

8/8/2016



August 08, 2016

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

Re: CHPRC SAF W16-007  
Work Order: 401273  
SDG: GEL401273

Dear Mr. Fitzgerald:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on July 12, 2016. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4505.

Sincerely,

*B Luthman*  
Brielle Luthman for  
Heather Shaffer  
Project Manager

Purchase Order: 300072 - 7H  
Chain of Custody: W16-007-084, W16-007-097, W16-007-098, W16-007-099, W16-007-100, W16-007-101  
and W16-007-115  
Enclosures



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# Sample Issue Resolution

**SAMPLE ISSUE RESOLUTION**

**SIR NUM** SIR16-497  
**REV NUM** 0  
**DATE INITIATED** 7/12/2016

**SAMPLE EVENT INFORMATION**

**SAF NUM(S)** W16-007  
**OPERABLE UNIT(S)** NONE  
**PROJECT(S)** RCRA16  
**SAMPLE EVENT TITLE(S)** RCRA16  
**LABORATORY** GEL Laboratories, LLC

**SAMPLING INFORMATION**

**NUMBER OF SAMPLES** 1  
**SAMPLE NUMBERS** B35PN7  
**SAMPLE MATRIX** WATER  
**COLLECTION DATE** 07/10/2016 – 07/10/2016  
**SDG NUM** GEL401273

**ISSUE BACKGROUND**

**CLASS** General Laboratory Direction  
**TYPE** Cancellation of Analyses  
**DESCRIPTION** The TOX bottle for sample B35PN7 was received broken.

**DISPOSITION**

**DESCRIPTION** Proposed Resolution: Cancel TOX analysis for that sample.  
**JUSTIFICATION** Final Disposition: Accept proposed resolution.

SUBMITTED BY: Edith Kent DATE: 07/12/2016  
ACCEPTED BY: Sarah Nagel DATE: 07/12/2016

# Case Narrative

**General Narrative  
for  
CH2MHill Plateau Remediation Company  
CHPRC SAF W16-007  
SDG: GEL401273**

**August 08, 2016**

**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 July 12, 2016, 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><u>Laboratory Identification</u></b>	<b><u>Sample Description</u></b>
401273001	B35ND6
401273002	B35PB7
401273003	B35PB5
401273004	B35PB6
401273005	B35NW7
401273006	B35PN6
401273007	B35PN7
401273008	B35NX1
401273009	B35PN5
401273010	B35PP5
401273011	B35PP6
401273012	B35NX6
401273013	B35PP4
401273014	B35NY9
401273015	B35P01
401273016	B35P03
401273017	B35P05
401273018	B35PW2
401273019	B35P74
401273020	B35PW1
401273021	B35PW0

**Case Narrative**

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

**Data Package**

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

We certify that this package is in compliance with the SOW, both technically and for completeness, including a full description of, explanation of, and corrective actions for, any and all deviations, from either the analyses requested or the case narrative requested. Release of the data contained in this hard copy data package has been authorized by the Laboratory Analytical Manager (or designee) and the laboratory's client services representative as verified by their signatures on this report.

  
Brielle Luthman for  
Heather Shaffer  
Project Manager

**Technical Case Narrative**  
**CH2MHill Plateau Remediation Company (CPRC)**  
**SDG #: GEL401273**  
**Work Order #: 401273**

## GC/MS Semivolatile

### **Analysis of Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry**

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

#### Quality Control (QC) Information

##### **Surrogate Recoveries**

Samples (See Below) did not meet surrogate recovery acceptance criteria. The client requested limits of 70%-130%. Failures were expected. The surrogate passed GEL SPC limits. The data were reported per client request.

Sample	Analyte	Value
1203583572 (MB)	2-Fluorophenol	43* (70%-130%)
	Nitrobenzene-d5	69* (70%-130%)
	Phenol-d5	25* (70%-130%)
1203583573 (LCS)	2-Fluorophenol	48* (70%-130%)
	Phenol-d5	28* (70%-130%)
1203583574 (B35P74MS)	2-Fluorophenol	63* (70%-130%)
	Phenol-d5	44* (70%-130%)
1203583575 (B35P74MSD)	2-Fluorophenol	63* (70%-130%)
	Phenol-d5	43* (70%-130%)
401273019 (B35P74)	2-Fluorophenol	44* (70%-130%)
	Nitrobenzene-d5	68* (70%-130%)
	Phenol-d5	25* (70%-130%)

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

LCS (See Below) did not meet spike recovery acceptance criteria. The client requested limits of 70%-130%. Failures were expected. The spikes passed GEL SPC limits. The data were reported per client request.

Sample	Analyte	Value
1203583573 (LCS)	4-Nitrophenol	22* (70%-130%)
	Phenol	32* (70%-130%)

## **Metals**

### **Determination of Metals by ICP**

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

## **General Chemistry**

### **Carbon, Total Organic**

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.

### **Total Organic Halogens (TOX)**

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.

### **Total Organic Halogens (TOX)**

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.

### **Total Organic Halogens (TOX)**

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.

### **Alkalinity**

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.

**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**  
 401273  
 C.O.C.# **W16-007-084**  
 Page 1 of 1

**Collector:** Kevin Patterson CHPRC  
**SAF No.:** W16-007  
**Contact/Requester:** Karen Waters-Husted  
**Telephone No.:** 509-376-4650  
**Project Title:** RCRA, JULY 2016  
**Sampling Origin:** Hanford Site  
**Purchase Order/Charge Code:** 300071  
**Shipped To (Lab):** GEL Laboratories, LLC  
**Logbook No.:** HNF-N-506 82/85  
**Ice Chest No.:** GWS-553  
**Method of Shipment:** Commercial Carrier  
**Bill of Lading/Air Bill No.:** 77671251 3548  
**Protocol:** RCRA  
**Priority:** 30 Days  
**Offsite Property No.:** 6812  
**Total Activity Exemption:** Yes  No

**POSSIBLE SAMPLE HAZARDS/REMARKS**  
 \*\*\* Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1

Sample No.	Filter	* Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B35ND6	N	W JUL 10 2016	1236	1x1-L aGs*	9020_TOX: COMMON	28 Days	H2SO4 to pH <2/Cool <=6C
B35ND6	N	W	↑	1x250-mL aG	9060_TOX: COMMON	28 Days	HCl or H2SO4 to pH <2/Cool <=6C
B35PB7	N	W	↑	1x1-L aGs*	9020_TOX: COMMON	28 Days	H2SO4 to pH <2/Cool <=6C
B35PB7	N	W	↑	1x250-mL aG	9060_TOX: COMMON	28 Days	HCl or H2SO4 to pH <2/Cool <=6C
B35PB5	N	W	↑	1x1-L aGs*	9020_TOX: COMMON	28 Days	H2SO4 to pH <2/Cool <=6C
B35PB5	N	W	↑	1x250-mL aG	9060_TOX: COMMON	28 Days	HCl or H2SO4 to pH <2/Cool <=6C
B35PB6	N	W	↑	1x1-L aGs*	9020_TOX: COMMON	28 Days	H2SO4 to pH <2/Cool <=6C
B35PB6	N	W JUL 10 2016	1236	1x250-mL aG	9060_TOX: COMMON	28 Days	HCl or H2SO4 to pH <2/Cool <=6C

**Reinquisitioned By:** Kevin Patterson CHPRC  
**Print:** [Signature]  
**Sign:** [Signature]  
**Date/Time:** JUL 10 2016 1545  
**Received By:** [Signature]  
**Print:** 550#1  
**Sign:** [Signature]  
**Date/Time:** JUL 10 2016 1545  
**Reinquisitioned By:** [Signature]  
**Print:** [Signature]  
**Sign:** [Signature]  
**Date/Time:** JUL 11 2016 0730  
**Received By:** Lesly Wall CHPRC  
**Print:** [Signature]  
**Sign:** [Signature]  
**Date/Time:** JUL 11 2016 0730  
**Reinquisitioned By:** [Signature]  
**Print:** [Signature]  
**Sign:** [Signature]  
**Date/Time:** JUL 11 2016 1400  
**Received By:** Lesly Wall CHPRC  
**Print:** [Signature]  
**Sign:** [Signature]  
**Date/Time:** JUL 11 2016 1400  
**Reinquisitioned By:** [Signature]  
**Print:** [Signature]  
**Sign:** [Signature]  
**Date/Time:** JUL 11 2016 1400  
**Received By:** Lesly Wall CHPRC  
**Print:** [Signature]  
**Sign:** [Signature]  
**Date/Time:** JUL 11 2016 1400  
**Received By:** [Signature]  
**Print:** [Signature]  
**Sign:** [Signature]  
**Date/Time:** 7-12-16 0915  
**Disposal Method (e.g., Return to customer, per lab procedure, used in process):** FEDEX  
**Disposal Method:** [Signature]  
**Disposed By:** [Signature]  
**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

821bs

C.O.C.# **W16-007-097**  
Page 1 of 1

**CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST**

401273

CH2M Hill Plateau Remediation Company

Collector: **Frank Hill / CHPRC**      Contact/Requester: **Karen Waters-Husted**      Telephone No.: **509-376-4650**

SAF No.: **W16-007**      Sampling Origin: **Hanford Site**      Purchase Order/Charge Code: **300071**

Project Title: **RCRA, JULY 2016**      Logbook No.: **HNF-N-506 85 88**      Ice Chest No.: **6WS-526**

Shipped To (Lab): **GEL Laboratories, LLC**      Method of Shipment: **Commercial Carrier**      Bill of Lading/Air Bill No.: **77671251 3802**

Protocol: **RCRA**      Priority: **30 Days**      Priority: **PRIORITY**      Offsite Property No.: **6812**

**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: **N/A**      Hold Time: **28 Days**      Total Activity Exemption: Yes  No

