TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica St. Louis
13715 Rider Trail North
Earth City, MO 63045
Tel: (314)298-8566

TestAmerica Job ID: 160-22746-1
TestAmerica Sample Delivery Group: SL2547
Client Project/Site: S17-006

For:
CH2M Hill Plateau Remediation Company
PO BOX 1600, MS H8-41
Richland, Washington 99352

Attn: Mr. Scot Fitzgerald

Authorized for release by:
7/10/2017 9:36:30 AM

Jayna Awalt, Project Manager II
(314)298-8566
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July 10, 2017

LINKS

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 160-22746-1

Laboratory: TestAmerica St. Louis

Narrative

CASE NARRATIVE

CH2MHill Plateau Remediation Company
P.O. Box 1600
Richland, Washington 99352
July 10, 2017
Attention: Scot Fitzgerald

SDG	: SL2547
Number of Samples	: 21 samples
Sample Matrix	: Water
Data Deliverable	: Summary
Date SDG Closed	: June 9, 2017

II. Introduction

On June 8 and 9, 21 samples were received by TestAmerica - St. Louis for chemical analysis. The samples were received within temperature criteria. See the COC and receipt checklists for documentation of any variations on receipt conditions and temperature. Upon receipt, samples were given laboratory Ids to correspond with specific client Ids. Please refer to the Sample Summary sheets attached to this case narrative. This report is incomplete without the narrative.

The following SAFs are associated with this SDG: S17-006

July 10, 2017

III. Analytical Results/ Methodology

The analytical results for this report are presented by analytical test. Each set of data includes sample identification information, analytical results and the appropriate detection limits. All results are based upon samples as they were received, i.e. wet weight, unless otherwise noted on the data sheets. See the attached Methods Summary Form for the methods used in this SDG.

MS/MSD/Dup analysis was done per the client requirements. Analytical batches that did not contain matrix QC were analyzed with an LCS/LCS duplicate.

Note: For Metals analyses, per standard practice, all 6020 water and soil samples are initially prepared at 2x dilution. This standard dilution does not affect reporting limits as MDL studies are also prepared in the same manner. These dilutions do not necessitate a narrative note; however, they are flagged “D” due to a limitation in the LIMS.

For solid matrices, all Metals analyses (including Hg) use a Standard Reference Material for the Laboratory Control Sample (LCS). Certificate for this source material may be obtained from TASL.

For Anion analysis, samples have been started at a 2x dilution per CHPRC direction. The samples are flagged accordingly with a “D” flag if sample concentration is above the MDL/RL. Non-conformance will be included in the below section only if dilution is greater than 2x.

For WTPH methods, the lab utilizes method 8015B. Per CHPRC direction, the method name in the electronic data has been modified to read WTPH in the place of 8015B.

Per CHPRC direction, due to the short hold times for Nitrate, Nitrite and Phosphate by IC (48 hours) as well as pH analysis (24 hours), a SIR request is not needed when samples are run outside 1x hold but within 2x hold. A narrative comment will be included below if a sample is run outside the lab-specified hold time for waters.

For extractable and volatile organic analyses, several analytes are considered poor performers and will not meet CHPRC QC limits. Per CHPRC direction, the lab’s statistical limits have been reported. Excursions outside these statistical limits will include a non-conformance in the sections below.

Job ID: 160-22746-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

IV. Definitions

QCBLK- Quality Control Blank, Method Blank
QCLCS- Quality Control Laboratory Control Sample, Blank Spike
DUP- Laboratory Duplicate
MS- Matrix Spike
MSD- Matrix Spike Duplicate

The term “Detection Limit” used in the analytical data report refers to either the lab’s standard reporting limits or contractually required reporting limits, whichever is applicable.

The following data qualifiers may be applicable to the results in this report, as appropriate.

- **B** - For inorganic analyses, the sample result is greater than the MDL but less than the RL.
- **B** - For organic analyses, Method Blank contamination. The Method Blank contains the target analyte at a concentration above the MDL.
- **B** - For radiochemistry, Method Blank reported above the MDC. Sample activity is > 5% the method blank.
- **J** - For organic analyses, the sample is estimated and less than the RL.
- **C** - For inorganic analyses, Method Blank contamination. The Method Blank contains the target analyte at a concentration above the MDL/RL but not greater than 5% the MB.
- **D** - For all analyses, the sample result was obtained from the analysis of a dilution. For ICPMS Metals analyses, per standard practice, all samples are initially prepared at a 2x dilution. This standard dilution does not affect reporting limits as MDL studies are also prepared in the same manner and will not be narrated below. Only dilutions above 2x will be narrated and considered a true dilution for these samples.
- **N** - For inorganics, rad and GC analyses, the spike/spike duplicate recoveries are outside QC limits.
- **T** - For GCMS analyses, the spike/spike duplicate recoveries are outside QC limits.
- **o** - For all analyses, the LCS (LCSD) recoveries are outside QC limits.
- **P -** For organic analyses (PCB/Pests only), the aroclor target analyte has greater than 25% difference for detected concentrations between the two GC columns.
- **X-** Organics and Anions IC - Sample concentration over calibration and/or surrogate recovery outside QC limits.
- **X-** Inorganics - The analyte present in the original sample is > 4x the spike concentration.
- **X-** Radiochemistry - Carrier or Tracer recovery is outside limits.
- **Z-** Sample was prepped or analyzed beyond the specified sample holding time.
- **y -** RPD is outside established limits.

July 10, 2017

Anions

Batch: 312602

The following samples in Anion batch 160-312602 were diluted to bring the concentrations of target analytes within the calibration range: B39RC7 (160-22746-8) and B39RY0 (160-22746-9). Elevated reporting limits (RLs) are provided. These analytes have been qualified accordingly with a "D" flag in the associated samples.

Batch: 312603

The following samples in Anion batch 160-312603 were diluted to bring the concentrations of target analytes within the calibration range: B39RC7 (160-22746-8), B39RY0 (160-22746-9), B39RB4 (160-22746-12) and B39RB3 (160-22746-13). Elevated reporting limits (RLs) are provided. These analytes have been qualified accordingly with a "D" flag in the associated samples.

The following matrix spike (MS) in Anion batch 160-312603 recovered outside control limits for Nitrite: (160-22746-A-13 MS) Matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within control limits. This analyte has been qualified accordingly with an "N" flag in the associated samples.

Strontium-90

Job ID: 160-22746-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

Prep Batch: 313385

Insufficient sample volume was available to perform a sample duplicate (DU). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) was prepared in order to display accuracy and precision. The full sample volume was consumed.

There were no observations or non-conformances associated with the following methods:

ICPMS Metals
Alkalinity

We certify that this data 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 signature on this report.

