial Dilution (SD)
1203418145	383922001(B32NF7S) Matrix Spike (MS)
1203418146	383922001(B32NF7SD) Matrix Spike Duplicate (MSD)
1203418086	Method Blank (MB)ICP-MS
1203418087	Laboratory Control Sample (LCS)
1203418090	383925001(B32M20L) Serial Dilution (SD)
1203418088	383925001(B32M20S) Matrix Spike (MS)
1203418089	383925001(B32M20SD) Matrix Spike Duplicate (MSD)

**Sample Analysis**

Samples 383890 002 and 003 in this SDG were analyzed for metals on an "as received" basis.

**Method/Analysis Information**

<b>Analytical Batch:</b>	1517528 and 1517510
<b>Prep Batch :</b>	1517527 and 1517509
<b>Standard Operating Procedures:</b>	GL-MA-E-013 REV# 24, GL-MA-E-006 REV# 13 and GL-MA-E-014 REV# 26
<b>Analytical Method:</b>	6010_METALS_ICP and 6020_METALS_ICPMS
<b>Prep Method :</b>	SW846 3005A

**Preparation/Analytical Method Verification**

The SOP stated above has been prepared based on technical research and testing conducted by GEL Laboratories, LLC and with guidance from the regulatory documents listed in this "Method/Analysis Information" section.

**System Configuration**

The Metals analysis-ICP was performed on a P E 5300 Optima radial/axial-viewing inductively coupled plasma atomic emission spectrometer. The instrument is equipped with an ESI SC-FAST introduction, cyclonic spray chamber, and yttrium or scandium internal standard.

The Metals analysis - ICPMS was performed on a PerkinElmer NexION 350X ICPMS. The instrument is equipped with a ESI PFA-ST nebulizer, quadrupole mass spectrometer, dual mode electron multiplier detector, and Kinetic Energy Discrimination (KED) technology. Internal standards of scandium, germanium, indium, tantalum, and/or lutetium were utilized to cover the mass spectrum.

### **Calibration Information**

#### **Instrument Calibration**

All initial calibration requirements have been met for this sample delivery group (SDG).

#### **CRDL/PQL Requirements**

The CRDL/PQL standard recoveries met the referenced advisory control limits.

#### **ICSA/ICSAB Statement**

All interference check samples (ICSA and ICSAB) associated with this SDG met the established acceptance criteria.

#### **Continuing Calibration Blanks (CCB) Requirements**

All continuing calibration blanks (CCB) bracketing this batch met the established acceptance criteria.

#### **Continuing Calibration Verification (CCV) Requirements**

All continuing calibration verifications (CCV) bracketing this SDG met the acceptance criteria.

### **Quality Control (QC) Information**

#### **Method Blank (MB) Statement**

The method blanks (MB) analyzed with this SDG met the acceptance criteria. However, tin was greater than the MDL. In instances where there were positive hits in the method blank, the results were evaluated and appropriately flagged on the data. 1203418086 (MB)-ICP-MS.

#### **Laboratory Control Sample (LCS) Recovery**

The LCS spike recoveries met the acceptance limits.

#### **Quality Control (QC) Sample Statement**

The following samples were selected as the quality control (QC) samples for this SDG: 383922001 (B32NF7)-ICP and 383925001 (B32M20)-ICP-MS.

#### **Matrix Spike (MS/MSD) Recovery Statement**

The percent recoveries (%R) obtained from the MS/MSD analyses are evaluated when the sample concentration is less than four times (4X) the spike concentration added. The matrix spike met the recommended quality control acceptance criteria for percent recoveries for all applicable analytes.

#### **MS/MSD Relative Percent Difference (RPD) Statement**

The relative percent difference (RPD) obtained from the designated matrix spike duplicate (MSD) is

evaluated based on acceptance criteria of 20%. The RPD values between qualifying analyte results in the MS and MSD were within the acceptance limits.

**Serial Dilution % Difference Statement**

All applicable analytes in the serial dilution (SDILT) demonstrated acceptable correlation to its associated sample and met the established acceptance percent difference criteria.

**Technical Information**

**Holding Time Specifications**

GEL assigns holding times based on the associated methodology. Holding time is measured by comparison of the date and time of sample collection to the date and time of sample preparation and analysis. Those holding times expressed in hours are calculated in the AlphaLIMS system. Those holding times expressed as days expire at midnight on the day of expiration. All samples in this SDG met the specified holding time.

**Preparation/Analytical Method Verification**

All procedures were performed as stated in the SOP.

**Sample Dilutions**

The samples in this SDG did not require dilutions.

**Preparation Information**

The samples in this SDG were not diluted and prepared according to the cited SOP.

**Miscellaneous Information**

**Electronic Packaging Comment**

This data package was generated using an electronic data processing program referred to as virtual packaging. In an effort to increase quality and efficiency, the laboratory has developed systems to generate all data packages electronically. The following change from traditional packages should be noted: Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. An electronic signature page inserted after the case narrative will include the data validator's signature and title. The signature page also includes the data qualifiers used in the fractional package. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

**Data Exception (DER) Documentation**

A data exception report was not required for this SDG.

**Additional Comments**

Additional comments were not required for this SDG.

**Certification Statement**

Where the analytical method has been performed under NELAP certification, the analysis has met all of

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the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

November 19, 2015

**GEL LABORATORIES LLC**

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

**Qualifier Definition Report  
for**

CPRC001 CH2MHill Plateau Remediation Company

Client SDG: GEL383890 GEL Work Order: 383890

**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.
- M Duplicate precision not met.
- 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:** Jamie Johnson