Special Handling: **N/A**

Sample No.	Filter	* Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B35NW7	N	7/10/16	1229	1x1-L aGs*	9020_TOX: COMMON	28 Days	H2SO4 to pH <2/Cool <=6C
B35NW7	N			1x250-mL aG	9060_TOX: COMMON	28 Days	HCl or H2SO4 to pH <2/Cool <=6C

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	Matrix *
Frank Hill / CHPRC			JUL 10 2016 1530	SSU #1			JUL 10 2016 1530	S = Soil, SE = Sediment, SO = Solid, SL = Sludge, W = Water, O = Air
SSU #1			JUL 11 2016 0730	Jessy Wall			JUL 11 2016 0730	DS = Drum Solids, DL = Drum Liquids, T = Tissue, WI = Wipe, L = Liquid, V = Vegetation, X = Other
Frank Hill / CHPRC			JUL 11 2016 1400	FEDEX			JUL 11 2016 0915	

Disposal Method (e.g., Return to customer, per lab procedure, used in process): **Disposed By**

73165  
C.O.C.# W16-007-098  
Page 1 of 1

**CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST**

401273

**Collector** Frank Hill / CHPRC  
**SAF No.** W16-007  
**Contact/Requester** Karen Waters-Husted  
**Telephone No.** 509-376-4650  
**Sampling Origin** Hanford Site  
**Purchase Order/Charge Code** 300071  
**Project Title** RCRA, JULY 2016  
**Logbook No.** HNF-N-506 85188  
**Ice Chest No.** GWS-52A  
**Shipped To (Lab)** GEL Laboratories, LLC  
**Method of Shipment** Commercial Carrier  
**Bill of Lading/Air Bill No.** 776712513526  
**Protocol** RCRA  
**Priority:** 30 Days  
**Offsite Property No.** 6812  
**Hold Time**  
**Total Activity Exemption:** Yes  No

**POSSIBLE SAMPLE HAZARDS/REMARKS**  
 \*\*\* Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B35PN6	N	W	7/10/16	1140	1x1-L aGs*	9020_TOX: COMMON	28 Days	H2SO4 to pH <2/Cool <=6C
B35PN6	N	W			1x250-mL aG	9060_TOX: COMMON	28 Days	HCl or H2SO4 to pH <2/Cool <=6C
B35PN7	N	W			1x1-L aGs*	9020_TOX: COMMON	28 Days	H2SO4 to pH <2/Cool <=6C
B35PN7	N	W			1x250-mL aG	9060_TOX: COMMON	28 Days	HCl or H2SO4 to pH <2/Cool <=6C
B35NX1	N	W			1x1-L aGs*	9020_TOX: COMMON	28 Days	H2SO4 to pH <2/Cool <=6C
B35NX1	N	W			1x250-mL aG	9060_TOX: COMMON	28 Days	HCl or H2SO4 to pH <2/Cool <=6C
B35PN5	N	W			1x1-L aGs*	9020_TOX: COMMON	28 Days	H2SO4 to pH <2/Cool <=6C
B35PN5	N	W			1x250-mL aG	9060_TOX: COMMON	28 Days	HCl or H2SO4 to pH <2/Cool <=6C

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
			JUL 10 2016 1530	SSU #1			JUL 10 2016 1530
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
SSU #1			JUL 11 2016 0730	Lesly Wall			JUL 11 2016 0730
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Lesly Wall			JUL 11 2016 1400	FEDEX			JUL 11 2016 0916
Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
			JUL 11 2016 1400	M. Gordon			7-11-16 0916

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

CH2M Hill Plateau Remediation Company  
 C.O.C. # W16-007-099  
 Page 1 of 1

**CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST**

401273

Collector: **Frank Hill /IC/PRC**  
 Contact/Requester: Karen Waters-Husted  
 Telephone No. 509-376-4650  
 Purchase Order/Charge Code 300071  
 SAF No. W16-007  
 Sampling Origin: Hanford Site  
 Project Title: RCRA, JULY 2016  
 Logbook No. HNF-N-506 851 88/89  
 Shipped To (Lab): **GEL Laboratories, LLC**  
 Method of Shipment: Commercial Carrier  
 Bill of Lading/Air Bill No. 776712513526  
 Protocol: RCRA  
 Priority: 30 Days  
 Priority: **PRIORITY**  
 Offsite Property No. 6812  
 Total Activity Exemption: Yes  No

**POSSIBLE SAMPLE HAZARDS/REMARKS**  
 \*\*\* Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1  
 SPECIAL INSTRUCTIONS: Hold Time  
 N/A  
 Special Handling: N/A

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B35PP5	N	W	7/10/16	1402	1x1-L aGs*	9020_TOX: COMMON	28 Days	H2SO4 to pH <2/Cool <=6C
B35PP5	N	W			1x250-mL aG	9060_TOX: COMMON	28 Days	HCl or H2SO4 to pH <2/Cool <=6C
B35PP6	N	W			1x1-L aGs*	9020_TOX: COMMON	28 Days	H2SO4 to pH <2/Cool <=6C
B35PP6	N	W			1x250-mL aG	9060_TOX: COMMON	28 Days	HCl or H2SO4 to pH <2/Cool <=6C
B35NX6	N	W			1x1-L aGs*	9020_TOX: COMMON	28 Days	H2SO4 to pH <2/Cool <=6C
B35NX6	N	W			1x250-mL aG	9060_TOX: COMMON	28 Days	HCl or H2SO4 to pH <2/Cool <=6C
B35PP4	N	W			1x1-L aGs*	9020_TOX: COMMON	28 Days	H2SO4 to pH <2/Cool <=6C
B35PP4	N	W			1x250-mL aG	9060_TOX: COMMON	28 Days	HCl or H2SO4 to pH <2/Cool <=6C

Relinquished By <b>Frank Hill /IC/PRC</b>	Print	Sign	Date/Time JUL 10 2016 1530	Received By SSU#1	Print	Sign	Date/Time JUL 10 2016 1530
Relinquished By SSU#1	Print	Sign	Date/Time JUL 11 2016 0730	Received By Lesly Wall /IC/PRC	Print	Sign	Date/Time JUL 11 2016 0730
Relinquished By Lesly Wall /IC/PRC	Print	Sign	Date/Time JUL 11 2016 1400	Received By FEDEX	Print	Sign	Date/Time JUL 11 2016 0730
Relinquished By FR	Print	Sign	Date/Time JUL 11 2016 1400	Received By A. Gaslow /IC/PRC	Print	Sign	Date/Time 7-12-16 0915

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

CH2M Hill Plateau Remediation Company		<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>		C.O.C. # <b>W16-007-100</b>
		401273		Page 1 of 1
Collector <b>Frank Hill /CHFRAC</b>	W16-007	Contact/Requester Karen Waters-Husted	Telephone No. 509-376-4650	
SAF No.	RCRA, JULY 2016	Sampling Origin Hanford Site	Purchase Order/Charge Code 300071	
Project Title		Logbook No. HNF-N-506 85/88	Ice Chest No. GWS-526	
Shipped To (Lab)	GEL Laboratories, LLC	Method of Shipment Commercial Carrier	Bill of Lading/Air Bill No. 776712513802	
Protocol	RCRA	Priority: 30 Days	Offsite Property No. 6812	
<b>POSSIBLE SAMPLE HAZARDS/REMARKS</b>				
*** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1				
SPECIAL INSTRUCTIONS		Hold Time		
N/A		Total Activity Exemption: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Special Handling: N/A				
Sample No.	Filter	* Date	Time	No/Type Container
B35NY9	N	W 7/10/16	0945	1x250-mL G/P
B35NY9	N	W		1x500-mL G/P
B35P01	Y	W		1x500-mL G/P
Sample Analysis		Holding Time		Preservative
2320_ALKALINITY: COMMON		14 Days		Cool <=6C
6010_METALS_ICP: COMMON		6 Months		HNO3 to pH <2
6010_METALS_ICP: COMMON		6 Months		HNO3 to pH <2

Relinquished By <b>Frank Hill /CHFRAC</b>	Print	Sign	Date/Time	Received By SSU #1	Print	Sign	Date/Time
			JUL 10 2016 1530				JUL 10 2016 1530
Relinquished By SSU #1				Received By Lesly Wall /CHFRAC			
			JUL 11 2016 0730				JUL 11 2016 0730
Relinquished By Lesly Wall /CHFRAC				Received By FEDEX			
			JUL 11 2016 1400				JUL 11 2016 1400
Relinquished By				Received By M. Kropow			
							7-12-16 0915
<b>FINAL SAMPLE DISPOSITION</b>		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**  
 401273  
 C.O.C. # **W16-007-101**  
 Page 1 of 1

**Collector** Frank Hall /CHPFC  
**Contact/Requester** Karen Waters-Husted  
**Telephone No.** 509-376-4650  
**SAF No.** W16-007  
**Sampling Origin** Hanford Site  
**Purchase Order/Charge Code** 300071  
**Project Title** RCRA, JULY 2016  
**Logbook No.** HNF-N-506 85/88  
**Ice Chest No.** GWS-525  
**Shipped To (Lab)** GEL Laboratories, LLC  
**Method of Shipment** Commercial Carrier  
**Bill of Lading/Air Bill No.** 776712513798  
**Protocol** RCRA  
**Priority:** 30 Days  
**PRIORITY**  
**Offsite Property No.** 6812  
**Total Activity Exemption:** Yes  No

**POSSIBLE SAMPLE HAZARDS/REMARKS**  
 \*\*\* Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B35P03	N	W	7/10/16	1031	1x250-mL G/P	2320_ALKALINITY: COMMON	14 Days	Cool <=6C
B35P03	N	W			1x500-mL G/P	6010_METALS_ICP: COMMON	6 Months	HNO3 to pH <2
B35P05	Y	W			1x500-mL G/P	6010_METALS_ICP: COMMON	6 Months	HNO3 to pH <2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	Matrix *
Frank Hall /CHPFC			JUL 10 2016 1530	SSU #1			JUL 10 2016 1530	DS = Drum Solids
SSU #1			JUL 11 2016 0730	Lesly Wall /CHPFC			JUL 11 2016 0730	DL = Drum Liquids
Lesly Wall /CHPFC			JUL 11 2016 1400	FEDEX			JUL 11 2016 0915	T = Tissue
				M. Kustaw /CHPFC				WI = Wipe
<b>FINAL SAMPLE DISPOSITION</b>	Disposal Method (e.g., Return to customer, per lab procedure, used in process)		Disposed By		Date/Time		Date/Time	