Reviewed and approved:

Jayna Awalt
St. Louis Project Manager

July 10, 2017

Login Sample Receipt Checklist

Client: CH2M Hill Plateau Remediation Company

Job Number: 160-22746-1
SDG Number: SL2547

Login Number: 22746
List Number: 1
Creator: Taylor, Kristene N

List Source: TestAmerica St. Louis

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.6°
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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CH2MHill Plateau Remediation Company SL2547

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # S17-006-019

Collector	Juan Aguilar /CHPRC	**Contact/Requester**	Karen Waters-Husted	**Telephone No.**	509-376-4650
SAF No.	S17-006	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300071
Project Title	SURV, JUNE 2017	**Logbook No.**	HNF-N-506 88 / 73	**Ice Chest No.**	GWS-601
Shipped To (Lab)	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	7793 2707 3996
Protocol	SURV	**Priority:**	30 Days **PRIORITY**	**Offsite Property No.**	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

SPECIAL INSTRUCTIONS **Hold Time**

N/A

Total Activity Exemption: Yes ☑ No ☐

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B39R96	N	W	6-7-17	0939	1x500-mL G/P	6020_METALS_ICPMS: GW 01	6 Months	HNO3 to pH <2
B39RB5	Y	W	6-7-17	0939	1x500-mL G/P	6020_METALS_ICPMS: GW 01	6 Months	HNO3 to pH <2

	Print	Sign	Date/Time		Print	Sign	Date/Time
Relinquished By	Juan Aguilar /CHPRC		JUN 07 2017 1050	Received By			JUN 07 2017 1050
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By	Kristene Taylor		6-8-17 0500
				Received By			Date/Time

PED EX

Matrix *

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

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

7/10/2017

PRINTED ON 4/26/2017

FSR ID = FSR43082

A-6004-842 (REV 2)

CH2MHill Plateau Remediation Company SL2547	July 10, 2017 **CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST**	C.O.C. # S17-006-020 Page 1 of 1

Collector	Juan Aguilar /CHPRC	**Contact/Requester**	Karen Waters-Husted	**Telephone No.**	509-376-4650
SAF No.	S17-006	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300071
Project Title	SURV, JUNE 2017	**Logbook No.**	HNF-N-506 88 / 73	**Ice Chest No.**	GWS-601
Shipped To (Lab)	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	779327073916
Protocol	SURV	**Priority:**	30 Days **PRIORITY**	**Offsite Property No.**	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

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐
N/A

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B39R97	N	W	6-7-17	0939	1x500-mL G/P	6020_METALS_ICPMS: GW 01	6 Months	HNO3 to pH <2
B39RB6	Y	W	6-7-17	0939	1x500-mL G/P	6020_METALS_ICPMS: GW 01	6 Months	HNO3 to pH <2

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Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Juan Aguilar /CHPRC			JUN 07 2017 1050				JUN 07 2017 1050
Relinquished By			Date/Time	Received By			Date/Time
			6/7/17 1400	FEDEX			
Relinquished By			Date/Time	Received By			Date/Time
FED EX				Kristene Taylor			6-8-17 0900
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

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

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

7/10/2017

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July 10, 2017

CH2MHill Plateau Remediation Company SL2547	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # S17-006-276 Page 1 of 1

Collector	Larry Rosane /CHPRC	**Contact/Requester**	Karen Waters-Husted	**Telephone No.**	509-376-4650
SAF No.	S17-006	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300071
Project Title	SURV, JUNE 2017	**Logbook No.**	HNF-N-506 93147	**Ice Chest No.**	GWS-601
Shipped To (Lab)	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	779327611 3996
Protocol	SURV	**Priority:**	30 Days **PRIORITY**	**Offsite Property No.**	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

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐

N/A

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B39P94	N	WJ	JUN 07 2017	1231	1x1-L G/P	SRISO_SEP_PRECIP_GPC: COMMON	6 Months	HNO3 to pH <2

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Relinquished By	Print / Sign	Date/Time	Received By	Print / Sign	Date/Time
Larry Rosane /CHPRC	Larry Rosane	JUN 07 2017 1322	Janelle Zunker CHPRC		JUN 07 2017 1322
Janelle Zunker CHPRC		JUN 07 2017 1400	FEDEX		
FED EX			Kristene Taylor		6-8-17 0900

Matrix *

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

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

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CH2MHill Plateau Remediation Company SL2547

35165

July 10, 2017

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # S17-006-279

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Collector	Larry Rosane /CHPRC	**Contact/Requester**	Karen Waters-Husted	**Telephone No.**	509-376-4650
SAF No.	S17-006	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300071
Project Title	SURV, JUNE 2017	**Logbook No.**	HNF-N-506 93147	**Ice Chest No.**	GWS 601
Shipped To (Lab)	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	7793 2707 3996
Protocol	SURV	**Priority:**	30 Days **PRIORITY**	**Offsite Property No.**	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

SPECIAL INSTRUCTIONS Hold Time

N/A

Total Activity Exemption: Yes ☑ No ☐

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B39PB2	N	W	JUN 0 7 2017	1059	1x1-L G/P	SRISO_SEP_PRECIP_GPC: COMMON	6 Months	HNO3 to pH <2

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Relinquished By	Print / Sign	Date/Time	Received By	Print / Sign	Date/Time
Larry Rosane /CHPRC	Larry Rosane	JUN 0 7 2017 1322	Janelle Zunker CHPRC		JUN 0 7 2017 1322
Janelle Zunker CHPRC		JUN 0 7 2017 1400	FEDEX		
FED EX			Kristene Taylor		6-8-17 0900

Matrix *

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

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

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CH2MHill Plateau Remediation Company SL2547

July 10, 2017

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # S17-006-372

Page 1 of 1

Collector	Juan Aguilar /CHPRC	**Contact/Requester**	Karen Waters-Husted	**Telephone No.**	509-376-4650
SAF No.	S17-006	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300071
Project Title	SURV, JUNE 2017	**Logbook No.**	HNF-N-506 88 / 73	**Ice Chest No.**	GWS-601
Shipped To (Lab)	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	7793 2707 3940
Protocol	SURV	**Priority:**	30 Days **PRIORITY**	**Offsite Property No.**	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

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐

N/A

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B39RC6	N	W	~~6-7-17~~ 6-7-17	0730	1x125-mL P	300.0_ANIONS_IC: COMMON	48 Hours	Cool <=6C

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Juan Aguilar /CHPRC			JUN 07 2017 1050	CHPRC			JUN 07 2017 1050
CHPRC			6/7/17 1400	FEDEX			Date/Time
		FED EX	Date/Time	Kristene Taylor			6-8-17 0900
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