**Date:** 19 NOV 2015

**Title:** Group Leader

# Sample Data Summary

**METALS**  
-1-  
**INORGANICS ANALYSIS DATA PACKAGE**

SDG No: GEL383890

METHOD TYPE: SW846

SAMPLE ID: 383890002

CLIENT ID: B32TJ8

CONTRACT: CPRC0X16001

MATRIX: WATER

DATE RECEIVED 24-OCT-15

LEVEL: Low

<u>CAS No</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>C</u>	<u>Qual</u>	<u>M*</u>	<u>MDL</u>	<u>DF</u>	<u>Inst ID</u>	<u>Analytical Run</u>
7429-90-5	Aluminum	15	ug/L	U		MS	15	1	ICPMS12	151117-8
7440-36-0	Antimony	1	ug/L	U		MS	1	1	ICPMS12	151116-4
7440-38-2	Arsenic	2.25	ug/L	B		MS	1.7	1	ICPMS12	151113-3
7440-39-3	Barium	31.3	ug/L			MS	0.6	1	ICPMS12	151113-3
7440-41-7	Beryllium	0.2	ug/L	U		MS	0.2	1	ICPMS12	151113-3
7440-42-8	Boron	15.3	ug/L	B		P	15	1	OPTIMA3	110315-1
7440-43-9	Cadmium	0.11	ug/L	U		MS	0.11	1	ICPMS12	151113-3
7440-70-2	Calcium	48200	ug/L			P	50	1	OPTIMA3	110315-1
7440-47-3	Chromium	27.7	ug/L			MS	2	1	ICPMS12	151113-3
7440-48-4	Cobalt	0.1	ug/L	U		MS	0.1	1	ICPMS12	151113-3
7440-50-8	Copper	0.547	ug/L	B		MS	0.35	1	ICPMS12	151113-3
7439-89-6	Iron	30	ug/L	U		P	30	1	OPTIMA3	110315-1
7439-92-1	Lead	0.5	ug/L	U		MS	0.5	1	ICPMS12	151113-3
7439-95-4	Magnesium	8050	ug/L			P	110	1	OPTIMA3	110315-1
7439-96-5	Manganese	1.16	ug/L	B		MS	1	1	ICPMS12	151113-3
7439-98-7	Molybdenum	2.96	ug/L			MS	0.165	1	ICPMS12	151116-7
7440-02-0	Nickel	0.5	ug/L	U		MS	0.5	1	ICPMS12	151113-3
7440-09-7	Potassium	4230	ug/L			P	50	1	OPTIMA3	110315-1
7782-49-2	Selenium	1.5	ug/L	U		MS	1.5	1	ICPMS12	151113-3
7440-22-4	Silver	0.1	ug/L	U		MS	0.1	1	ICPMS12	151113-3
7440-23-5	Sodium	11200	ug/L			P	100	1	OPTIMA3	110515-2
7440-24-6	Strontium	212	ug/L			MS	2	1	ICPMS12	151113-3
7440-28-0	Thallium	0.45	ug/L	U		MS	0.45	1	ICPMS12	151113-3
7440-29-1	Thorium	0.383	ug/L	U		MS	0.383	1	ICPMS12	151113-3
7440-31-5	Tin	1	ug/L	U		MS	1	1	ICPMS12	151113-3
7440-61-1	Uranium	1.99	ug/L			MS	0.067	1	ICPMS12	151116-7

METALS  
-1-  
INORGANICS ANALYSIS DATA PACKAGE

SDG No: GEL383890

METHOD TYPE: SW846

SAMPLE ID: 383890002

CLIENT ID: B32TJ8

CONTRACT: CPRC0X16001

MATRIX: WATER

DATE RECEIVED 24-OCT-15

LEVEL: Low

<u>CAS No</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>C</u>	<u>Qual</u>	<u>M*</u>	<u>MDL</u>	<u>DF</u>	<u>Inst ID</u>	<u>Analytical Run</u>
7440-62-2	Vanadium	3.3	ug/L	B		P	1	1	OPTIMA3	110315-1
7440-66-6	Zinc	3.5	ug/L	U		MS	3.5	1	ICPMS12	151113-3

## \*Analytical Methods:

P SW846 3005A/6010C  
MS SW846 3005A/6020A

**METALS**  
-1-  
**INORGANICS ANALYSIS DATA PACKAGE**

SDG No: GEL383890

METHOD TYPE: SW846

SAMPLE ID: 383890003

CLIENT ID: B32TJ5

CONTRACT: CPRC0X16001

MATRIX: WATER

DATE RECEIVED 24-OCT-15

LEVEL: Low

<u>CAS No</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>C</u>	<u>Qual</u>	<u>M*</u>	<u>MDL</u>	<u>DF</u>	<u>Inst ID</u>	<u>Analytical Run</u>
7429-90-5	Aluminum	15	ug/L	U		MS	15	1	ICPMS12	151117-8
7440-36-0	Antimony	1	ug/L	U		MS	1	1	ICPMS12	151116-4
7440-38-2	Arsenic	2.37	ug/L	B		MS	1.7	1	ICPMS12	151113-3
7440-39-3	Barium	31	ug/L			MS	0.6	1	ICPMS12	151113-3
7440-41-7	Beryllium	0.2	ug/L	U		MS	0.2	1	ICPMS12	151113-3
7440-42-8	Boron	15.5	ug/L	B		P	15	1	OPTIMA3	110315-1
7440-43-9	Cadmium	0.11	ug/L	U		MS	0.11	1	ICPMS12	151113-3
7440-70-2	Calcium	48700	ug/L			P	50	1	OPTIMA3	110315-1
7440-47-3	Chromium	29.6	ug/L			MS	2	1	ICPMS12	151113-3
7440-48-4	Cobalt	0.1	ug/L	U		MS	0.1	1	ICPMS12	151113-3
7440-50-8	Copper	0.35	ug/L	U		MS	0.35	1	ICPMS12	151113-3
7439-89-6	Iron	120	ug/L			P	30	1	OPTIMA3	110315-1
7439-92-1	Lead	0.5	ug/L	U		MS	0.5	1	ICPMS12	151113-3
7439-95-4	Magnesium	8110	ug/L			P	110	1	OPTIMA3	110315-1
7439-96-5	Manganese	6.09	ug/L			MS	1	1	ICPMS12	151113-3
7439-98-7	Molybdenum	2.52	ug/L			MS	0.165	1	ICPMS12	151116-7
7440-02-0	Nickel	0.5	ug/L	U		MS	0.5	1	ICPMS12	151113-3
7440-09-7	Potassium	4260	ug/L			P	50	1	OPTIMA3	110315-1
7782-49-2	Selenium	1.5	ug/L	U		MS	1.5	1	ICPMS12	151113-3
7440-22-4	Silver	0.1	ug/L	U		MS	0.1	1	ICPMS12	151113-3
7440-23-5	Sodium	11500	ug/L			P	100	1	OPTIMA3	110515-2
7440-24-6	Strontium	215	ug/L			MS	2	1	ICPMS12	151113-3
7440-28-0	Thallium	0.45	ug/L	U		MS	0.45	1	ICPMS12	151113-3
7440-29-1	Thorium	0.383	ug/L	U		MS	0.383	1	ICPMS12	151113-3
7440-31-5	Tin	1	ug/L	U		MS	1	1	ICPMS12	151113-3
7440-61-1	Uranium	1.97	ug/L			MS	0.067	1	ICPMS12	151116-7