**CH2MHill Plateau Remediation Company**  
**CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST**  
 C.O.C.# **W16-007-115**  
 Page 1 of 2

40273  
 Telephone No. 509-376-4650  
 Purchase Order/Charge Code 300071  
 Contact/Requester Karen Waters-Husted  
 Sampling Origin Hanford Site  
 Logbook No. HNF-N-506 8le/ 48  
 Ice Chest No. CW5-526  
 Method of Shipment Commercial Carrier  
 Bill of Lading/Air Bill No. 79671251 3802  
 Offsite Property No. 6802  
 Priority: 30 Days **PRIORITY**  
 SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes  No   
 N/A  
 Special Handling: N/A

**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

Sample No.	Filter	* Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B35PW2	N	W JUL 10 2016	1116	1x1-L aGs*	9020_TOX: COMMON	28 Days	H2SO4 to pH <2/Cool <=6C
B35PW2	N	W		1x250-mL aG	9060_TOX: COMMON	28 Days	HCl or H2SO4 to pH <2/Cool <=6C
B35P74	N	W		4x1-L aG	8270_PHENOLIC_GC: COMMON	7/40 Days	Cool <=6C
B35P74	N	W		1x1-L aGs*	9020_TOX: COMMON	28 Days	H2SO4 to pH <2/Cool <=6C
B35P74	N	W		1x250-mL aG	9060_TOX: COMMON	28 Days	HCl or H2SO4 to pH <2/Cool <=6C
B35PW1	N	W		1x1-L aGs*	9020_TOX: COMMON	28 Days	H2SO4 to pH <2/Cool <=6C
B35PW1	N	W		1x250-mL aG	9060_TOX: COMMON	28 Days	HCl or H2SO4 to pH <2/Cool <=6C
B35PW0	N	W		1x1-L aGs*	9020_TOX: COMMON	28 Days	H2SO4 to pH <2/Cool <=6C
B35PW0	N	W JUL 10 2016	1116	1x250-mL aG	9060_TOX: COMMON	28 Days	HCl or H2SO4 to pH <2/Cool <=6C

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time	Matrix *
Relinquished By Scott King CHPRC			JUL 10 2016 1400	Received By Janelle Zunker CHPRC			JUL 10 2016 1430	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
Relinquished By Janelle Zunker CHPRC			JUL 10 2016 1500	Received By SSU#1			JUL 10 2016 1500	
Relinquished By Janelle Zunker CHPRC			JUL 11 2016 0730	Received By Lesly Wall CHPRC			JUL 11 2016 0730	
Relinquished By Lesly Wall CHPRC			JUL 11 2016 1400	Received By FEDEX			JUL 11 2016 0730	
<b>FINAL SAMPLE DISPOSITION</b>	Disposal Method (e.g., Return to customer, per lab procedure, used in process)							Date/Time



**SAMPLE RECEIPT & REVIEW FORM**

Client: <u>CPRC</u>		SDG/AR/COC/Work Order: <u>401273 / 401270</u>	
Received By: <u>MK</u>		Date Received: <u>7-12-16</u>	
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?		<input checked="" type="checkbox"/>	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): <u>qmuo</u>
Classified Radioactive II or III by RSO?		<input checked="" type="checkbox"/>	If yes, Were swipes taken of sample containers < action levels?
COC/Samples marked containing PCBs?		<input checked="" type="checkbox"/>	
Package, COC, and/or Samples marked as beryllium or asbestos containing?		<input checked="" type="checkbox"/>	If yes, samples are to be segregated as Safety Controlled Samples, and opened by the GEL Safety Group.
Shipped as a DOT Hazardous?		<input checked="" type="checkbox"/>	Hazard Class Shipped: UN#:
Samples identified as Foreign Soil?		<input checked="" type="checkbox"/>	

Sample Receipt Criteria		Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	<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"/>			Preservation Method: Ice bags Blue ice Dry ice None Other (describe) *all temperatures are recorded in Celsius <u>2° 3°</u>
2a	Daily check performed and passed on IR temperature gun?	<input checked="" type="checkbox"/>			Temperature Device Serial #: <u>130462862</u> Secondary Temperature Device Serial # (If Applicable):
3	Chain of custody documents included with shipment?	<input checked="" type="checkbox"/>			
4	Sample containers intact and sealed?			<input checked="" type="checkbox"/>	Circle Applicable: Seals broken <u>Damaged container</u> Leaking container Other (describe) <u>* see below</u>
5	Samples requiring chemical preservation at proper pH?	<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"/>			Sample ID's and containers affected:
7	VOA vials contain acid preservation?	<input checked="" type="checkbox"/>			(If unknown, select No)
8	VOA vials free of headspace (defined as < 6mm bubble)?	<input checked="" type="checkbox"/>			Sample ID's and containers affected:
9	Are Encore containers present?	<input checked="" type="checkbox"/>			(If yes, immediately deliver to Volatiles laboratory)
10	Samples received within holding time?	<input checked="" type="checkbox"/>			ID's and tests affected:
11	Sample ID's on COC match ID's on bottles?	<input checked="" type="checkbox"/>			Sample ID's and containers affected:
12	Date & time on COC match date & time on bottles?	<input checked="" type="checkbox"/>			Sample ID's affected:
13	Number of containers received match number indicated on COC?	<input checked="" type="checkbox"/>			Sample ID's affected:
14	Are sample containers identifiable as GEL provided?	<input checked="" type="checkbox"/>			
15	COC form is properly signed in relinquished/received sections?	<input checked="" type="checkbox"/>			
16	Carrier and tracking number.				Circle Applicable: FedEx Air FedEx Ground UPS Field Services Courier Other <u>7767 1251 3548 2°</u> <u>3798 3°</u> <u>3802 2°</u> <u>3526 2°</u> <u>3662 15° NO ice</u>

Comments (Use Continuation Form if needed):  
\* BSSPN 7 - TOX BOTTLE ARRIVED BROKEN

# **Data Review Qualifier Definitions**

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

Qualifier	Qualifier Definition	Department	Fraction
U	Analyzed for but not detected above limiting criteria. Includes MDL, MDA, PQL, zero, counting error, and total analytical error.		
J	The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate). Value is estimated	Organics	
P	Aroclor target analyte with greater than 25% difference between column analyses.	Organics	
C	Analyte has been confirmed by GC/MS analysis	Organics	Pesticide
B	The analyte was detected in both the associated QC blank and in the sample.	Organics	
E	Concentration exceeds the calibration range of the instrument	Organics	
A	The TIC is a suspected aldol-condensation product	Organics	Semi-Volatile
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier		
N	Spike Sample recovery is outside control limits.		
*	Duplicate analysis not within control limits	Inorganics	
>	Result greater than quantifiable range or greater than upper limit of the analysis range	General Chemistry	
Z	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier		
B	The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate).	Inorganics	Metals
D	Results are reported from a diluted aliquot of sample.		
E	Reported value is estimated due to interferences. See comment in narrative.	Inorganics	Metals
M	Duplicate precision not met.	Inorganics	Metals
o	Analyte failed to recover within LCS limits (Organics only)	Organics	
S	Reported value determined by the Method of Standard Additions (MSA)	Inorganics	
T	Spike and/or spike duplicate sample recovery is outside control limits.	Organics	
W	Post-digestion spike recovery for GFAA out of control limit. Sample absorbency < 50% of spike absorbency.	Inorganics	
B	The associated QC sample blank has a result $\geq 2X$ the MDA and, after corrections, result is $\geq$ MDA for this sample	Radiological	
Y	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier		
+	Correlation coefficient for Method of Standard Additions (MSA) is < 0.995	Inorganics	
B	The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate).	General Chemistry	
C	Target analyte was detected in the sample and the associated blank. The associated blank concentration is $\geq$ 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 $\geq$ EQL or is > 5% of the measured concentration and/or decision level for associated samples.	General Chemistry	
<	Sample is below the EPA guidance level for Reactive Releasable Cyanide and/or Reactive Releasable Sulfide	General Chemistry	
UX	Gamma Spectroscopy--Uncertain identification	Radiological	

# Laboratory Certifications

## List of current GEL Certifications as of 08 August 2016

State	Certification
Alaska	UST-0110
Arkansas	88-0651
CLIA	42D0904046
California	2940
Colorado	SC00012
Connecticut	PH-0169
Delaware	SC00012
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330-15-00283, P330-15-00253
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC00012
Idaho Chemistry	SC00012
Idaho Radiochemistry	SC00012
Illinois NELAP	200029
Indiana	C-SC-01
Kansas NELAP	E-10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana NELAP	03046 (AI33904)
Louisiana SDWA	LA160006
Maryland	270
Massachusetts	M-SC012
Michigan	9976
Mississippi	SC00012
Nebraska	NE-OS-26-13
Nevada	SC000122016-1
New Hampshire NELAP	205415
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R-158
Oklahoma	9904
Pennsylvania NELAP	68-00485
S.Carolina Radchem	10120002
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235-16-11
Utah NELAP	SC000122016-20
Vermont	VT87156
Virginia NELAP	460202
Washington	C780
West Virginia	997404

# Semi-Volatile Analysis

# Case Narrative

**GC/MS Semivolatile  
Technical Case Narrative  
CH2MHill Plateau Remediation Company (CPRC)  
SDG #: GEL401273  
Work Order #: 401273**

**Product:** Analysis of Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry

**Analytical Method:** SW846 3510C/8270D

**Analytical Procedure:** GL-OA-E-009 REV# 36

**Analytical Batch:** 1581216

**Preparation Method:** SW846 3510C

**Preparation Procedure:** GL-OA-E-013 REV# 29

**Preparation Batch:** 1581215

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

<b><u>GEL Sample ID#</u></b>	<b><u>Client Sample Identification</u></b>
401273019	B35P74
1203583572	Method Blank (MB)
1203583573	Laboratory Control Sample (LCS)
1203583574	401273019(B35P74) Matrix Spike (MS)
1203583575	401273019(B35P74) Matrix Spike Duplicate (MSD)

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

**Data Summary:**

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

**Quality Control (QC) Information**

**Surrogate Recoveries**

Samples (See Below) did not meet surrogate recovery acceptance criteria. The client requested limits of 70%-130%. Failures were expected. The surrogate passed GEL SPC limits. The data were reported per client request.