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

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

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July 10, 2017

CH2MHill Plateau Remediation Company SL2547

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # **S17-006-374**

Page 1 of 1

Collector	Juan Aguilar /CHPRC	**Contact/Requester**	Karen Waters-Husted	**Telephone No.**	509-376-4650
SAF No.	S17-006	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300071
Project Title	SURV, JUNE 2017	**Logbook No.**	HNF-N-506 88 / 73	**Ice Chest No.**	GWS-601
Shipped To (Lab)	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	7793 2707399
Protocol	SURV	**Priority:**	30 Days **PRIORITY**	**Offsite Property No.**	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

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐

N/A

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B39RC7	N	W	6-7-17	0900	1x125-mL P	300.0_ANIONS_IC: COMMON	48 Hours	Cool <=6C

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Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Juan Aguilar /CHPRC			JUN 0 7 2017 1050	CHPRC K A Shepard			JUN 0 7 2017 1050
CHPRC K A Shepard			6/7/17 1400	FEDEX			Date/Time
	FED EX		Date/Time	Kristene Taylor			6-8-17 0703
			Date/Time				Date/Time

Matrix *

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

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

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7/10/2017

July 10, 2017

CH2MHill Plateau Remediation Company SL2547	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # S17-006-417 Page 1 of 1

Collector	Juan Aguilar /CHPRC	**Contact/Requester**	Karen Waters-Husted	**Telephone No.**	509-376-4650
SAF No.	S17-006	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300071
Project Title	SURV, JUNE 2017	**Logbook No.**	HNF-N-506 88/73	**Ice Chest No.**	GWS-602
Shipped To (Lab)	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	779327073946
Protocol	SURV	**Priority:**	30 Days **PRIORITY**	**Offsite Property No.**	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

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐
N/A

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B39RY0	N	W	6-7-17	1232	1x125-mL P	300.0_ANIONS_IC: COMMON	48 Hours	Cool <=6C

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Juan Aguilar /CHPRC			JUN 07 2017 1300	Janelle Zunker CHPRC			JUN 07 2017 1300
Janelle Zunker CHPRC			JUN 07 2017 1400	FEDEX			Date/Time
FED EX			Date/Time	Kristene Taylor			6-8-17 0900
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

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

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

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CH2MHill Plateau Remediation Company SL2547

July 10, 2017

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # S17-006-503

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Collector	Juan Aguilar /CHPRC	**Contact/Requester**	Karen Waters-Husted	**Telephone No.**	509-376-4650
SAF No.	S17-006	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300071
Project Title	SURV, JUNE 2017	**Logbook No.**	HNF-N-506 88 / 73	**Ice Chest No.**	GWS-601
Shipped To (Lab)	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	7793 2707 3946
Protocol	SURV	**Priority:**	30 Days **PRIORITY**	**Offsite Property No.**	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

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐

N/A

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B39RC4	N	W	6-7-17	0730	1x250-mL G/P	310.1_ALKALINITY: GW 01	14 Days	Cool <=6C

	Relinquished By (Print / Sign / Date/Time)	Received By (Print / Sign / Date/Time)
1	Juan Aguilar /CHPRC — JUN 0 7 2017 1050	CHPRC K.A. SHEPARD — JUN 0 7 2017 1050
2	CHPRC K.A. SHEPARD — 6/7/17 1400	FEDEX
3	FED EX	Kristene Taylor — 6-8-17 0700
4		

Matrix *

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

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

PRINTED ON 5/3/2017 FSR ID = FSR44210 A-6004-842 (REV 2)

CH2MHill Plateau Remediation Company SL2547

July 10, 2017

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # S17-006-504

Collector	Juan Aguilar /CHPRC	**Contact/Requester**	Karen Waters-Husted	**Telephone No.**	509-376-4650
SAF No.	S17-006	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300071
Project Title	SURV, JUNE 2017	**Logbook No.**	HNF-N-506 88 / 73	**Ice Chest No.**	GWS-601
Shipped To (Lab)	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	779827073996
Protocol	SURV	**Priority:**	30 Days **PRIORITY**	**Offsite Property No.**	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

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐

N/A

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B39RC5	N	W	6-7-17	0900	1x250-mL G/P	310.1_ALKALINITY: GW 01	14 Days	Cool <=6C

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Juan Aguilar /CHPRC			JUN 0 7 2017 1050	CHPRC			JUN 0 7 2017 1050
CHPRC			6/7/17 1400	FEDEX			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
FED EX				Kristene Taylor			6-8-17 0900
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

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

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

PRINTED ON 5/3/2017 FSR ID = FSR40596 A-6004-842 (REV 2)

CH2MHill Plateau Remediation Company

SL2547

July 10, 2017

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # **S17-006-529**

Page 1 of 1

Collector	Juan Aguilar /CHPRC	**Contact/Requester**	Karen Waters-Husted	**Telephone No.**	509-376-4650
SAF No.	S17-006	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300071
Project Title	SURV, JUNE 2017	**Logbook No.**	HNF-N-506 88 / 73	**Ice Chest No.**	GW5 (60)
Shipped To (Lab)	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	7793 2787 3946
Protocol	SURV	**Priority:**	30 Days **PRIORITY**	**Offsite Property No.**	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

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐

N/A

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B39RB4	N	W	6-7-13	0939	1x125-mL P	300.0_ANIONS_IC: COMMON	48 Hours	Cool <=6C

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Juan Aguilar /CHPRC			JUN 07 2017 1050				JUN 07 2017 1050
Relinquished By			Date/Time	Received By			Date/Time
			6/7/17 1400	FEDEX			
Relinquished By			Date/Time	Received By			Date/Time
		FED EX		Kristene Taylor			6-8-17 0900
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

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

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

PRINTED ON 4/26/2017 **FSR ID = FSR43082** A-6004-842 (REV 2)

CH2MHill Plateau Remediation Company SL2547

July 10, 2017

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # S17-006-530

Collector	Juan Aguilar /CHPRC	**Contact/Requester**	Karen Waters-Husted	**Telephone No.**	509-376-4650
SAF No.	S17-006	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300071
Project Title	SURV, JUNE 2017	**Logbook No.**	HNF-N-506 88/ 73	**Ice Chest No.**	GWS-601
Shipped To (Lab)	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	7193 2707 3996
Protocol	SURV	**Priority:**	30 Days **PRIORITY**	**Offsite Property No.**	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

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐

N/A

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B39RB3	N	W	6-7-17	0939	1x125-mL P	300.0_ANIONS_IC: COMMON	48 Hours	Cool <=6C

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Juan Aguilar /CHPRC			JUN 0 7 2017 1050				JUN 0 7 2017 1050
			6/7/17 1400		FEDEX		
		FED EX			Kristene Taylor		6-8-17 0900

Matrix *

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

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

PRINTED ON 4/26/2017 **FSR ID = FSR43082** A-6004-842 (REV 2)