METALS  
 -1-  
 INORGANICS ANALYSIS DATA PACKAGE

SDG No: GEL383890

METHOD TYPE: SW846

SAMPLE ID: 383890003

CLIENT ID: B32TJ5

CONTRACT: CPRC0X16001

MATRIX: WATER

DATE RECEIVED 24-OCT-15

LEVEL: Low

<u>CAS No</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>C</u>	<u>Qual</u>	<u>M*</u>	<u>MDL</u>	<u>DF</u>	<u>Inst ID</u>	<u>Analytical Run</u>
7440-62-2	Vanadium	3.52	ug/L	B		P	1	1	OPTIMA3	110315-1
7440-66-6	Zinc	3.5	ug/L	U		MS	3.5	1	ICPMS12	151113-3

\*Analytical Methods:

P SW846 3005A/6010C  
 MS SW846 3005A/6020A

# Quality Control Summary

**November 19, 2015**  
**GEL LABORATORIES LLC**

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

**QC Summary**

Report Date: November 19, 2015

Page 1 of 8

CH2MHill Plateau Remediation Company

MSIN R3-50 CHPRC

PO Box 1600

Richland, Washington

Contact: Mr. Scot Fitzgerald

Workorder: 383890

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
<b>Metals Analysis - ICPMS</b>											
Batch	1517510										
QC1203418087	LCS										
Aluminum	2000			2390	ug/L		120	(80%-120%)	BAJ	11/17/15	11:06
Antimony	50.0			57.9	ug/L		116	(80%-120%)		11/16/15	16:01
Arsenic	50.0			53.3	ug/L		107	(80%-120%)		11/13/15	20:37
Barium	50.0			49.1	ug/L		98.3	(80%-120%)			
Beryllium	50.0			54.8	ug/L		110	(80%-120%)			
Cadmium	50.0			49.2	ug/L		98.4	(80%-120%)			
Chromium	50.0			49.5	ug/L		98.9	(80%-120%)			
Cobalt	50.0			50.2	ug/L		100	(80%-120%)			
Copper	50.0			49.3	ug/L		98.7	(80%-120%)			
Lead	50.0			49.0	ug/L		98	(80%-120%)			
Manganese	50.0			49.3	ug/L		98.7	(80%-120%)			
Molybdenum	50.0			58.3	ug/L		117	(80%-120%)		11/16/15	19:28
Nickel	50.0			48.5	ug/L		97	(80%-120%)		11/13/15	20:37
Selenium	50.0			51.2	ug/L		102	(80%-120%)			
Silver	50.0			52.0	ug/L		104	(80%-120%)			
Strontium	50.0			48.4	ug/L		96.9	(80%-120%)			
Thallium	50.0			47.4	ug/L		94.8	(80%-120%)			
Thorium	50.0			49.0	ug/L		97.9	(80%-120%)			
Tin	50.0			50.9	ug/L		102	(80%-120%)			
Uranium	50.0			58.7	ug/L		117	(80%-120%)		11/16/15	19:28

**November 19, 2015**  
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**QC Summary**

Workorder: 383890

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
<b>Metals Analysis - ICPMS</b>											
Batch	1517510										
Zinc	50.0			49.6	ug/L		99.3	(80%-120%)	BAJ	11/13/15	20:37
QC1203418086	MB										
Aluminum			U	15.0	ug/L					11/17/15	11:04
Antimony			U	1.00	ug/L					11/16/15	15:59
Arsenic			U	1.70	ug/L					11/13/15	20:34
Barium			U	0.600	ug/L						
Beryllium			U	0.200	ug/L						
Cadmium			U	0.110	ug/L						
Chromium			U	2.00	ug/L						
Cobalt			U	0.100	ug/L						
Copper			U	0.350	ug/L						
Lead			U	0.500	ug/L						
Manganese			U	1.00	ug/L						
Molybdenum			U	0.165	ug/L					11/16/15	19:27
Nickel			U	0.500	ug/L					11/13/15	20:34
Selenium			U	1.50	ug/L						
Silver			U	0.100	ug/L						
Strontium			U	2.00	ug/L						
Thallium			U	0.450	ug/L						
Thorium			U	0.383	ug/L						
Tin			B	1.18	ug/L						
Uranium			U	0.067	ug/L					11/16/15	19:27

**November 19, 2015**  
**GEL LABORATORIES LLC**

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**QC Summary**

Workorder: 383890

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
<b>Metals Analysis - ICPMS</b>											
Batch	1517510										
Zinc			U	3.50	ug/L				BAJ	11/13/15	20:34
QC1203418088	383925001	MS									
Aluminum	2000	B	43.0	2320	ug/L		114	(75%-125%)		11/17/15	11:13
Antimony	50.0	U	1.00	56.6	ug/L		112	(75%-125%)		11/16/15	16:16
Arsenic	50.0	B	2.62	55.0	ug/L		105	(75%-125%)		11/13/15	21:00
Barium	50.0		84.7	130	ug/L		91.1	(75%-125%)			
Beryllium	50.0	U	0.200	49.9	ug/L		99.8	(75%-125%)			
Cadmium	50.0	U	0.110	47.9	ug/L		95.8	(75%-125%)			
Chromium	50.0	B	3.23	51.2	ug/L		95.9	(75%-125%)			
Cobalt	50.0		2.17	48.3	ug/L		92.3	(75%-125%)			
Copper	50.0		1.10	46.6	ug/L		90.9	(75%-125%)			
Lead	50.0	U	0.500	46.4	ug/L		92.7	(75%-125%)			
Manganese	50.0		27.6	73.8	ug/L		92.3	(75%-125%)			
Molybdenum	50.0		6.15	65.1	ug/L		118	(75%-125%)		11/16/15	19:43
Nickel	50.0	B	1.65	46.4	ug/L		89.6	(75%-125%)		11/13/15	21:00
Selenium	50.0	B	3.39	52.0	ug/L		97.2	(75%-125%)			
Silver	50.0	U	0.100	48.3	ug/L		96.4	(75%-125%)			
Strontium	50.0		329	378	ug/L		N/A	(75%-125%)			
Thallium	50.0	U	0.450	47.0	ug/L		93.6	(75%-125%)			
Thorium	50.0	U	0.383	48.6	ug/L		96.9	(75%-125%)			
Tin	50.0	U	1.00	49.0	ug/L		97.8	(75%-125%)			
Uranium	50.0		6.56	62.9	ug/L		113	(75%-125%)		11/16/15	19:43