<b>Sample</b>	<b>Analyte</b>	<b>Value</b>
1203583572 (MB)	2-Fluorophenol	43* (70%-130%)
	Nitrobenzene-d5	69* (70%-130%)
	Phenol-d5	25* (70%-130%)
1203583573 (LCS)	2-Fluorophenol	48* (70%-130%)
	Phenol-d5	28* (70%-130%)
1203583574 (B35P74MS)	2-Fluorophenol	63* (70%-130%)
	Phenol-d5	44* (70%-130%)
1203583575 (B35P74MSD)	2-Fluorophenol	63* (70%-130%)

	Phenol-d5	43* (70%-130%)
401273019 (B35P74)	2-Fluorophenol	44* (70%-130%)
	Nitrobenzene-d5	68* (70%-130%)
	Phenol-d5	25* (70%-130%)

#### Laboratory Control Sample (LCS) Recovery

LCS (See Below) did not meet spike recovery acceptance criteria. The client requested limits of 70%-130%. Failures were expected. The spikes passed GEL SPC limits. The data were reported per client request.

Sample	Analyte	Value
1203583573 (LCS)	4-Nitrophenol	22* (70%-130%)
	Phenol	32* (70%-130%)

#### Certification Statement

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

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**Qualifier Definition Report  
for**

CPRC001 CH2MHill Plateau Remediation Company

Client SDG: GEL401273 GEL Work Order: 401273

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

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

DL Indicates that sample is diluted.

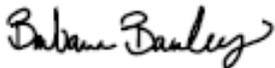
RA Indicates that sample is re-analyzed without re-extraction.

RE Indicates that sample is re-extracted.

**Review/Validation**

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

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

Signature: 

Name: **Barbara Bailey**

Date: **15 JUL 2016**

Title: **Data Validator**

# Sample Data Summary

Semi-Volatile  
Certificate of Analysis  
Sample Summary

Page 1 of 1

<b>SDG Number:</b> GEL401273	<b>Date Collected:</b> 07/10/2016 11:16	<b>Matrix:</b> WATER
<b>Lab Sample ID:</b> 401273019	<b>Date Received:</b> 07/12/2016 09:15	
<b>Client ID:</b> B35P74	<b>Client:</b> CPRC001	<b>Project:</b> CPRC0W16007
<b>Batch ID:</b> 1581216	<b>Method:</b> SW846 3510C/8270D	<b>SOP Ref:</b> GL-OA-E-009
<b>Run Date:</b> 07/13/2016 19:06	<b>Inst:</b> MSD8.I	<b>Dilution:</b> 1
<b>Prep Date:</b> 07/13/2016 10:40	<b>Analyst:</b> JMB3	<b>Inj. Vol:</b> 1 uL
<b>Data File:</b> s071316.B\s8g1308.D	<b>Aliquot:</b> 1000 mL	<b>Final Volume:</b> 1 mL
	<b>Column:</b> DB-5ms	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
58-90-2	2,3,4,6-Tetrachlorophenol	U	3.00	ug/L	3.00	10.0
95-95-4	2,4,5-Trichlorophenol	U	3.00	ug/L	3.00	10.0
88-06-2	2,4,6-Trichlorophenol	U	3.00	ug/L	3.00	10.0
120-83-2	2,4-Dichlorophenol	U	3.00	ug/L	3.00	10.0
105-67-9	2,4-Dimethylphenol	U	3.00	ug/L	3.00	10.0
51-28-5	2,4-Dinitrophenol	U	5.00	ug/L	5.00	20.0
87-65-0	2,6-Dichlorophenol	U	3.00	ug/L	3.00	10.0
95-57-8	2-Chlorophenol	U	3.00	ug/L	3.00	10.0
534-52-1	2-Methyl-4,6-dinitrophenol	U	3.00	ug/L	3.00	10.0
88-75-5	2-Nitrophenol	U	3.00	ug/L	3.00	10.0
59-50-7	4-Chloro-3-methylphenol	U	3.00	ug/L	3.00	10.0
100-02-7	4-Nitrophenol	U	3.00	ug/L	3.00	10.0
88-85-7	Dinoseb	U	3.00	ug/L	3.00	10.0
87-86-5	Pentachlorophenol	U	3.00	ug/L	3.00	10.0
108-95-2	Phenol	U	3.00	ug/L	3.00	10.0
65794-96-9	m,p-Cresols	U	3.70	ug/L	3.70	10.0
95-48-7	o-Cresol	U	3.00	ug/L	3.00	10.0

# Quality Control Summary

**GEL LABORATORIES LLC**

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**QC Summary**

Report Date: July 14, 2016

Page 1 of 5

CH2M Hill Plateau Remediation Company

MSIN R3-50 CHPRC

PO Box 1600

Richland, Washington

Contact: Mr. Scot Fitzgerald

Workorder: 401273

Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Semi-Volatile-GC/MS</b>										
Batch	1581216									
QC1203583573 LCS										
2,3,4,6-Tetrachlorophenol	50.0		50.9	ug/L		102	(70%-130%)	JMB3	07/13/16	18:35
2,4,5-Trichlorophenol	50.0		50.1	ug/L		100	(70%-130%)			
2,4,6-Trichlorophenol	50.0		49.2	ug/L		98	(70%-130%)			
2,4-Dichlorophenol	50.0		42.5	ug/L		85	(70%-130%)			
2,4-Dimethylphenol	50.0		43.2	ug/L		86	(70%-130%)			
2,4-Dinitrophenol	50.0		37.2	ug/L		74	(70%-130%)			
2,6-Dichlorophenol	50.0		47.7	ug/L		95	(70%-130%)			
2-Chlorophenol	50.0		40.0	ug/L		80	(70%-130%)			
2-Methyl-4,6-dinitrophenol	50.0		55.2	ug/L		110	(70%-130%)			
2-Nitrophenol	50.0		43.5	ug/L		87	(70%-130%)			
4-Chloro-3-methylphenol	50.0		47.7	ug/L		95	(70%-130%)			
4-Nitrophenol	50.0		11.1	ug/L		22 *	(70%-130%)			
Pentachlorophenol	50.0		46.2	ug/L		92	(70%-130%)			
Phenol	50.0		15.8	ug/L		32 *	(70%-130%)			
m,p-Cresols	50.0		37.3	ug/L		75	(70%-130%)			
o-Cresol	50.0		36.4	ug/L		73	(70%-130%)			
**2,4,6-Tribromophenol	100		88.8	ug/L		89	(70%-130%)			
**2-Fluorobiphenyl	50.0		44.5	ug/L		89	(70%-130%)			
**2-Fluorophenol	100		48.0	ug/L		48 *	(70%-130%)			
**Nitrobenzene-d5	50.0		36.5	ug/L		73	(70%-130%)			

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**QC Summary**

Workorder: 401273

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Semi-Volatile-GC/MS</b>											
Batch	1581216										
**Phenol-d5	100			27.8	ug/L		28*	(70%-130%)	JMB3	07/13/16	18:35
**p-Terphenyl-d14	50.0			44.6	ug/L		89	(70%-130%)			
QC1203583572 MB											
2,3,4,6-Tetrachlorophenol			U	3.00	ug/L					07/13/16	18:04
2,4,5-Trichlorophenol			U	3.00	ug/L						
2,4,6-Trichlorophenol			U	3.00	ug/L						
2,4-Dichlorophenol			U	3.00	ug/L						
2,4-Dimethylphenol			U	3.00	ug/L						
2,4-Dinitrophenol			U	5.00	ug/L						
2,6-Dichlorophenol			U	3.00	ug/L						
2-Chlorophenol			U	3.00	ug/L						
2-Methyl-4,6-dinitrophenol			U	3.00	ug/L						
2-Nitrophenol			U	3.00	ug/L						
4-Chloro-3-methylphenol			U	3.00	ug/L						
4-Nitrophenol			U	3.00	ug/L						
Dinoseb			U	3.00	ug/L						
Pentachlorophenol			U	3.00	ug/L						
Phenol			U	3.00	ug/L						
m,p-Cresols			U	3.70	ug/L						
o-Cresol			U	3.00	ug/L						
**2,4,6-Tribromophenol	100			80.3	ug/L		80	(70%-130%)			
**2-Fluorobiphenyl	50.0			42.0	ug/L		84	(70%-130%)			