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779327073996

Ship date:
Wed 6/07/2017

RICHLAND, WA US

Delivered
Signed for by: B.DANIELS

Actual delivery:
Thu 6/08/2017 8:56 am

EARTH CITY, MO US

Travel History

Date/Time	Activity	Location
- 6/08/2017 - Thursday		
8:56 am	Delivered	EARTH CITY, MO
6:50 am	On FedEx vehicle for delivery	EARTH CITY, MO
6:44 am	At local FedEx facility	EARTH CITY, MO
5:16 am	At destination sort facility	BERKELEY, MO
4:27 am	Departed FedEx location	MEMPHIS, TN
12:24 am	Arrived at FedEx location	MEMPHIS, TN
- 6/07/2017 - Wednesday		
4:51 pm	Left FedEx origin facility	PASCO, WA
4:03 pm	Shipment information sent to FedEx	
3:24 pm	Picked up	PASCO, WA

Shipment Facts

Tracking number	779327073996	**Service**	FedEx Standard Overnight
Weight	35 lbs / 15.88 kgs	**Delivered To**	Shipping/Receiving
Total pieces	1	**Total shipment weight**	35 lbs / 15.88 kgs
Terms	Recipient	**Shipper reference**	GWS-601
Packaging	Your Packaging	**Special handling section**	Deliver Weekday
Standard transit	6/08/2017 by 3:00 pm		

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July 10, 2017

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Login Sample Receipt Checklist

Client: CH2M Hill Plateau Remediation Company

Job Number: 160-22780-1
SDG Number: SL2547

Login Number: 22780
List Number: 1
Creator: Clarke, Jill C

List Source: TestAmerica St. Louis

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.3
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

July 10, 2017

July 10, 2017

CH2MHill Plateau Remediation Company 82547	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # S17-006-211 Page 1 of 1

Collector	Dan Woehle CHPRC	**Contact/Requester**	Karen Waters-Husted	**Telephone No.**	509-376-4650
SAF No.	S17-006	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300071
Project Title	SURV, JUNE 2017	**Logbook No.**	HNF-N-506 92189	**Ice Chest No.**	GWS-329
Shipped To (Lab)	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	7749 3771 1987
Protocol	SURV	**Priority:**	30 Days **PRIORITY**	**Offsite Property No.**	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

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐
N/A

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B39PW6	Y	W	JUN 0 8 2017	1155	1x500-mL G/P	6020_METALS_ICPMS: Chromium (1)	6 Months	HNO3 to pH <2
B39PW3	N	W	JUN 0 8 2017	1155	1x500-mL G/P	6020_METALS_ICPMS: Chromium (1)	6 Months	HNO3 to pH <2

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Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Dan Woehle CHPRC			JUN 0 8 2017 1310	Lesly Wall /CHPRC			JUN 0 8 2017 1310
Relinquished By			Date/Time	Received By			Date/Time
Lesly Wall /CHPRC			JUN 0 8 2017 1400	FEDEX			
Relinquished By			Date/Time	Received By			Date/Time
			FED EX		Brian Davis	6/9/17	0830
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

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

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

PRINTED ON 4/26/2017 **FSR ID = FSR44184** A-6004-842 (REV 2)

7/10/2017

July 10, 2017

CH2MHill Plateau Remediation Company

SL2547

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # S17-006-017

Page 1 of 1

Collector	Dan Woehle CHPRC	Contact/Requester	Karen Waters-Husted	Telephone No.	509-376-4650
SAF No.	S17-006	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071
Project Title	SURV, JUNE 2017	Logbook No.	HNF-N-506 92/89	Ice Chest No.	GWS-329
Shipped To (Lab)	TestAmerica St. Louis	Method of Shipment	Commercial Carrier	Bill of Lading/Air Bill No.	7793 3771 1987
Protocol	SURV	Priority:	30 Days PRIORITY	Offsite Property No.	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

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐

N/A

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B39R66	N	W	JUN 0 8 2017	1143	1x500-mL G/P	6020_METALS_ICPMS: Chromium (1)	6 Months	HNO3 to pH <2
B39R70	Y	W	JUN 0 8 2017	1143	1x500-mL G/P	6020_METALS_ICPMS: Chromium (1)	6 Months	HNO3 to pH <2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Dan Woehle CHPRC	[signature]		JUN 0 8 2017 1310	Lesly Wall /CHPRC	Lesly Wall		JUN 0 8 2017 1310
Lesly Wall /CHPRC	Lesly Wall		JUN 0 8 2017 1400	FEDEX			
FED EX				[signature]	Brian Daniel		6/9/17 0831

Matrix *

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

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

PRINTED ON 4/26/2017 FSR ID = FSR41333 A-6004-842 (REV 2)

CH2MHill Plateau Remediation Company

SL2547 80165

July 10, 2017

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # S17-006-216

Page 1 of 1

Collector	Larry Rosane /CHPRC	**Contact/Requester**	Karen Waters-Husted	**Telephone No.**	509-376-4650
SAF No.	S17-006	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300071
Project Title	SURV, JUNE 2017	**Logbook No.**	HNF-N-506 93149	**Ice Chest No.**	GWS-329
Shipped To (Lab)	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	7793 3771 1987
Protocol	SURV	**Priority:**	30 Days **PRIORITY**	**Offsite Property No.**	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

SPECIAL INSTRUCTIONS **Hold Time**

N/A

Total Activity Exemption: Yes ☑ No ☐

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B39R55	N	W	JUN 0 8 2017	1115	1x500-mL G/P	6020_METALS_ICPMS: Chromium (1)	6 Months	HNO3 to pH <2
B39R58	Y	W	↓	↓	1x500-mL G/P	6020_METALS_ICPMS: Chromium (1)	6 Months	HNO3 to pH <2

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	Print	Sign	Date/Time		Print	Sign	Date/Time
Relinquished By /CHPRC	Larry Rosane	Larry Rosane	JUN 0 8 2017 1210	Received By	Janelle Zunker CHPRC		JUN 0 8 2017 1210
Relinquished By	Janelle Zunker CHPRC		JUN 0 8 2017 1400	Received By	FEDEX		Date/Time
Relinquished By			Date/Time FED EX	Received By	Brian Daniels		Date/Time 6/12/17 0830
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

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

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

PRINTED ON 4/26/2017 FSR ID = FSR44686 A-6004-842 (REV 2)

7/10/2017

July 10, 2017

CH2MHill Plateau Remediation Company 82547	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # S17-006-007 Page 1 of 1

Collector	Dan Woehle CHPRC	**Contact/Requester**	Karen Waters-Husted	**Telephone No.**	509-376-4650
SAF No.	S17-006	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300071
Project Title	SURV, JUNE 2017	**Logbook No.**	HNF-N-506 92 / 89	**Ice Chest No.**	GWS-339
Shipped To (Lab)	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	7793 3771 1987
Protocol	SURV	**Priority:**	30 Days **PRIORITY**	**Offsite Property No.**	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