**November 19, 2015**  
**GEL LABORATORIES LLC**

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**QC Summary**

Workorder: **383890**

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<b>Parmname</b>	<b>NOM</b>	<b>Sample</b>	<b>Qual</b>	<b>QC</b>	<b>Units</b>	<b>RPD/D%</b>	<b>REC%</b>	<b>Range</b>	<b>Anlst</b>	<b>Date</b>	<b>Time</b>
<b>Metals Analysis - ICPMS</b>											
Batch	1517510										
Zinc	50.0	U	3.50	48.2	ug/L		92.3	(75%-125%)	BAJ	11/13/15	21:00
QC1203418089 383925001 MSD											
Aluminum	2000	B	43.0	2470	ug/L	6.16	121	(0%-20%)		11/17/15	11:14
Antimony	50.0	U	1.00	56.5	ug/L	0.131	112	(0%-20%)		11/16/15	16:17
Arsenic	50.0	B	2.62	54.1	ug/L	1.75	103	(0%-20%)		11/13/15	21:03
Barium	50.0		84.7	132	ug/L	1.36	94.7	(0%-20%)			
Beryllium	50.0	U	0.200	53.2	ug/L	6.4	106	(0%-20%)			
Cadmium	50.0	U	0.110	49.5	ug/L	3.13	98.9	(0%-20%)			
Chromium	50.0	B	3.23	54.1	ug/L	5.49	102	(0%-20%)			
Cobalt	50.0		2.17	50.4	ug/L	4.18	96.4	(0%-20%)			
Copper	50.0		1.10	47.4	ug/L	1.86	92.7	(0%-20%)			
Lead	50.0	U	0.500	46.5	ug/L	0.0904	92.8	(0%-20%)			
Manganese	50.0		27.6	77.5	ug/L	4.94	99.8	(0%-20%)			
Molybdenum	50.0		6.15	65.2	ug/L	0.187	118	(0%-20%)		11/16/15	19:44
Nickel	50.0	B	1.65	48.5	ug/L	4.38	93.7	(0%-20%)		11/13/15	21:03
Selenium	50.0	B	3.39	53.3	ug/L	2.5	99.8	(0%-20%)			
Silver	50.0	U	0.100	49.2	ug/L	1.83	98.2	(0%-20%)			
Strontium	50.0		329	389	ug/L	3.04	N/A	(0%-20%)			
Thallium	50.0	U	0.450	46.1	ug/L	1.77	92	(0%-20%)			
Thorium	50.0	U	0.383	48.9	ug/L	0.515	97.4	(0%-20%)			
Tin	50.0	U	1.00	51.3	ug/L	4.48	102	(0%-20%)			
Uranium	50.0		6.56	63.4	ug/L	0.782	114	(0%-20%)		11/16/15	19:44

**November 19, 2015**  
**GEL LABORATORIES LLC**

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**QC Summary**

Workorder: 383890

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
<b>Metals Analysis - ICPMS</b>											
Batch	1517510										
Zinc	50.0	U	3.50		49.5	ug/L	2.59	94.8	(0%-20%)	BAJ	11/13/15 21:03
QC1203418090	383925001	SDILT									
Aluminum		B	43.0	D	15.0	ug/L	74		(0%-10%)		11/17/15 11:16
Antimony		U	0.360	DU	5.00	ug/L	N/A		(0%-10%)		11/16/15 16:19
Arsenic		B	2.62	DU	8.50	ug/L	N/A		(0%-10%)		11/13/15 21:05
Barium			84.7	D	17.9	ug/L	5.42		(0%-10%)		
Beryllium		U	0.016	DU	1.00	ug/L	N/A		(0%-10%)		
Cadmium		U	0.016	DU	0.550	ug/L	N/A		(0%-10%)		
Chromium		B	3.23	DU	10.0	ug/L	N/A		(0%-10%)		
Cobalt			2.17	D	0.435	ug/L	.416		(0%-10%)		
Copper			1.10	DU	1.75	ug/L	N/A		(0%-10%)		
Lead		U	0.086	DU	2.50	ug/L	N/A		(0%-10%)		
Manganese			27.6	D	5.86	ug/L	6.05		(0%-10%)		
Molybdenum			6.15	D	1.17	ug/L	5.15		(0%-10%)		11/16/15 19:46
Nickel		B	1.65	DU	2.50	ug/L	N/A		(0%-10%)		11/13/15 21:05
Selenium		B	3.39	DU	7.50	ug/L	N/A		(0%-10%)		
Silver		U	0.092	DU	0.500	ug/L	N/A		(0%-10%)		
Strontium			329	D	67.7	ug/L	3.08		(0%-10%)		
Thallium		U	0.144	DU	2.25	ug/L	N/A		(0%-10%)		
Thorium		U	0.146	DU	1.92	ug/L	N/A		(0%-10%)		
Tin		U	0.128	DU	5.00	ug/L	N/A		(0%-10%)		
Uranium			6.56	D	1.35	ug/L	2.56		(0%-10%)		11/16/15 19:46

**November 19, 2015**  
**GEL LABORATORIES LLC**

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**QC Summary**

Workorder: **383890**

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
<b>Metals Analysis - ICPMS</b>											
Batch	1517510										
Zinc		U	2.04	DU	17.5	ug/L	N/A	(0%-10%)	BAJ	11/13/15	21:05