## GEL LABORATORIES LLC

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QC Summary

Workorder: 401273

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	1581216										
**2-Fluorophenol	100			42.7	ug/L		43 *	(70%-130%)	JMB3	07/13/16	18:04
**Nitrobenzene-d5	50.0			34.4	ug/L		69 *	(70%-130%)			
**Phenol-d5	100			25.0	ug/L		25 *	(70%-130%)			
**p-Terphenyl-d14	50.0			45.3	ug/L		91	(70%-130%)			
QC1203583574 401273019 MS											
2,3,4,6-Tetrachlorophenol	100	U	3.00	93.2	ug/L		93	(29%-127%)		07/13/16	19:36
2,4,5-Trichlorophenol	100	U	3.00	94.4	ug/L		94	(32%-124%)			
2,4,6-Trichlorophenol	100	U	3.00	92.6	ug/L		93	(33%-124%)			
2,4-Dichlorophenol	100	U	3.00	82.7	ug/L		83	(31%-121%)			
2,4-Dimethylphenol	100	U	3.00	85.4	ug/L		85	(28%-112%)			
2,4-Dinitrophenol	100	U	5.00	72.1	ug/L		72	(15%-140%)			
2,6-Dichlorophenol	100	U	3.00	93.2	ug/L		93	(32%-127%)			
2-Chlorophenol	100	U	3.00	80.9	ug/L		81	(27%-116%)			
2-Methyl-4,6-dinitrophenol	100	U	3.00	100	ug/L		100	(15%-142%)			
2-Nitrophenol	100	U	3.00	86.4	ug/L		86	(35%-121%)			
4-Chloro-3-methylphenol	100	U	3.00	92.3	ug/L		92	(28%-130%)			
4-Nitrophenol	100	U	3.00	45.2	ug/L		45	(15%-88%)			
Pentachlorophenol	100	U	3.00	82.8	ug/L		83	(15%-135%)			
Phenol	100	U	3.00	49.8	ug/L		50	(15%-80%)			
m,p-Cresols	100	U	3.70	88.1	ug/L		88	(31%-118%)			
o-Cresol	100	U	3.00	81.1	ug/L		81	(32%-108%)			
**2,4,6-Tribromophenol	200		76.2	162	ug/L		81	(70%-130%)			

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**QC Summary**

Workorder: 401273

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Semi-Volatile-GC/MS</b>											
Batch	1581216										
**2-Fluorobiphenyl	100	40.4		85.3	ug/L		85	(70%-130%)	JMB3	07/13/16	19:36
**2-Fluorophenol	200	43.8		126	ug/L		63 *	(70%-130%)			
**Nitrobenzene-d5	100	33.9		71.2	ug/L		71	(70%-130%)			
**Phenol-d5	200	25.2		88.9	ug/L		44 *	(70%-130%)			
**p-Terphenyl-d14	100	50.6		83.4	ug/L		83	(70%-130%)			
QC1203583575 401273019 MSD											
2,3,4,6-Tetrachlorophenol	100	U	3.00	104	ug/L	11	104	(0%-20%)		07/13/16	20:07
2,4,5-Trichlorophenol	100	U	3.00	101	ug/L	7	101	(0%-20%)			
2,4,6-Trichlorophenol	100	U	3.00	100	ug/L	8	100	(0%-20%)			
2,4-Dichlorophenol	100	U	3.00	87.7	ug/L	6	88	(0%-20%)			
2,4-Dimethylphenol	100	U	3.00	88.9	ug/L	4	89	(0%-20%)			
2,4-Dinitrophenol	100	U	5.00	76.8	ug/L	6	77	(0%-20%)			
2,6-Dichlorophenol	100	U	3.00	99.2	ug/L	6	99	(0%-20%)			
2-Chlorophenol	100	U	3.00	83.8	ug/L	3	84	(0%-20%)			
2-Methyl-4,6-dinitrophenol	100	U	3.00	108	ug/L	7	108	(0%-20%)			
2-Nitrophenol	100	U	3.00	93.0	ug/L	7	93	(0%-20%)			
4-Chloro-3-methylphenol	100	U	3.00	97.2	ug/L	5	97	(0%-20%)			
4-Nitrophenol	100	U	3.00	42.6	ug/L	6	43	(0%-20%)			
Pentachlorophenol	100	U	3.00	91.3	ug/L	10	91	(0%-20%)			
Phenol	100	U	3.00	48.9	ug/L	2	49	(0%-20%)			
m,p-Cresols	100	U	3.70	89.5	ug/L	2	90	(0%-20%)			
o-Cresol	100	U	3.00	82.7	ug/L	2	83	(0%-20%)			

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**QC Summary**

Workorder: 401273

Page 5 of 5

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Semi-Volatile-GC/MS</b>											
Batch	1581216										
**2,4,6-Tribromophenol	200	76.2		177	ug/L		88	(70%-130%)	JMB3	07/13/16	20:07
**2-Fluorobiphenyl	100	40.4		95.2	ug/L		95	(70%-130%)			
**2-Fluorophenol	200	43.8		126	ug/L		63 *	(70%-130%)			
**Nitrobenzene-d5	100	33.9		76.4	ug/L		76	(70%-130%)			
**Phenol-d5	200	25.2		85.8	ug/L		43 *	(70%-130%)			
**p-Terphenyl-d14	100	50.6		91.3	ug/L		91	(70%-130%)			

**Notes:**

The Qualifiers in this report are defined as follows:

- A The TIC is a suspected aldol-condensation product
- B The analyte was detected in both the associated QC blank and in the sample.
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of sample.
- E Concentration exceeds the calibration range of the instrument
- J The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate). Value is estimated
- N Spike Sample recovery is outside control limits.
- P Aroclor target analyte with greater than 25% difference between column analyses.
- T Spike and/or spike duplicate sample recovery is outside control limits.
- U Analyzed for but not detected above limiting criteria. Includes MDL, MDA, PQL, zero, counting error, and total analytical error.
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Z Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- o Analyte failed to recover within LCS limits (Organics only)

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

\* Indicates that a Quality Control parameter was not within specifications.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

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

## Surrogate Recovery Report

SDG Number: GEL401273

Matrix Type: LIQUID

Sample ID	Client ID	2FP %REC	PHL %REC	NBZ %REC	FBP %REC	TBP %REC	TPH %REC
1203583572	MB for batch 1581215	43 *	25 *	69 *	84	80	91
1203583573	LCS for batch 1581215	48 *	28 *	73	89	89	89
401273019	B35P74	44 *	25 *	68 *	81	76	101
1203583574	B35P74MS	63 *	44 *	71	85	81	83
1203583575	B35P74MSD	63 *	43 *	76	95	88	91

## Surrogate

## Acceptance Limits

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

\* Recovery outside Acceptance Limits

# Column to be used to flag recovery values

D Sample Diluted

# Metals Analysis

# Case Narrative

**Metals**  
**Technical Case Narrative**  
**CH2MHill Plateau Remediation Company (CPRC)**  
**SDG #: GEL401273**  
**Work Order #: 401273**

**Product: Determination of Metals by ICP****Analytical Method:** 6010\_METALS\_ICP**Analytical Procedure:** GL-MA-E-013 REV# 26**Analytical Batch:** 1580981**Preparation Method:** SW846 3005A**Preparation Procedure:** GL-MA-E-006 REV# 13**Preparation Batch:** 1580980

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

<b><u>GEL Sample ID#</u></b>	<b><u>Client Sample Identification</u></b>
401273014	B35NY9
401273015	B35P01
401273016	B35P03
401273017	B35P05
1203582968	Method Blank (MB)ICP
1203582969	Laboratory Control Sample (LCS)
1203582972	401273014(B35NY9L) Serial Dilution (SD)
1203582970	401273014(B35NY9S) Matrix Spike (MS)
1203582971	401273014(B35NY9SD) Matrix Spike Duplicate (MSD)

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

**Data Summary:**

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

**Certification Statement**

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

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**Qualifier Definition Report  
for**

CPRC001 CH2MHill Plateau Remediation Company

Client SDG: GEL401273 GEL Work Order: 401273

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

- \* Duplicate analysis not within control limits
- B The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate).
- D Results are reported from a diluted aliquot of sample.
- N Spike Sample recovery is outside control limits.
- U Analyzed for but not detected above limiting criteria. Includes MDL, MDA, PQL, zero, counting error, and total analytical error.

**Review/Validation**

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

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

**Signature:** 

**Name:** Nik-Cole Elmore

**Date:** 05 AUG 2016

**Title:** Data Validator

# Sample Data Summary

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

SDG No: GEL401273

CONTRACT: CPRC0W16007

METHOD TYPE: SW846

SAMPLE ID: 401273014

BASIS: As Received

DATE COLLECTED 10-JUL-16

CLIENT ID: B35NY9

LEVEL: Low

DATE RECEIVED 12-JUL-16

MATRIX: WATER

%SOLIDS: 0

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440-36-0	Antimony	3.5	ug/L	U	3.5	10	10	1	P	HSC	07/14/16 09:49	071416-1	1580981
7440-38-2	Arsenic	5	ug/L	U	5	30	30	1	P	HSC	07/14/16 09:49	071416-1	1580981
7440-39-3	Barium	60.4	ug/L		1	5	5	1	P	HSC	07/14/16 09:49	071416-1	1580981
7440-43-9	Cadmium	1	ug/L	U	1	5	5	1	P	HSC	07/14/16 09:49	071416-1	1580981
7440-70-2	Calcium	51900	ug/L		50	200	200	1	P	HSC	07/14/16 09:49	071416-1	1580981
7440-47-3	Chromium	14.5	ug/L		1	5	5	1	P	HSC	07/14/16 09:49	071416-1	1580981
7440-48-4	Cobalt	1	ug/L	U	1	5	5	1	P	HSC	07/14/16 09:49	071416-1	1580981
7440-50-8	Copper	3	ug/L	U	3	10	10	1	P	HSC	07/14/16 09:49	071416-1	1580981
7439-89-6	Iron	184	ug/L		30	100	100	1	P	HSC	07/14/16 09:49	071416-1	1580981
7439-95-4	Magnesium	17200	ug/L		110	300	300	1	P	HSC	07/14/16 09:49	071416-1	1580981
7439-96-5	Manganese	2.15	ug/L	B	2	10	10	1	P	HSC	07/14/16 09:49	071416-1	1580981
7440-02-0	Nickel	1.5	ug/L	U	1.5	5	5	1	P	HSC	07/14/16 09:49	071416-1	1580981
7440-09-7	Potassium	4610	ug/L		50	150	150	1	P	HSC	07/14/16 09:49	071416-1	1580981
7440-22-4	Silver	1	ug/L	U	1	5	5	1	P	HSC	07/14/16 09:49	071416-1	1580981
7440-23-5	Sodium	23200	ug/L		100	300	300	1	P	HSC	07/14/16 09:49	071416-1	1580981
7440-62-2	Vanadium	22.8	ug/L		1	5	5	1	P	HSC	07/14/16 09:49	071416-1	1580981
7440-66-6	Zinc	3.3	ug/L	U	3.3	10	10	1	P	HSC	07/14/16 09:49	071416-1	1580981