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐
N/A

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B39PP7	N	W	JUN 0 8 2017	1130	1x500-mL G/P	6020_METALS_ICPMS: Chromium (1)	6 Months	HNO3 to pH <2
B39PR1	Y	W	JUN 0 8 2017	1130	1x500-mL G/P	6020_METALS_ICPMS: Chromium (1)	6 Months	HNO3 to pH <2

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Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Dan Woehle CHPRC	Dan Woehle		JUN 0 8 2017 1300	Lesly Wall /CHPRC	Lesly Wall		JUN 0 8 2017 1310
Lesly Wall /CHPRC	Lesly Wall		JUN 0 8 2017 1400				
				FEDEX			
			FED EX	Brian Davis	Brian Davis		6/9/17 0830

Matrix *

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

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

PRINTED ON 4/26/2017 | FSR ID = FSR44182 | A-6004-842 (REV 2)

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779337711987

Ship date:
Thu 6/08/2017

RICHLAND, WA US

Delivered
Signed for by: B.DAVIS

Actual delivery:
Fri 6/09/2017 8:17 am

EARTH CITY, MO US

Travel History

Date/Time	Activity	Location
- 6/09/2017 - Friday		
8:17 am	Delivered	EARTH CITY, MO
7:02 am	On FedEx vehicle for delivery	EARTH CITY, MO
6:56 am	At local FedEx facility	EARTH CITY, MO
5:09 am	At destination sort facility	BERKELEY, MO
4:21 am	Departed FedEx location	MEMPHIS, TN
12:25 am	Arrived at FedEx location	MEMPHIS, TN
- 6/08/2017 - Thursday		
4:50 pm	Left FedEx origin facility	PASCO, WA
3:46 pm	Shipment information sent to FedEx	
3:19 pm	Picked up	PASCO, WA

Shipment Facts

Tracking number	779337711987	**Service**	FedEx Standard Overnight
Weight	80 lbs / 36.29 kgs	**Delivered To**	Receptionist/Front Desk
Total pieces	1	**Total shipment weight**	80 lbs / 36.29 kgs
Terms	Recipient	**Shipper reference**	GWS-329
Packaging	Your Packaging	**Special handling section**	Deliver Weekday
Standard transit	6/09/2017 by 3:00 pm		

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Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D	The reported value is from a dilution.
B	Estimated result. Result is less than the RL, but greater than MDL
N	MS, MSD: Spike recovery is outside acceptance limits.
U	Analyzed for but not detected.

Metals

Qualifier	Qualifier Description
B	Estimated result. Result is less than the RL, but greater than MDL
D	The reported value is from a dilution.
U	Analyzed for but not detected.

General Chemistry

Qualifier	Qualifier Description
B	Estimated result. Result is less than the RL, but greater than MDL
U	Analyzed for but not detected.

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

July 10, 2017

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Method Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: S17-006

TestAmerica Job ID: 160-22746-1
SDG: SL2547

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL SL
6020A	Metals (ICP/MS)	SW846	TAL SL
310.1	Alkalinity	MCAWW	TAL SL
SR-03-RC	Total Beta Strontium (GFPC)	DOE	TAL SL

Protocol References:

DOE = U.S. Department of Energy

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

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July 10, 2017

Sample Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: S17-006

TestAmerica Job ID: 160-22746-1
SDG: SL2547

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
160-22746-1	B39R96	Water	06/07/17 09:39	06/08/17 09:00
160-22746-2	B39RB5	Water	06/07/17 09:39	06/08/17 09:00
160-22746-3	B39R97	Water	06/07/17 09:39	06/08/17 09:00
160-22746-4	B39RB6	Water	06/07/17 09:39	06/08/17 09:00
160-22746-5	B39P94	Water	06/07/17 12:31	06/08/17 09:00
160-22746-6	B39PB2	Water	06/07/17 10:59	06/08/17 09:00
160-22746-7	B39RC6	Water	06/07/17 07:30	06/08/17 09:00
160-22746-8	B39RC7	Water	06/07/17 09:00	06/08/17 09:00
160-22746-9	B39RY0	Water	06/07/17 12:32	06/08/17 09:00
160-22746-10	B39RC4	Water	06/07/17 07:30	06/08/17 09:00
160-22746-11	B39RC5	Water	06/07/17 09:00	06/08/17 09:00
160-22746-12	B39RB4	Water	06/07/17 09:39	06/08/17 09:00
160-22746-13	B39RB3	Water	06/07/17 09:39	06/08/17 09:00
160-22780-1	B39PW6	Water	06/08/17 11:55	06/09/17 08:30
160-22780-2	B39PW3	Water	06/08/17 11:55	06/09/17 08:30
160-22780-3	B39R66	Water	06/08/17 11:43	06/09/17 08:30
160-22780-4	B39R70	Water	06/08/17 11:43	06/09/17 08:30
160-22780-5	B39R55	Water	06/08/17 11:15	06/09/17 08:30
160-22780-6	B39R58	Water	06/08/17 11:15	06/09/17 08:30
160-22780-7	B39PP7	Water	06/08/17 11:30	06/09/17 08:30
160-22780-8	B39PR1	Water	06/08/17 11:30	06/09/17 08:30

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Method: 300.0 - Anions, Ion Chromatography - DL

Client Sample ID: B39RC6 — **Lab Sample ID: 160-22746-7**
Date Collected: 06/07/17 07:30 — **Matrix: Water**
Date Received: 06/08/17 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.052	U D	0.20	0.052	mg/L			06/08/17 17:56	2
Nitrate as N	**0.058**	**D**	0.040	0.014	mg/L			06/08/17 17:56	2
Nitrite as N	0.014	U D N	0.040	0.014	mg/L			06/08/17 17:56	2
Sulfate	0.10	U D	1.0	0.10	mg/L			06/08/17 17:56	2
Chloride	0.040	U D	0.40	0.040	mg/L			06/08/17 17:56	2

Client Sample ID: B39RC7 — **Lab Sample ID: 160-22746-8**
Date Collected: 06/07/17 09:00 — **Matrix: Water**
Date Received: 06/08/17 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**0.16**	**B D**	0.20	0.052	mg/L			06/08/17 18:22	2
Nitrite as N	0.014	U D N	0.040	0.014	mg/L			06/08/17 18:22	2

Client Sample ID: B39RY0 — **Lab Sample ID: 160-22746-9**
Date Collected: 06/07/17 12:32 — **Matrix: Water**
Date Received: 06/08/17 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**0.41**	**D**	0.20	0.052	mg/L			06/08/17 19:42	2
Nitrite as N	0.014	U D N	0.040	0.014	mg/L			06/08/17 19:42	2