<b>Metals Analysis-ICP</b>											
Batch	1517528										
QC1203418144	LCS										
Boron	500				508	ug/L		102	(80%-120%)	HSC	11/03/15 19:20
Calcium	5000				4730	ug/L		94.7	(80%-120%)		
Iron	5000				4790	ug/L		95.7	(80%-120%)		
Magnesium	5000				4990	ug/L		99.8	(80%-120%)		
Potassium	5000				4980	ug/L		99.7	(80%-120%)		
Sodium	5000				5070	ug/L		101	(80%-120%)		11/05/15 13:33
Vanadium	500				497	ug/L		99.4	(80%-120%)		11/03/15 19:20
QC1203418143	MB										
Boron			U		15.0	ug/L					11/03/15 19:17
Calcium			U		50.0	ug/L					
Iron			U		30.0	ug/L					
Magnesium			U		110	ug/L					
Potassium			U		50.0	ug/L					
Sodium			U		100	ug/L					11/05/15 13:30
Vanadium			U		1.00	ug/L					11/03/15 19:17
QC1203418145	383922001 MS										
Boron	500	U	15.0		530	ug/L		103	(75%-125%)		11/03/15 19:27
Calcium	5000		16300		21300	ug/L		101	(75%-125%)		
Iron	5000	U	30.0		4820	ug/L		95.9	(75%-125%)		
Magnesium	5000		4500		9470	ug/L		99.4	(75%-125%)		

**November 19, 2015**  
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**QC Summary**

Workorder: **383890**

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
<b>Metals Analysis-ICP</b>											
Batch	1517528										
Potassium	5000	87700		94800	ug/L		N/A	(75%-125%)			
Sodium	5000	18800		24900	ug/L		121	(75%-125%)	HSC	11/05/15	13:40
Vanadium	500	5.71		508	ug/L		100	(75%-125%)		11/03/15	19:27
QC1203418146 383922001 MSD											
Boron	500	U	15.0	515	ug/L	2.81	100	(0%-20%)		11/03/15	19:30
Calcium	5000		16300	20400	ug/L	4.14	83.5	(0%-20%)			
Iron	5000	U	30.0	4690	ug/L	2.61	93.4	(0%-20%)			
Magnesium	5000		4500	9160	ug/L	3.33	93.2	(0%-20%)			
Potassium	5000		87700	90900	ug/L	4.3	N/A	(0%-20%)			
Sodium	5000		18800	23400	ug/L	6.18	91.6	(0%-20%)		11/05/15	13:43
Vanadium	500		5.71	496	ug/L	2.37	98	(0%-20%)		11/03/15	19:30
QC1203418147 383922001 SDILT											
Boron		U	13.8 DU	75.0	ug/L	N/A		(0%-10%)		11/03/15	19:33
Calcium			16300 D	3180	ug/L	2.06		(0%-10%)			
Iron		U	22.9 DU	150	ug/L	N/A		(0%-10%)			
Magnesium			4500 D	903	ug/L	.271		(0%-10%)			
Potassium			87700 D	17100	ug/L	2.77		(0%-10%)			
Sodium			18800 D	3960	ug/L	5.15		(0%-10%)		11/05/15	13:46
Vanadium			5.71 D	1.05	ug/L	8.14		(0%-10%)		11/03/15	19:33

**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



# General Chem Analysis

# Case Narrative

**General Chemistry  
Technical Case Narrative  
CH2MHill Plateau Remediation Company (CPRC)  
SDG #: GEL383890  
Work Order #: 383890**

**Method/Analysis Information**

**Product:** Carbon and Total Organic  
**Analytical Batch:** 1521438 **Method:** 9060\_TOC: COMMON

**Sample Analysis**

The following samples were analyzed using the analytical protocol as established in SW846 9060A:

<b>Sample ID</b>	<b>Client ID</b>
383890003	B32TJ5
1203428632	Method Blank (MB)
1203428633	Laboratory Control Sample (LCS)
1203428634	383805001(B32ML9) Sample Duplicate (DUP)
1203428635	383890003(B32TJ5) Sample Duplicate (DUP)
1203428636	384108009(B32NY6) Sample Duplicate (DUP)
1203428637	383805001(B32ML9) Post Spike (PS)
1203428638	383890003(B32TJ5) Post Spike (PS)
1203428639	384108009(B32NY6) Post Spike (PS)

Sample 383890 003 in this SDG was analyzed on an "as received" basis.

**SOP Reference**

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-GC-E-093 REV# 13.

**Preparation/Analytical Method Verification**

The SOP stated above has been prepared based on technical research and testing conducted by GEL Laboratories, LLC. and with guidance from the regulatory documents listed in this "Method/Analysis Information" section.

**Calibration Information**

The Carbon analysis was performed on a O-I Analytical 1030W Carbon Analyzer.

**Initial Calibration**

All initial calibration requirements have been met for this SDG.

**Continuing Calibration Blanks**

All continuing calibration blanks (CCBs) associated with reported data from this batch were within acceptance limits.

**Calibration Verification Information (CCV)**

All continuing calibration verification standards (CCVs) associated with reported data from this batch were within acceptance limits.

**Quality Control (QC) Information**

**Method Blank (MB) Statement**

The MB analyzed with this SDG met the acceptance criteria.

**Laboratory Control Sample (LCS) Recovery**

The LCS spike recovery met the acceptance limits.

**Quality Control (QC) Designation**

Samples 383805001 (B32ML9), 383890003 (B32TJ5) and 384108009 (B32NY6) were selected for QC analysis.

**Matrix Spike (MS)/Post Spike (PS) Recovery Statement**

The MS/PS recoveries for this sample set were within the required acceptance limits where applicable.

**Duplicate Relative Percent Difference (RPD) Statement**

The RPD between the sample and its duplicate met the acceptance limits.

**Technical Information**

GEL assigns holding times based on the date and time of sample collection. Those holding times expressed in hours are calculated in the AlphaLims system by hours. Those holding times expressed as days expire at midnight on the day of expiration.

**Holding Times**

All samples in this SDG met the specified holding time.

**Sample Preservation/Integrity**

All the samples from this sample group met the preservation and integrity requirements of the method.

**Sample Dilutions**

The following samples were diluted because target analyte concentrations exceeded the calibration range. 1203428636 (Non SDG 384108009DUP) and 1203428639 (Non SDG 384108009PS).

**Sample Re-analysis**

The samples in this SDG did not require re-analysis.