**Prep Information:**

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
1580981	1580980	SW846 3005A	50	mL	50	mL	07/12/16	JP1

**\*Analytical Methods:**

P SW846 3005A/6010C

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

SDG No: GEL401273

CONTRACT: CPRC0W16007

METHOD TYPE: SW846

SAMPLE ID: 401273015

BASIS: As Received

DATE COLLECTED 10-JUL-16

CLIENT ID: B35P01

LEVEL: Low

DATE RECEIVED 12-JUL-16

MATRIX: WATER

%SOLIDS: 0

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440-36-0	Antimony	3.5	ug/L	U	3.5	10	10	1	P	HSC	07/14/16 10:09	071416-1	1580981
7440-38-2	Arsenic	5	ug/L	U	5	30	30	1	P	HSC	07/14/16 10:09	071416-1	1580981
7440-39-3	Barium	58.2	ug/L		1	5	5	1	P	HSC	07/14/16 10:09	071416-1	1580981
7440-43-9	Cadmium	1	ug/L	U	1	5	5	1	P	HSC	07/14/16 10:09	071416-1	1580981
7440-70-2	Calcium	51800	ug/L		50	200	200	1	P	HSC	07/14/16 10:09	071416-1	1580981
7440-47-3	Chromium	13.7	ug/L		1	5	5	1	P	HSC	07/14/16 10:09	071416-1	1580981
7440-48-4	Cobalt	1	ug/L	U	1	5	5	1	P	HSC	07/14/16 10:09	071416-1	1580981
7440-50-8	Copper	3	ug/L	U	3	10	10	1	P	HSC	07/14/16 10:09	071416-1	1580981
7439-89-6	Iron	30	ug/L	U	30	100	100	1	P	HSC	07/14/16 10:09	071416-1	1580981
7439-95-4	Magnesium	17300	ug/L		110	300	300	1	P	HSC	07/14/16 10:09	071416-1	1580981
7439-96-5	Manganese	2	ug/L	U	2	10	10	1	P	HSC	07/14/16 10:09	071416-1	1580981
7440-02-0	Nickel	1.5	ug/L	U	1.5	5	5	1	P	HSC	07/14/16 10:09	071416-1	1580981
7440-09-7	Potassium	4650	ug/L		50	150	150	1	P	HSC	07/14/16 10:09	071416-1	1580981
7440-22-4	Silver	1	ug/L	U	1	5	5	1	P	HSC	07/14/16 10:09	071416-1	1580981
7440-23-5	Sodium	23800	ug/L		100	300	300	1	P	HSC	07/14/16 10:09	071416-1	1580981
7440-62-2	Vanadium	22	ug/L		1	5	5	1	P	HSC	07/14/16 10:09	071416-1	1580981
7440-66-6	Zinc	3.3	ug/L	U	3.3	10	10	1	P	HSC	07/14/16 10:09	071416-1	1580981

**Prep Information:**

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
1580981	1580980	SW846 3005A	50	mL	50	mL	07/12/16	JP1

**\*Analytical Methods:**

P SW846 3005A/6010C

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

SDG No: GEL401273

CONTRACT: CPRC0W16007

METHOD TYPE: SW846

SAMPLE ID: 401273016

BASIS: As Received

DATE COLLECTED 10-JUL-16

CLIENT ID: B35P03

LEVEL: Low

DATE RECEIVED 12-JUL-16

MATRIX: WATER

%SOLIDS: 0

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440-36-0	Antimony	3.5	ug/L	U	3.5	10	10	1	P	HSC	07/14/16 10:12	071416-1	1580981
7440-38-2	Arsenic	5	ug/L	U	5	30	30	1	P	HSC	07/14/16 10:12	071416-1	1580981
7440-39-3	Barium	38.1	ug/L		1	5	5	1	P	HSC	07/14/16 10:12	071416-1	1580981
7440-43-9	Cadmium	1	ug/L	U	1	5	5	1	P	HSC	07/14/16 10:12	071416-1	1580981
7440-70-2	Calcium	34500	ug/L		50	200	200	1	P	HSC	07/14/16 10:12	071416-1	1580981
7440-47-3	Chromium	5.7	ug/L		1	5	5	1	P	HSC	07/14/16 10:12	071416-1	1580981
7440-48-4	Cobalt	1	ug/L	U	1	5	5	1	P	HSC	07/14/16 10:12	071416-1	1580981
7440-50-8	Copper	3.07	ug/L	B	3	10	10	1	P	HSC	07/14/16 10:12	071416-1	1580981
7439-89-6	Iron	195	ug/L		30	100	100	1	P	HSC	07/14/16 10:12	071416-1	1580981
7439-95-4	Magnesium	11500	ug/L		110	300	300	1	P	HSC	07/14/16 10:12	071416-1	1580981
7439-96-5	Manganese	4.2	ug/L	B	2	10	10	1	P	HSC	07/14/16 10:12	071416-1	1580981
7440-02-0	Nickel	5.49	ug/L		1.5	5	5	1	P	HSC	07/14/16 10:12	071416-1	1580981
7440-09-7	Potassium	3980	ug/L		50	150	150	1	P	HSC	07/14/16 10:12	071416-1	1580981
7440-22-4	Silver	1	ug/L	U	1	5	5	1	P	HSC	07/14/16 10:12	071416-1	1580981
7440-23-5	Sodium	20500	ug/L		100	300	300	1	P	HSC	07/14/16 10:12	071416-1	1580981
7440-62-2	Vanadium	26.7	ug/L		1	5	5	1	P	HSC	07/14/16 10:12	071416-1	1580981
7440-66-6	Zinc	3.3	ug/L	U	3.3	10	10	1	P	HSC	07/14/16 10:12	071416-1	1580981

**Prep Information:**

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
1580981	1580980	SW846 3005A	50	mL	50	mL	07/12/16	JP1

**\*Analytical Methods:**

P SW846 3005A/6010C

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

SDG No: GEL401273

CONTRACT: CPRCOW16007

METHOD TYPE: SW846

SAMPLE ID: 401273017

BASIS: As Received

DATE COLLECTED 10-JUL-16

CLIENT ID: B35P05

LEVEL: Low

DATE RECEIVED 12-JUL-16

MATRIX: WATER

%SOLIDS: 0

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7440-36-0	Antimony	3.5	ug/L	U	3.5	10	10	1	P	HSC	07/14/16 10:15	071416-1	1580981
7440-38-2	Arsenic	5	ug/L	U	5	30	30	1	P	HSC	07/14/16 10:15	071416-1	1580981
7440-39-3	Barium	37.6	ug/L		1	5	5	1	P	HSC	07/14/16 10:15	071416-1	1580981
7440-43-9	Cadmium	1	ug/L	U	1	5	5	1	P	HSC	07/14/16 10:15	071416-1	1580981
7440-70-2	Calcium	34100	ug/L		50	200	200	1	P	HSC	07/14/16 10:15	071416-1	1580981
7440-47-3	Chromium	4.84	ug/L	B	1	5	5	1	P	HSC	07/14/16 10:15	071416-1	1580981
7440-48-4	Cobalt	1	ug/L	U	1	5	5	1	P	HSC	07/14/16 10:15	071416-1	1580981
7440-50-8	Copper	3	ug/L	U	3	10	10	1	P	HSC	07/14/16 10:15	071416-1	1580981
7439-89-6	Iron	30	ug/L	U	30	100	100	1	P	HSC	07/14/16 10:15	071416-1	1580981
7439-95-4	Magnesium	11500	ug/L		110	300	300	1	P	HSC	07/14/16 10:15	071416-1	1580981
7439-96-5	Manganese	2	ug/L	U	2	10	10	1	P	HSC	07/14/16 10:15	071416-1	1580981
7440-02-0	Nickel	1.5	ug/L	U	1.5	5	5	1	P	HSC	07/14/16 10:15	071416-1	1580981
7440-09-7	Potassium	3880	ug/L		50	150	150	1	P	HSC	07/14/16 10:15	071416-1	1580981
7440-22-4	Silver	1	ug/L	U	1	5	5	1	P	HSC	07/14/16 10:15	071416-1	1580981
7440-23-5	Sodium	22400	ug/L		100	300	300	1	P	HSC	07/14/16 10:15	071416-1	1580981
7440-62-2	Vanadium	25.5	ug/L		1	5	5	1	P	HSC	07/14/16 10:15	071416-1	1580981
7440-66-6	Zinc	3.3	ug/L	U	3.3	10	10	1	P	HSC	07/14/16 10:15	071416-1	1580981

**Prep Information:**

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
1580981	1580980	SW846 3005A	50	mL	50	mL	07/12/16	JP1

**\*Analytical Methods:**

P SW846 3005A/6010C

# Quality Control Summary

**GEL LABORATORIES LLC**

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**QC Summary**

Report Date: August 5, 2016

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CH2MHill Plateau Remediation Company

MSIN R3-50 CHPRC

PO Box 1600

Richland, Washington

Contact: Mr. Scot Fitzgerald

Workorder: 401273

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
<b>Metals Analysis-ICP</b>											
Batch	1580981										
QC1203582969	LCS										
Antimony	500			519	ug/L		104	(80%-120%)	HSC	07/14/16	09:46
Arsenic	500			511	ug/L		102	(80%-120%)			
Barium	500			518	ug/L		104	(80%-120%)			
Cadmium	500			512	ug/L		102	(80%-120%)			
Calcium	5000			5300	ug/L		106	(80%-120%)			
Chromium	500			504	ug/L		101	(80%-120%)			
Cobalt	500			518	ug/L		104	(80%-120%)			
Copper	500			510	ug/L		102	(80%-120%)			
Iron	5000			5320	ug/L		106	(80%-120%)			
Magnesium	5000			5260	ug/L		105	(80%-120%)			
Manganese	500			503	ug/L		101	(80%-120%)			
Nickel	500			513	ug/L		103	(80%-120%)			
Potassium	5000			5140	ug/L		103	(80%-120%)			
Silver	500			511	ug/L		102	(80%-120%)			
Sodium	5000			5000	ug/L		99.9	(80%-120%)			
Vanadium	500			511	ug/L		102	(80%-120%)			
Zinc	500			492	ug/L		98.3	(80%-120%)			
QC1203582968	MB										
Antimony			U	3.50	ug/L					07/14/16	09:41
Arsenic			U	5.00	ug/L						