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Client Sample ID: B39RB4 — **Lab Sample ID: 160-22746-12**
Date Collected: 06/07/17 09:39 — **Matrix: Water**
Date Received: 06/08/17 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**0.16**	**B D**	0.20	0.052	mg/L			06/08/17 21:56	2
Nitrite as N	0.014	U D N	0.040	0.014	mg/L			06/08/17 21:56	2
Sulfate	**20**	**D**	1.0	0.10	mg/L			06/08/17 21:56	2
Chloride	**1.9**	**D**	0.40	0.040	mg/L			06/08/17 21:56	2

Client Sample ID: B39RB3 — **Lab Sample ID: 160-22746-13**
Date Collected: 06/07/17 09:39 — **Matrix: Water**
Date Received: 06/08/17 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	**0.15**	**B D**	0.20	0.052	mg/L			06/08/17 22:49	2
Nitrite as N	0.014	U D N	0.040	0.014	mg/L			06/08/17 22:49	2
Sulfate	**20**	**D**	1.0	0.10	mg/L			06/08/17 22:49	2
Chloride	**1.9**	**D**	0.40	0.040	mg/L			06/08/17 22:49	2

Method: 300.0 - Anions, Ion Chromatography - DL2

Client Sample ID: B39RC7 — **Lab Sample ID: 160-22746-8**
Date Collected: 06/07/17 09:00 — **Matrix: Water**
Date Received: 06/08/17 09:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	**17**	**D**	0.40	0.14	mg/L			06/08/17 18:49	20
Sulfate	**69**	**D**	10	1.0	mg/L			06/08/17 18:49	20
Chloride	**8.7**	**D**	4.0	0.40	mg/L			06/08/17 18:49	20

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Method: 300.0 - Anions, Ion Chromatography - DL2

Client Sample ID: B39RY0
Date Collected: 06/07/17 12:32
Date Received: 06/08/17 09:00
Lab Sample ID: 160-22746-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**140**	**D**	10	1.0	mg/L			06/08/17 20:09	20
Chloride	**27**	**D**	4.0	0.40	mg/L			06/08/17 20:09	20

Client Sample ID: B39RB4
Date Collected: 06/07/17 09:39
Date Received: 06/08/17 09:00
Lab Sample ID: 160-22746-12
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	**3.0**	**D**	0.40	0.14	mg/L			06/08/17 22:22	20

Client Sample ID: B39RB3
Date Collected: 06/07/17 09:39
Date Received: 06/08/17 09:00
Lab Sample ID: 160-22746-13
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	**3.0**	**D**	0.40	0.14	mg/L			06/08/17 23:16	20

Method: 300.0 - Anions, Ion Chromatography - DL3

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Client Sample ID: B39RY0
Date Collected: 06/07/17 12:32
Date Received: 06/08/17 09:00
Lab Sample ID: 160-22746-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	**33**	**D**	2.0	0.70	mg/L			06/08/17 20:36	100

Method: 6020A - Metals (ICP/MS)

Client Sample ID: B39R96
Date Collected: 06/07/17 09:39
Date Received: 06/08/17 09:00
Lab Sample ID: 160-22746-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**20.4**	**B D**	50.0	20.0	ug/L		06/23/17 13:36	06/26/17 21:36	2
Antimony	2.0	U D	5.0	2.0	ug/L		06/23/17 13:36	06/26/17 21:36	2
Arsenic	4.0	U D	10.0	4.0	ug/L		06/23/17 13:36	06/26/17 21:36	2
Barium	**33.7**	**D**	2.0	0.90	ug/L		06/23/17 13:36	06/26/17 21:36	2
Beryllium	0.20	U D	0.50	0.20	ug/L		06/23/17 13:36	06/26/17 21:36	2
Cadmium	0.20	U D	0.50	0.20	ug/L		06/23/17 13:36	06/26/17 21:36	2
Chromium	**7.4**	**B D**	10.0	4.0	ug/L		06/23/17 13:36	06/26/17 21:36	2
Cobalt	0.90	U D	2.0	0.90	ug/L		06/23/17 13:36	06/26/17 21:36	2
Copper	**0.89**	**B D**	1.0	0.40	ug/L		06/23/17 13:36	06/26/17 21:36	2
Lead	1.0	U D	3.0	1.0	ug/L		06/23/17 13:36	06/26/17 21:36	2
Manganese	**1.1**	**B D**	2.0	0.90	ug/L		06/23/17 13:36	06/26/17 21:36	2
Molybdenum	2.0	U D	5.0	2.0	ug/L		06/23/17 13:36	06/26/17 21:36	2
Nickel	2.0	U D	5.0	2.0	ug/L		06/23/17 13:36	06/26/17 21:36	2
Selenium	2.0	U D	5.0	2.0	ug/L		06/23/17 13:36	06/26/17 21:36	2
Silver	0.90	U D	2.0	0.90	ug/L		06/23/17 13:36	06/26/17 21:36	2
Strontium	**215**	**D**	5.0	0.50	ug/L		06/23/17 13:36	06/26/17 21:36	2
Thallium	0.90	U D	2.0	0.90	ug/L		06/23/17 13:36	06/26/17 21:36	2
Thorium	0.90	U D	2.0	0.90	ug/L		06/23/17 13:36	06/26/17 21:36	2
Tin	1.2	U D	2.0	1.2	ug/L		06/23/17 13:36	06/26/17 21:36	2
Uranium	**16.4**	**D**	1.0	0.40	ug/L		06/23/17 13:36	06/26/17 21:36	2
Zinc	7.5	U D	20.0	7.5	ug/L		06/23/17 13:36	06/26/17 21:36	2

Method: 6020A - Metals (ICP/MS)

Client Sample ID: B39R97
Date Collected: 06/07/17 09:39
Date Received: 06/08/17 09:00
Lab Sample ID: 160-22746-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	20.0	U D	50.0	20.0	ug/L		06/23/17 13:36	06/26/17 21:43	2
Antimony	2.0	U D	5.0	2.0	ug/L		06/23/17 13:36	06/26/17 21:43	2
Arsenic	4.0	U D	10.0	4.0	ug/L		06/23/17 13:36	06/26/17 21:43	2
Barium	**33.3**	**D**	2.0	0.90	ug/L		06/23/17 13:36	06/26/17 21:43	2
Beryllium	0.20	U D	0.50	0.20	ug/L		06/23/17 13:36	06/26/17 21:43	2
Cadmium	0.20	U D	0.50	0.20	ug/L		06/23/17 13:36	06/26/17 21:43	2
Chromium	**7.4**	**B D**	10.0	4.0	ug/L		06/23/17 13:36	06/26/17 21:43	2
Cobalt	0.90	U D	2.0	0.90	ug/L		06/23/17 13:36	06/26/17 21:43	2
Copper	**0.90**	**B D**	1.0	0.40	ug/L		06/23/17 13:36	06/26/17 21:43	2
Lead	1.0	U D	3.0	1.0	ug/L		06/23/17 13:36	06/26/17 21:43	2
Manganese	**0.92**	**B D**	2.0	0.90	ug/L		06/23/17 13:36	06/26/17 21:43	2
Molybdenum	2.0	U D	5.0	2.0	ug/L		06/23/17 13:36	06/26/17 21:43	2
Nickel	2.0	U D	5.0	2.0	ug/L		06/23/17 13:36	06/26/17 21:43	2
Selenium	2.0	U D	5.0	2.0	ug/L		06/23/17 13:36	06/26/17 21:43	2
Silver	0.90	U D	2.0	0.90	ug/L		06/23/17 13:36	06/26/17 21:43	2
Strontium	**219**	**D**	5.0	0.50	ug/L		06/23/17 13:36	06/26/17 21:43	2
Thallium	0.90	U D	2.0	0.90	ug/L		06/23/17 13:36	06/26/17 21:43	2
Thorium	0.90	U D	2.0	0.90	ug/L		06/23/17 13:36	06/26/17 21:43	2
Tin	1.2	U D	2.0	1.2	ug/L		06/23/17 13:36	06/26/17 21:43	2
Uranium	**16.5**	**D**	1.0	0.40	ug/L		06/23/17 13:36	06/26/17 21:43	2
Zinc	7.5	U D	20.0	7.5	ug/L		06/23/17 13:36	06/26/17 21:43	2