**Miscellaneous Information**

**Data Exception (DER) Documentation**

Data exception reports (DERs) are generated to document procedural anomalies that may deviate from referenced SOP or contractual documents. A data exception report (DER) was not generated for this SDG.

**Additional Comments**

Additional comments were not required for this SDG.

**Electronic Packaging Comment**

This data package was generated using an electronic data processing program referred to as virtual packaging. In an effort to increase quality and efficiency, the laboratory has developed systems to generate all data packages electronically. The following change from traditional packages should be noted:

Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. The data validator will always sign and date the case narrative. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

**Method/Analysis Information**

**Product:** Ion Chromatography  
**Analytical Batch:** 1517743                      **Method:** 9056\_ANIONS\_IC: COMMON

**Sample Analysis**

The following samples were analyzed using the analytical protocol as established in SW846 9056A:

<b>Sample ID</b>	<b>Client ID</b>
383890001	B32TJ6
1203418687	Method Blank (MB)
1203418688	Laboratory Control Sample (LCS)
1203418689	383890001(B32TJ6) Sample Duplicate (DUP)
1203418690	383890001(B32TJ6) Post Spike (PS)

Sample 383890 001 in this SDG was analyzed on an "as received" basis.

**SOP Reference**

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-GC-E-086 REV# 24.

**Preparation/Analytical Method Verification**

The SOP stated above has been prepared based on technical research and testing conducted by GEL Laboratories, LLC. and with guidance from the regulatory documents listed in this "Method/Analysis Information" section.

**Calibration Information**

The Ion Chromatography analysis was performed on a Dionex ICS-3000 Ion Chromatograph.

**Initial Calibration**

All initial calibration requirements have been met for this SDG.

**Continuing Calibration Blanks**

All continuing calibration blanks (CCBs) associated with reported data from this batch were within acceptance limits.

**Calibration Verification Information (CCV)**

All continuing calibration verification standards (CCVs) associated with reported data from this batch were within acceptance limits.

**Y Intercept Rule**

The absolute value of the intercept is less than 3 times the MDL.

**Quality Control (QC) Information**

**Method Blank (MB) Statement**

The MB analyzed with this SDG met the acceptance criteria.

**Laboratory Control Sample (LCS) Recovery**

The LCS spike recovery met the acceptance limits.

**Quality Control (QC) Designation**

Sample 383890001 (B32TJ6) was selected for QC analysis.

**Matrix Spike (MS)/Post Spike (PS) Recovery Statement**

The MS/PS recoveries for this sample set were within the required acceptance limits where applicable.

**Duplicate Relative Percent Difference (RPD) Statement**

The RPD between the sample and its duplicate met the acceptance limits.

**Technical Information**

GEL assigns holding times based on the date and time of sample collection. Those holding times expressed in hours are calculated in the AlphaLims system by hours. Those holding times expressed as days expire at midnight on the day of expiration.

**Holding Times**

All samples in this SDG met the specified holding time.

**Sample Dilutions**

The following samples were diluted because target analyte concentrations exceeded the calibration range. 1203418689 (B32TJ6DUP), 1203418690 (B32TJ6PS) and 383890001 (B32TJ6).

Analyte	<b>383890</b>
	<b>001</b>
Chloride	10X
Nitrate	10X
Sulfate	10X

**Sample Re-analysis**

The samples in this SDG did not require re-analysis.

**Miscellaneous Information**

**Data Exception (DER) Documentation**

Data exception reports (DERs) are generated to document procedural anomalies that may deviate from referenced SOP or contractual documents. A data exception report (DER) was not generated for this SDG.

**Manual Integrations**

Samples 1203418689 (B32TJ6DUP), 1203418690 (B32TJ6PS) and 383890001 (B32TJ6) were manually integrated to correctly position the baseline as set in the calibration standards.

**Additional Comments**

Additional comments were not required for this SDG.

**Electronic Packaging Comment**

This data package was generated using an electronic data processing program referred to as virtual packaging. In an effort to increase quality and efficiency, the laboratory has developed systems to generate all data packages electronically. The following change from traditional packages should be noted: Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. The data validator will always sign and date the case narrative. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

**Method/Analysis Information**

**Product:** Sulfide and Total  
**Analytical Batch:** 1517942      **Method:** 4500\_Sulfide: COMMON

**Sample Analysis**

The following samples were analyzed using the analytical protocol as established in 4500D\_SULFIDE:

<b>Sample ID</b>	<b>Client ID</b>
383890003	B32TJ5
1203419326	Method Blank (MB)
1203419327	Laboratory Control Sample (LCS)
1203419328	383890003(B32TJ5) Sample Duplicate (DUP)
1203419329	383890003(B32TJ5) Post Spike (PS)

Sample 383890 003 in this SDG was analyzed on an "as received" basis.

**SOP Reference**

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-GC-E-052 REV# 7.

**Preparation/Analytical Method Verification**

The SOP stated above has been prepared based on technical research and testing conducted by GEL Laboratories, LLC. and with guidance from the regulatory documents listed in this "Method/Analysis Information" section.

**Calibration Information**

The Spectrometric analysis was performed on a Spectronic 20D+ Digital Spectrophotometer.

**Initial Calibration**

All initial calibration requirements have been met for this SDG.

**Continuing Calibration Blanks**

All continuing calibration blanks (CCBs) associated with reported data from this batch were within acceptance limits.

**Calibration Verification Information (CCV)**

All continuing calibration verification standards (CCVs) associated with reported data from this batch were within acceptance limits.

**Y Intercept Rule**

The absolute value of the intercept is less than 3 times the MDL.

**Quality Control (QC) Information**

**Method Blank (MB) Statement**

The MB analyzed with this SDG met the acceptance criteria.

**Laboratory Control Sample (LCS) Recovery**

The LCS spike recovery met the acceptance limits.

**Quality Control (QC) Designation**

Sample 383890003 (B32TJ5) was selected for QC analysis.

**Matrix Spike (MS)/Post Spike (PS) Recovery Statement**

The MS/PS recovery for this sample set was within the required acceptance limits where applicable.

**Duplicate Relative Percent Difference (RPD) Statement**

The RPD between the sample and its duplicate met the acceptance limits.