**GEL LABORATORIES LLC**

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**QC Summary**

Workorder: 401273

Page 2 of 5

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
<b>Metals Analysis-ICP</b>											
Batch	1580981										
Barium			U	1.00	ug/L						
Cadmium			U	1.00	ug/L				HSC	07/14/16	09:41
Calcium			U	50.0	ug/L						
Chromium			U	1.00	ug/L						
Cobalt			U	1.00	ug/L						
Copper			U	3.00	ug/L						
Iron			U	30.0	ug/L						
Magnesium			U	110	ug/L						
Manganese			U	2.00	ug/L						
Nickel			U	1.50	ug/L						
Potassium			U	50.0	ug/L						
Silver			U	1.00	ug/L						
Sodium			U	100	ug/L						
Vanadium			U	1.00	ug/L						
Zinc			U	3.30	ug/L						
QC1203582970 401273014 MS											
Antimony	500	U	3.50	526	ug/L		105	(75%-125%)		07/14/16	09:52
Arsenic	500	U	5.00	513	ug/L		102	(75%-125%)			
Barium	500		60.4	562	ug/L		100	(75%-125%)			
Cadmium	500	U	1.00	486	ug/L		97.1	(75%-125%)			
Calcium	5000		51900	57100	ug/L		N/A	(75%-125%)			
Chromium	500		14.5	512	ug/L		99.5	(75%-125%)			
Cobalt	500	U	1.00	484	ug/L		96.7	(75%-125%)			

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**QC Summary**

Workorder: 401273

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
<b>Metals Analysis-ICP</b>											
Batch	1580981										
Copper	500	U	3.00	521	ug/L		104	(75%-125%)	HSC	07/14/16	09:52
Iron	5000		184	5420	ug/L		105	(75%-125%)			
Magnesium	5000		17200	22500	ug/L		105	(75%-125%)			
Manganese	500	B	2.15	494	ug/L		98.5	(75%-125%)			
Nickel	500	U	1.50	483	ug/L		96.3	(75%-125%)			
Potassium	5000		4610	9800	ug/L		104	(75%-125%)			
Silver	500	U	1.00	500	ug/L		100	(75%-125%)			
Sodium	5000		23200	28700	ug/L		N/A	(75%-125%)			
Vanadium	500		22.8	538	ug/L		103	(75%-125%)			
Zinc	500	U	3.30	483	ug/L		96.5	(75%-125%)			
QC1203582971 401273014 MSD											
Antimony	500	U	3.50	519	ug/L	1.37	103	(0%-20%)		07/14/16	09:55
Arsenic	500	U	5.00	505	ug/L	1.69	100	(0%-20%)			
Barium	500		60.4	553	ug/L	1.44	98.6	(0%-20%)			
Cadmium	500	U	1.00	480	ug/L	1.23	95.9	(0%-20%)			
Calcium	5000		51900	55700	ug/L	2.49	N/A	(0%-20%)			
Chromium	500		14.5	505	ug/L	1.3	98.2	(0%-20%)			
Cobalt	500	U	1.00	477	ug/L	1.4	95.4	(0%-20%)			
Copper	500	U	3.00	517	ug/L	0.634	103	(0%-20%)			
Iron	5000		184	5340	ug/L	1.59	103	(0%-20%)			
Magnesium	5000		17200	21900	ug/L	2.57	93.2	(0%-20%)			
Manganese	500	B	2.15	489	ug/L	1.17	97.3	(0%-20%)			

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**QC Summary**

Workorder: 401273

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
<b>Metals Analysis-ICP</b>											
Batch	1580981										
Nickel	500	U	1.50	476	ug/L	1.41	94.9	(0%-20%)	HSC	07/14/16	09:55
Potassium	5000		4610	9690	ug/L	1.13	102	(0%-20%)			
Silver	500	U	1.00	496	ug/L	0.867	99.2	(0%-20%)			
Sodium	5000		23200	28200	ug/L	2.04	N/A	(0%-20%)			
Vanadium	500		22.8	531	ug/L	1.21	102	(0%-20%)			
Zinc	500	U	3.30	480	ug/L	0.519	96	(0%-20%)			
QC1203582972	401273014	SDILT									
Antimony		U	1.88 DU	17.5	ug/L	N/A		(0%-10%)		07/14/16	09:58
Arsenic		U	2.72 DU	25.0	ug/L	N/A		(0%-10%)			
Barium			60.4 D	12.1	ug/L	.038		(0%-10%)			
Cadmium		U	0.158 DU	5.00	ug/L	N/A		(0%-10%)			
Calcium			51900 D	10600	ug/L	2.52		(0%-10%)			
Chromium			14.5 BD	2.86	ug/L	1.42		(0%-10%)			
Cobalt		U	0.0598 DU	5.00	ug/L	N/A		(0%-10%)			
Copper		U	1.47 DU	15.0	ug/L	N/A		(0%-10%)			
Iron			184 BD	35.9	ug/L	2.4		(0%-10%)			
Magnesium			17200 D	3540	ug/L	2.63		(0%-10%)			
Manganese		B	2.15 DU	10.0	ug/L	N/A		(0%-10%)			
Nickel		U	1.08 DU	7.50	ug/L	N/A		(0%-10%)			
Potassium			4610 D	944	ug/L	2.4		(0%-10%)			
Silver		U	-0.74 DU	5.00	ug/L	N/A		(0%-10%)			
Sodium			23200 D	4450	ug/L	3.96		(0%-10%)			

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**QC Summary**

Workorder: 401273

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Parname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
<b>Metals Analysis-ICP</b>											
Batch	1580981										
Vanadium		22.8	BD	4.80	ug/L	5.2		(0%-10%)	HSC	07/14/16	09:58
Zinc	U	-0.676	D	12.3	ug/L	N/A		(0%-10%)			

**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  $\geq$  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.
- E Reported value is estimated due to interferences. See comment in narrative.
- M Duplicate precision not met.
- N Spike Sample recovery is outside control limits.
- S Reported value determined by the Method of Standard Additions (MSA)
- U Analyzed for but not detected above limiting criteria. Includes MDL, MDA, PQL, zero, counting error, and total analytical error.
- W Post-digestion spike recovery for GFAA out of control limit. Sample absorbency < 50% of spike absorbency.
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Z Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

\* Indicates that a Quality Control parameter was not within specifications.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

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

# General Chem Analysis

# Case Narrative

**General Chemistry  
 Technical Case Narrative  
 CH2MHill Plateau Remediation Company (CPRC)  
 SDG #: GEL401273  
 Work Order #: 401273**

**Product:** Carbon, Total Organic

**Analytical Method:** SW846 9060A

**Analytical Procedure:** GL-GC-E-093 REV# 14

**Analytical Batch:** 1581217

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

<b><u>GEL Sample ID#</u></b>	<b><u>Client Sample Identification</u></b>
401273001	B35ND6
401273002	B35PB7
401273003	B35PB5
401273004	B35PB6
401273005	B35NW7
401273006	B35PN6
401273007	B35PN7
401273008	B35NX1
401273009	B35PN5
401273010	B35PP5
401273011	B35PP6
401273012	B35NX6
401273013	B35PP4
401273018	B35PW2
401273019	B35P74
401273020	B35PW1
401273021	B35PW0
1203583576	Method Blank (MB)
1203583577	Laboratory Control Sample (LCS)
1203583578	401274001(NonSDG) Sample Duplicate (DUP)
1203583580	401273019(B35P74) Sample Duplicate (DUP)
1203583581	401274001(NonSDG) Post Spike (PS)
1203583583	401273019(B35P74) Post Spike (PS)

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

**Data Summary:**

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

**Product:** Total Organic Halogens (TOX)

**Analytical Method:** 9020\_TOX

**Analytical Procedure:** GL-GC-E-007 REV# 14

**Analytical Batches:** 1581676, 1581677 and 1581678

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

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
401273001	B35ND6
401273002	B35PB7
401273003	B35PB5
401273004	B35PB6
401273005	B35NW7
401273006	B35PN6
401273008	B35NX1
401273009	B35PN5
401273010	B35PP5
401273011	B35PP6
401273012	B35NX6
401273013	B35PP4
401273018	B35PW2
401273019	B35P74
401273020	B35PW1
401273021	B35PW0
1203584690	Method Blank (MB)
1203584691	Laboratory Control Sample (LCS)
1203584692	401273001(B35ND6) Sample Duplicate (DUP)
1203584693	401273001(B35ND6) Post Spike (PS)
1203584694	Method Blank (MB)
1203584695	Laboratory Control Sample (LCS)
1203584696	401273008(B35NX1) Sample Duplicate (DUP)
1203584697	401273008(B35NX1) Post Spike (PS)
1203584698	Method Blank (MB)
1203584699	Laboratory Control Sample (LCS)
1203584700	401273018(B35PW2) Sample Duplicate (DUP)
1203584701	401273018(B35PW2) 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.

#### **Miscellaneous Information**

##### **Additional Comments**

A pair of nitrate wash blanks is analyzed at the start of the batch. Although they are designated as ICB, they are performed for calculating purposes only. The value of the nitrate wash blanks are averaged and subtracted from all

samples. Neither of these values should exceed 0.6 ug Cl. The PQL limit typically applied to ICB results does not apply in this application, since the results are used only to determine background concentrations and are subtracted from all calculated results.