Client Sample ID: B39PW3
Date Collected: 06/08/17 11:55
Date Received: 06/09/17 08:30
Lab Sample ID: 160-22780-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	**33.8**	**D**	10.0	4.0	ug/L		06/23/17 13:36	06/26/17 22:31	2

Client Sample ID: B39R66
Date Collected: 06/08/17 11:43
Date Received: 06/09/17 08:30
Lab Sample ID: 160-22780-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	**7.5**	**B D**	10.0	4.0	ug/L		06/23/17 13:36	06/26/17 22:38	2

Client Sample ID: B39R55
Date Collected: 06/08/17 11:15
Date Received: 06/09/17 08:30
Lab Sample ID: 160-22780-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	**21.1**	**D**	10.0	4.0	ug/L		06/23/17 13:36	06/26/17 22:51	2

Client Sample ID: B39PP7
Date Collected: 06/08/17 11:30
Date Received: 06/09/17 08:30
Lab Sample ID: 160-22780-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	**9.3**	**B D**	10.0	4.0	ug/L		06/23/17 13:36	06/26/17 23:05	2

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Method: 6020A - Metals (ICP/MS) - Dissolved

Client Sample ID: B39RB5
Date Collected: 06/07/17 09:39
Date Received: 06/08/17 09:00
Lab Sample ID: 160-22746-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	20.0	U D	50.0	20.0	ug/L		06/23/17 13:36	06/26/17 21:50	2
Antimony	2.0	U D	5.0	2.0	ug/L		06/23/17 13:36	06/26/17 21:50	2
Arsenic	4.0	U D	10.0	4.0	ug/L		06/23/17 13:36	06/26/17 21:50	2
Barium	**33.2**	**D**	2.0	0.90	ug/L		06/23/17 13:36	06/26/17 21:50	2
Beryllium	0.20	U D	0.50	0.20	ug/L		06/23/17 13:36	06/26/17 21:50	2
Cadmium	0.20	U D	0.50	0.20	ug/L		06/23/17 13:36	06/26/17 21:50	2
Chromium	**7.5**	**B D**	10.0	4.0	ug/L		06/23/17 13:36	06/26/17 21:50	2
Cobalt	0.90	U D	2.0	0.90	ug/L		06/23/17 13:36	06/26/17 21:50	2
Copper	**0.89**	**B D**	1.0	0.40	ug/L		06/23/17 13:36	06/26/17 21:50	2
Lead	1.0	U D	3.0	1.0	ug/L		06/23/17 13:36	06/26/17 21:50	2
Manganese	0.90	U D	2.0	0.90	ug/L		06/23/17 13:36	06/26/17 21:50	2
Molybdenum	2.0	U D	5.0	2.0	ug/L		06/23/17 13:36	06/26/17 21:50	2
Nickel	2.0	U D	5.0	2.0	ug/L		06/23/17 13:36	06/26/17 21:50	2
Selenium	2.0	U D	5.0	2.0	ug/L		06/23/17 13:36	06/26/17 21:50	2
Silver	0.90	U D	2.0	0.90	ug/L		06/23/17 13:36	06/26/17 21:50	2
Strontium	**215**	**D**	5.0	0.50	ug/L		06/23/17 13:36	06/26/17 21:50	2
Thallium	0.90	U D	2.0	0.90	ug/L		06/23/17 13:36	06/26/17 21:50	2
Thorium	0.90	U D	2.0	0.90	ug/L		06/23/17 13:36	06/26/17 21:50	2
Tin	1.2	U D	2.0	1.2	ug/L		06/23/17 13:36	06/26/17 21:50	2
Uranium	**16.2**	**D**	1.0	0.40	ug/L		06/23/17 13:36	06/26/17 21:50	2
Zinc	7.5	U D	20.0	7.5	ug/L		06/23/17 13:36	06/26/17 21:50	2

Client Sample ID: B39RB6
Date Collected: 06/07/17 09:39
Date Received: 06/08/17 09:00
Lab Sample ID: 160-22746-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	20.0	U D	50.0	20.0	ug/L		06/23/17 13:36	06/26/17 21:57	2
Antimony	2.0	U D	5.0	2.0	ug/L		06/23/17 13:36	06/26/17 21:57	2
Arsenic	4.0	U D	10.0	4.0	ug/L		06/23/17 13:36	06/26/17 21:57	2
Barium	**33.8**	**D**	2.0	0.90	ug/L		06/23/17 13:36	06/26/17 21:57	2
Beryllium	0.20	U D	0.50	0.20	ug/L		06/23/17 13:36	06/26/17 21:57	2
Cadmium	0.20	U D	0.50	0.20	ug/L		06/23/17 13:36	06/26/17 21:57	2
Chromium	**7.2**	**B D**	10.0	4.0	ug/L		06/23/17 13:36	06/26/17 21:57	2
Cobalt	0.90	U D	2.0	0.90	ug/L		06/23/17 13:36	06/26/17 21:57	2
Copper	**0.86**	**B D**	1.0	0.40	ug/L		06/23/17 13:36	06/26/17 21:57	2
Lead	1.0	U D	3.0	1.0	ug/L		06/23/17 13:36	06/26/17 21:57	2
Manganese	0.90	U D	2.0	0.90	ug/L		06/23/17 13:36	06/26/17 21:57	2
Molybdenum	2.0	U D	5.0	2.0	ug/L		06/23/17 13:36	06/26/17 21:57	2
Nickel	2.0	U D	5.0	2.0	ug/L		06/23/17 13:36	06/26/17 21:57	2
Selenium	2.0	U D	5.0	2.0	ug/L		06/23/17 13:36	06/26/17 21:57	2
Silver	0.90	U D	2.0	0.90	ug/L		06/23/17 13:36	06/26/17 21:57	2
Strontium	**227**	**D**	5.0	0.50	ug/L		06/23/17 13:36	06/26/17 21:57	2
Thallium	0.90	U D	2.0	0.90	ug/L		06/23/17 13:36	06/26/17 21:57	2
Thorium	0.90	U D	2.0	0.90	ug/L		06/23/17 13:36	06/26/17 21:57	2
Tin	1.2	U D	2.0	1.2	ug/L		06/23/17 13:36	06/26/17 21:57	2
Uranium	**16.6**	**D**	1.0	0.40	ug/L		06/23/17 13:36	06/26/17 21:57	2
Zinc	7.5	U D	20.0	7.5	ug/L		06/23/17 13:36	06/26/17 21:57	2