**Technical Information**

GEL assigns holding times based on the date and time of sample collection. Those holding times expressed in hours are calculated in the AlphaLims system by hours. Those holding times expressed as days expire at midnight on the day of expiration.

**Holding Times**

All samples in this SDG met the specified holding time.

**Sample Preservation/Integrity**

All the samples from this sample group met the preservation and integrity requirements of the method.

**Sample Dilutions**

The samples in this SDG did not require dilutions.

**Sample Re-analysis**

The samples in this SDG did not require re-analysis.

**Miscellaneous Information**

**Data Exception (DER) Documentation**

Data exception reports (DERs) are generated to document procedural anomalies that may deviate from referenced SOP or contractual documents. A data exception report (DER) was not generated for this SDG.

**Additional Comments**

Additional comments were not required for this SDG.

**Electronic Packaging Comment**

This data package was generated using an electronic data processing program referred to as virtual packaging. In an effort to increase quality and efficiency, the laboratory has developed systems to generate all data packages electronically. The following change from traditional packages should be noted: Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. The data validator will always sign and date the case narrative. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

**Method/Analysis Information**

**Product:** Alkalinity

**Analytical Batch:** 1518361      **Method:** 2320\_ALKALINITY: COMMON (Alkalinity only)

**Sample Analysis**

The following samples were analyzed using the analytical protocol as established in 2320\_ALKALINITY:

<b>Sample ID</b>	<b>Client ID</b>
383890003	B32TJ5
1203420475	Method Blank (MB)
1203420472	Laboratory Control Sample (LCS)
1203420482	384004001(B32NM5) Sample Duplicate (DUP)

Sample 383890 003 in this SDG was analyzed on an "as received" basis.

**SOP Reference**

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-GC-E-033 REV# 12.

**Preparation/Analytical Method Verification**

The SOP stated above has been prepared based on technical research and testing conducted by GEL Laboratories, LLC. and with guidance from the regulatory documents listed in this "Method/Analysis Information" section.

**Calibration Information**

The Titration and Ion analysis was performed on a Manually operated buret.

**Initial Standardization**

The titrant was properly standardized

**Quality Control (QC) Information**

**Method Blank (MB) Statement**

The MB analyzed with this SDG met the acceptance criteria.

**Laboratory Control Sample (LCS) Recovery**

The LCS spike recovery met the acceptance limits.

**Quality Control (QC) Designation**

Sample 384004001 (B32NM5) was selected for QC analysis.

**Duplicate Relative Percent Difference (RPD) Statement**

The RPD between the sample and its duplicate met the acceptance limits.

**Technical Information**

GEL assigns holding times based on the date and time of sample collection. Those holding times expressed in hours are calculated in the AlphaLims system by hours. Those holding times expressed as days expire at midnight on the day of expiration.

**Holding Times**

All samples in this SDG met the specified holding time.

**Sample Dilutions**

The samples in this SDG did not require dilutions.

**Sample Re-analysis**

The samples in this SDG did not require re-analysis.

**Miscellaneous Information**

**Data Exception (DER) Documentation**

Data exception reports (DERs) are generated to document procedural anomalies that may deviate from referenced SOP or contractual documents. A data exception report (DER) was not generated for this SDG.

**Additional Comments**

Less sample was used for this analysis because insufficient sample was provided. 1203420482 (Non SDG 384004001DUP).

**Electronic Packaging Comment**

This data package was generated using an electronic data processing program referred to as virtual packaging. In an effort to increase quality and efficiency, the laboratory has developed systems to generate all data packages electronically. The following change from traditional packages should be noted:

Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. The data validator will always sign and date the case narrative. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

**Certification Statement**

November 19, 2015

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.

November 19, 2015

**GEL LABORATORIES LLC**

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

**Qualifier Definition Report  
for**

CPRC001 CH2MHill Plateau Remediation Company

Client SDG: GEL383890 GEL Work Order: 383890

**The Qualifiers in this report are defined as follows:**

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

D Results are reported from a diluted aliquot of sample.

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

**Review/Validation**

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

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

**Signature:** 

**Name:** Thomas Lewis

**Date:** 18 NOV 2015

**Title:** Data Validator

# Sample Data Summary

**Certificate of Analysis**

Report Date: November 18, 2015

Company : CH2MHill Plateau Remediation Company  
 Address : MSIN R3-50 CHPRC  
 PO Box 1600  
 Richland, Washington 99352  
 Contact: Mr. Scot Fitzgerald  
 Project: CHPRC SAF X16-001

---

Client Sample ID: B32TJ6	Project: CPRC0X16001
Sample ID: 383890001	Client ID: CPRC001
Matrix: WATER	
Collect Date: 22-OCT-15 10:39	
Receive Date: 24-OCT-15	
Collector: Client	

---

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
<b>Ion Chromatography</b>											
9056_ANIONS_IC: COMMON "As Received"											
Fluoride	B	149	33.0	500	ug/L	1	MXL2	10/24/15	1033	1517743	1
Nitrite-N	U	38.0	38.0	250	ug/L	1					
Chloride	D	9330	670	2000	ug/L	10	MXL2	10/24/15	1136	1517743	2
Nitrate-N	D	2070	330	1000	ug/L	10					
Sulfate	D	39000	1330	4000	ug/L	10					

The following Analytical Methods were performed:

---

Method	Description	Analyst Comments
1	SW846 9056A	
2	SW846 9056A	

**Notes:**

**Certificate of Analysis**

Report Date: November 18, 2015

Company : CH2MHill Plateau Remediation Company  
 Address : MSIN R3-50 CHPRC  
 PO Box 1600  
 Richland, Washington 99352  
 Contact: Mr. Scot Fitzgerald  
 Project: CHPRC SAF X16-001

Client Sample ID: B32TJ5	Project: CPRC0X16001
Sample ID: 383890003	Client ID: CPRC001
Matrix: WATER	
Collect Date: 22-OCT-15 10:39	
Receive Date: 24-OCT-15	
Collector: Client	