**Breakthrough effect**

Breakthrough effect: If the value for a sample is greater than the reporting limit (10 ug/L), the result for the second slug should not be greater than 25% of the combined value of the first and second slug. Results which do not meet these criteria are designated with a "Fail" comment in the Breakthrough effect column on the Logbook page; however, the "fail" designation is not applicable for samples with a result of less than 10 ug/L.

**Product: Alkalinity****Analytical Method:** 2320\_ALKALINITY**Analytical Procedure:** GL-GC-E-033 REV# 12**Analytical Batch:** 1581130

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

<b><u>GEL Sample ID#</u></b>	<b><u>Client Sample Identification</u></b>
401273014	B35NY9
401273016	B35P03
1203583373	Method Blank (MB)
1203583374	Laboratory Control Sample (LCS)
1203583375	400517001(NonSDG) Sample Duplicate (DUP)

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

**Data Summary:**

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

**Certification Statement**

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

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**Qualifier Definition Report  
for**

CPRC001 CH2MHill Plateau Remediation Company

Client SDG: GEL401273 GEL Work Order: 401273

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

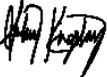
B The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate).

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

**Review/Validation**

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

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

Signature: 

Name: Aubrey Kingsbury

Date: 02 AUG 2016

Title: Analyst I

# Sample Data Summary















8/8/2016

# GEL LABORATORIES LLC

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## Certificate of Analysis

Report Date: August 2, 2016

Company : CH2MHill Plateau Remediation Company  
 Address : MSIN R3-50 CHPRC  
 PO Box 1600  
 Richland, Washington 99352  
 Contact: Mr. Scot Fitzgerald  
 Project: CHPRC SAF W16-007

Client Sample ID:	B35NX1	Project:	CPRCOW16007
Sample ID:	401273008	Client ID:	CPRC001
Matrix:	WATER		
Collect Date:	10-JUL-16 11:40		
Receive Date:	12-JUL-16		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Carbon Analysis												
9060_TOX: COMMON "As Received"												
Total Organic Carbon #1	B	538	330	1000	ug/L		1	TSM	07/15/16	0818	1581217	1
Total Organic Carbon #2	B	544	330	1000	ug/L		1					
Total Organic Carbon #3	B	544	330	1000	ug/L		1					
Total Organic Carbon #4	B	539	330	1000	ug/L		1					
Total Organic Carbon Average	B	541	330	1000	ug/L		1					

Halogen Analysis												
9020_TOX: COMMON "As Received"												
Total Organic Halogens		16.2	3.33	10.0	ug/L		1	RMJ	07/20/16	2001	1581677	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9060A	
2	9020_TOX	

### 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







8/8/2016

# GEL LABORATORIES LLC

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## Certificate of Analysis

Report Date: August 2, 2016

Company : CH2MHill Plateau Remediation Company  
 Address : MSIN R3-50 CHPRC  
 PO Box 1600  
 Richland, Washington 99352  
 Contact: Mr. Scot Fitzgerald  
 Project: CHPRC SAF W16-007

Client Sample ID:	B35NX6	Project:	CPRCOW16007
Sample ID:	401273012	Client ID:	CPRC001
Matrix:	WATER		
Collect Date:	10-JUL-16 14:02		
Receive Date:	12-JUL-16		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Carbon Analysis												
9060_TOX: COMMON "As Received"												
Total Organic Carbon #1	B	431	330	1000	ug/L		1	TSM	07/15/16	1059	1581217	1
Total Organic Carbon #2	B	469	330	1000	ug/L		1					
Total Organic Carbon #3	B	459	330	1000	ug/L		1					
Total Organic Carbon #4	B	459	330	1000	ug/L		1					
Total Organic Carbon Average	B	455	330	1000	ug/L		1					

Halogen Analysis												
9020_TOX: COMMON "As Received"												
Total Organic Halogens	B	8.22	3.33	10.0	ug/L		1	RMJ	07/21/16	2005	1581678	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9060A	
2	9020_TOX	

### 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



8/8/2016

# GEL LABORATORIES LLC

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## Certificate of Analysis

Report Date: August 2, 2016

Company : CH2MHill Plateau Remediation Company  
 Address : MSIN R3-50 CHPRC  
 PO Box 1600  
 Richland, Washington 99352  
 Contact: Mr. Scot Fitzgerald  
 Project: CHPRC SAF W16-007

---

Client Sample ID:	B35NY9	Project:	CPRCOW16007
Sample ID:	401273014	Client ID:	CPRC001
Matrix:	WATER		
Collect Date:	10-JUL-16 09:45		
Receive Date:	12-JUL-16		
Collector:	Client		

---

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Titration and Ion Analysis												
2320_ALKALINITY: COMMON (Alkalinity only) "As Received"												
Alkalinity, Total as CaCO3		83800	725	1000	ug/L			RXB5	07/12/16	1911	1581130	1

The following Analytical Methods were performed:

---

Method	Description	Analyst	Comments
1	2320_ALKALINITY		

### 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

8/8/2016

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## Certificate of Analysis

Report Date: August 2, 2016

Company : CH2MHill Plateau Remediation Company  
 Address : MSIN R3-50 CHPRC  
 PO Box 1600  
 Richland, Washington 99352  
 Contact: Mr. Scot Fitzgerald  
 Project: CHPRC SAF W16-007

---

Client Sample ID:	B35P03	Project:	CPRCOW16007
Sample ID:	401273016	Client ID:	CPRC001
Matrix:	WATER		
Collect Date:	10-JUL-16 10:31		
Receive Date:	12-JUL-16		
Collector:	Client		

---

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Titration and Ion Analysis												
2320_ALKALINITY: COMMON (Alkalinity only) "As Received"												
Alkalinity, Total as CaCO3		89400	725	1000	ug/L			RXB5	07/12/16	1914	1581130	1

The following Analytical Methods were performed:

---

Method	Description	Analyst	Comments
1	2320_ALKALINITY		

### 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









# Quality Control Summary

**GEL LABORATORIES LLC**

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**QC Summary**

Report Date: August 2, 2016

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CH2M Hill Plateau Remediation Company

MSIN R3-50 CHPRC

PO Box 1600

Richland, Washington

Contact: Mr. Scot Fitzgerald

Workorder: 401273

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Carbon Analysis</b>											
Batch	1581217										
QC1203583578	401274001	DUP									
Total Organic Carbon Average		2380		2500	ug/L	4.87 ^		(+/-1000)	TSM	07/15/16	17:27
QC1203583580	401273019	DUP									
Total Organic Carbon Average	B	501	B	509	ug/L	1.58 ^		(+/-1000)		07/15/16	14:04
QC1203583577	LCS										
Total Organic Carbon Average	10000			9190	ug/L			(80%-120%)		07/15/16	02:59
QC1203583576	MB										
Total Organic Carbon Average			U	330	ug/L					07/15/16	02:49
QC1203583581	401274001	PS									
Total Organic Carbon Average	10.0	2.38		12.0	mg/L			(75%-125%)		07/15/16	18:11
QC1203583583	401273019	PS									
Total Organic Carbon Average	10.0	B	0.501	9.46	mg/L			(75%-125%)		07/15/16	14:44
<b>Halogen Analysis</b>											
Batch	1581676										
QC1203584692	401273001	DUP									
Total Organic Halogens		U	3.33	U	3.33	ug/L	N/A		RMJ	07/20/16	19:13
QC1203584691	LCS										
Total Organic Halogens	100			100	ug/L			(80%-120%)		07/20/16	18:32
QC1203584690	MB										
Total Organic Halogens			U	3.33	ug/L					07/20/16	18:09
QC1203584693	401273001	PS									
Total Organic Halogens	100	U	1.84	104	ug/L			(75%-125%)		07/20/16	19:59
Batch	1581677										
QC1203584696	401273008	DUP									
Total Organic Halogens		16.2		23.5	ug/L	36.5 ^		(+/-10.0)	RMJ	07/20/16	20:31
QC1203584695	LCS										
Total Organic Halogens	100			97.8	ug/L			(80%-120%)		07/20/16	19:37
QC1203584694	MB										
Total Organic Halogens			U	3.33	ug/L					07/20/16	19:10
QC1203584697	401273008	PS									

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**QC Summary**

Workorder: 401273

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Halogen Analysis</b>											
Batch	1581677										
Total Organic Halogens	100	16.2		118	ug/L		102	(75%-125%)		07/20/16	21:20
Batch	1581678										
QC1203584700	401273018	DUP									
Total Organic Halogens	B	7.88	U	3.33	ug/L	156	^	(+/-10.0)	RMJ	07/21/16	21:49
QC1203584699	LCS										
Total Organic Halogens	100			98.9	ug/L		98.9	(80%-120%)		07/21/16	19:24
QC1203584698	MB										
Total Organic Halogens			U	3.33	ug/L					07/21/16	19:00
QC1203584701	401273018	PS									
Total Organic Halogens	100	B	7.88	104	ug/L		96.3	(75%-125%)		07/21/16	22:40
<b>Titration and Ion Analysis</b>											
Batch	1581130										
QC1203583375	400517001	DUP									
Alkalinity, Total as CaCO3		96000		96500	ug/L	0.525		(0%-20%)	RXB5	07/12/16	18:40
QC1203583374	LCS										
Alkalinity, Total as CaCO3	50000			53000	ug/L		106	(80%-120%)		07/12/16	18:34
QC1203583373	MB										
Alkalinity, Total as CaCO3			U	725	ug/L					07/12/16	18:30

**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

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**QC Summary**

Workorder: 401273

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<b>Parmname</b>	<b>NOM</b>	<b>Sample</b>	<b>Qual</b>	<b>QC</b>	<b>Units</b>	<b>RPD%</b>	<b>REC%</b>	<b>Range</b>	<b>Anlst</b>	<b>Date</b>	<b>Time</b>
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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.