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
<b>Carbon Analysis</b>											
9060_TOC: COMMON "As Received"											
Total Organic Carbon #1	B	391	330	1000	ug/L	1	TSM	11/10/15	0726	1521438	1
Total Organic Carbon #2	B	364	330	1000	ug/L	1					
Total Organic Carbon #3	B	376	330	1000	ug/L	1					
Total Organic Carbon #4	B	366	330	1000	ug/L	1					
Total Organic Carbon Average	B	374	330	1000	ug/L	1					
<b>Spectrometric Analysis</b>											
4500_Sulfide: COMMON "As Received"											
Total Sulfide	U	33.0	33.0	500	ug/L	1	SXC5	10/26/15	1623	1517942	2
<b>Titration and Ion Analysis</b>											
2320_ALKALINITY: COMMON (Alkalinity only) "As Received"											
Alkalinity, Total as CaCO3		121000	725	1000	ug/L		AMB	10/30/15	1421	1518361	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9060A	
2	4500D_SULFIDE	
3	2320_ALKALINITY	

**Notes:**

# Quality Control Summary

**November 19, 2015**  
**GEL LABORATORIES LLC**

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**QC Summary**

Report Date: November 18, 2015

Page 1 of 3

CH2M Hill Plateau Remediation Company

MSIN R3-50 CHPRC

PO Box 1600

Richland, Washington

Contact: Mr. Scot Fitzgerald

Workorder: 383890

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Carbon Analysis</b>											
Batch	1521438										
QC1203428634	383805001	DUP									
Total Organic Carbon Average	B	338	B	370	ug/L	9.04	^	(+/-1000)	TSM	11/10/15	01:24
QC1203428635	383890003	DUP									
Total Organic Carbon Average	B	374	B	380	ug/L	1.59	^	(+/-1000)		11/10/15	08:08
QC1203428636	384108009	DUP									
Total Organic Carbon Average	D	31000	D	30600	ug/L	1.4		(0%-20%)		11/11/15	12:13
QC1203428633	LCS										
Total Organic Carbon Average	10000			9660	ug/L			(85%-115%)		11/09/15	23:01
QC1203428632	MB										
Total Organic Carbon Average			U	330	ug/L					11/09/15	22:47
QC1203428637	383805001	PS									
Total Organic Carbon Average	10.0	B	0.338	9.88	mg/L			(65%-120%)		11/10/15	02:06
QC1203428638	383890003	PS									
Total Organic Carbon Average	10.0	B	0.374	9.99	mg/L			(65%-120%)		11/10/15	08:50
QC1203428639	384108009	PS									
Total Organic Carbon Average	10.0	D	6.20	15.4	mg/L			(65%-120%)		11/11/15	12:58
<b>Ion Chromatography</b>											
Batch	1517743										
QC1203418689	383890001	DUP									
Chloride	D	9330	D	9340	ug/L	0.0321		(0%-20%)	MXL2	10/24/15	12:08
Fluoride	B	149	B	144	ug/L	3.21	^	(+/-500)		10/24/15	11:05
Nitrate-N	D	2070	D	2060	ug/L	0.629		(0%-20%)		10/24/15	12:08
Nitrite-N	U	38.0	U	38.0	ug/L	N/A				10/24/15	11:05
Sulfate	D	39000	D	39000	ug/L	0.103		(0%-20%)		10/24/15	12:08
QC1203418688	LCS										
Chloride	5000			4770	ug/L			(80%-120%)		10/24/15	14:15
Fluoride	2500			2330	ug/L			(80%-120%)			

**November 19, 2015**  
**GEL LABORATORIES LLC**

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**QC Summary**

Workorder: 383890

Page 2 of 3

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Ion Chromatography</b>											
Batch	1517743										
Nitrate-N	2500			2420	ug/L		96.6	(80%-120%)			
Nitrite-N	2500			2440	ug/L		97.5	(80%-120%)	MXL2	10/24/15	14:15
Sulfate	10000			9730	ug/L		97.3	(80%-120%)			
QC1203418687 MB											
Chloride			U	67.0	ug/L					10/24/15	13:44
Fluoride			U	33.0	ug/L						
Nitrate-N			U	33.0	ug/L						
Nitrite-N			U	38.0	ug/L						
Sulfate			U	133	ug/L						
QC1203418690 383890001 PS											
Chloride	5.00	D	0.933	D	5.73	mg/L	96	(75%-125%)		10/24/15	13:12
Fluoride	2.50	B	0.149		2.42	mg/L	90.7	(75%-125%)		10/24/15	12:40
Nitrate-N	2.50	D	0.207	D	2.56	mg/L	94.1	(75%-125%)		10/24/15	13:12
Nitrite-N	2.50	U	0.00		2.41	mg/L	96.4	(75%-125%)		10/24/15	12:40
Sulfate	10.0	D	3.90	D	13.8	mg/L	99.1	(75%-125%)		10/24/15	13:12
<b>Spectrometric Analysis</b>											
Batch	1517942										
QC1203419328 383890003 DUP											
Total Sulfide		U	33.0	U	33.0	ug/L	N/A		SXC5	10/26/15	16:24
QC1203419327 LCS											
Total Sulfide	400		B	402	ug/L		100	(80%-120%)		10/26/15	16:23
QC1203419326 MB											
Total Sulfide			U	33.0	ug/L					10/26/15	16:23
QC1203419329 383890003 PS											
Total Sulfide	0.400	U	-0.00779		0.383	mg/L	95.8	(29%-142%)		10/26/15	16:24
<b>Titration and Ion Analysis</b>											
Batch	1518361										
QC1203420482 384004001 DUP											
Alkalinity, Total as CaCO3			51400		47900	ug/L	7.18	(0%-20%)	AMB	10/30/15	14:45

**November 19, 2015**  
**GEL LABORATORIES LLC**

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

**QC Summary**

Workorder: 383890

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Parname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Titration and Ion Analysis</b>											
Batch	1518361										
QC1203420472	LCS										
Alkalinity, Total as CaCO3	50000			54000	ug/L		108	(90%-110%)	AMB	10/30/15	13:46
QC1203420475	MB										
Alkalinity, Total as CaCO3			U	725	ug/L					10/30/15	13:45

**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  $\geq$  EQL or is  $>$  5% of the measured concentration and/or decision level for associated samples.
- D Results are reported from a diluted aliquot of sample.
- N Spike Sample recovery is outside control limits.
- U Analyzed for but not detected above limiting criteria. Includes MDL, MDA, PQL, zero, counting error, and total analytical error.
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Z Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

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

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