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Method: 6020A - Metals (ICP/MS) - Dissolved

Client Sample ID: B39PW6
Date Collected: 06/08/17 11:55
Date Received: 06/09/17 08:30
Lab Sample ID: 160-22780-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	32.7	D	10.0	4.0	ug/L		06/23/17 13:36	06/26/17 22:03	2

Client Sample ID: B39R70
Date Collected: 06/08/17 11:43
Date Received: 06/09/17 08:30
Lab Sample ID: 160-22780-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	7.3	B D	10.0	4.0	ug/L		06/23/17 13:36	06/26/17 22:45	2

Client Sample ID: B39R58
Date Collected: 06/08/17 11:15
Date Received: 06/09/17 08:30
Lab Sample ID: 160-22780-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	21.6	D	10.0	4.0	ug/L		06/23/17 13:36	06/26/17 22:58	2

Client Sample ID: B39PR1
Date Collected: 06/08/17 11:30
Date Received: 06/09/17 08:30
Lab Sample ID: 160-22780-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	9.1	B D	10.0	4.0	ug/L		06/23/17 13:36	06/26/17 23:12	2

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General Chemistry

Client Sample ID: B39RC4
Date Collected: 06/07/17 07:30
Date Received: 06/08/17 09:00
Lab Sample ID: 160-22746-10
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	2.0	B	5.0	0.54	mg/L			06/13/17 22:30	1
Bicarbonate Alkalinity	2.0	B	5.0	0.54	mg/L			06/13/17 22:30	1
Carbonate Alkalinity	0.54	U	5.0	0.54	mg/L			06/13/17 22:30	1
Hydroxide Alkalinity	0.54	U	5.0	0.54	mg/L			06/13/17 22:30	1

Client Sample ID: B39RC5
Date Collected: 06/07/17 09:00
Date Received: 06/08/17 09:00
Lab Sample ID: 160-22746-11
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	188		5.0	0.54	mg/L			06/13/17 23:19	1
Bicarbonate Alkalinity	188		5.0	0.54	mg/L			06/13/17 23:19	1
Carbonate Alkalinity	0.54	U	5.0	0.54	mg/L			06/13/17 23:19	1
Hydroxide Alkalinity	0.54	U	5.0	0.54	mg/L			06/13/17 23:19	1

Method: SR-03-RC - Total Beta Strontium (GFPC)

Client Sample ID: B39P94
Date Collected: 06/07/17 12:31
Date Received: 06/08/17 09:00
Lab Sample ID: 160-22746-5
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium 89/90	21.8		0.766	1.71	2.00	0.229	pCi/L	06/14/17 12:50	06/15/17 15:08	1

Method: SR-03-RC - Total Beta Strontium (GFPC) (Continued)

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Sr Carrier	82.3		40 - 110	06/14/17 12:50	06/15/17 15:08	1

Client Sample ID: B39PB2
Date Collected: 06/07/17 10:59
Date Received: 06/08/17 09:00

Lab Sample ID: 160-22746-6
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium 89/90	10.7		0.527	0.918	2.00	0.231	pCi/L	06/14/17 12:50	06/15/17 15:09	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Sr Carrier	86.4		40 - 110	06/14/17 12:50	06/15/17 15:09	1

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Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 160-312602/3
Matrix: Water
Analysis Batch: 312602

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.026	U	0.10	0.026	mg/L			06/08/17 14:56	1
Sulfate	0.050	U	0.50	0.050	mg/L			06/08/17 14:56	1
Chloride	0.020	U	0.20	0.020	mg/L			06/08/17 14:56	1

Lab Sample ID: LCS 160-312602/4
Matrix: Water
Analysis Batch: 312602

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	1.00	0.998		mg/L		100	90 - 110
Sulfate	8.00	7.63		mg/L		95	90 - 110
Chloride	2.00	1.91		mg/L		96	90 - 110

Lab Sample ID: MB 160-312603/3
Matrix: Water
Analysis Batch: 312603

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	0.0070	U	0.020	0.0070	mg/L			06/08/17 14:56	1
Nitrite as N	0.0070	U	0.020	0.0070	mg/L			06/08/17 14:56	1

Lab Sample ID: LCS 160-312603/4
Matrix: Water
Analysis Batch: 312603

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	0.400	0.405		mg/L		101	90 - 110
Nitrite as N	0.160	0.167		mg/L		104	90 - 110

Method: 300.0 - Anions, Ion Chromatography - DL

Lab Sample ID: 160-22746-13 MS
Matrix: Water
Analysis Batch: 312602

Client Sample ID: B39RB3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride - DL	0.15	B D	4.00	4.26	D	mg/L		103	90 - 110
Sulfate - DL	20	D	8.00	27.8	D	mg/L		95	90 - 110
Chloride - DL	1.9	D	4.00	5.97	D	mg/L		103	90 - 110

Lab Sample ID: 160-22746-13 DU
Matrix: Water
Analysis Batch: 312602

Client Sample ID: B39RB3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Fluoride - DL	0.15	B D	0.152	B D	mg/L		3	20
Sulfate - DL	20	D	20.1	D	mg/L		0.4	20
Chloride - DL	1.9	D	1.83	D	mg/L		2	20

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Method: 300.0 - Anions, Ion Chromatography - DL (Continued)

Lab Sample ID: 160-22746-13 MS
Matrix: Water
Analysis Batch: 312603

Client Sample ID: B39RB3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrite as N - DL	0.014	U D N	0.200	0.160	D N	mg/L		80	90 - 110

Lab Sample ID: 160-22746-13 DU
Matrix: Water
Analysis Batch: 312603

Client Sample ID: B39RB3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Nitrite as N - DL	0.014	U D N	0.014	U D	mg/L		NC	20

Method: 300.0 - Anions, Ion Chromatography - DL2

Lab Sample ID: 160-22746-13 MS
Matrix: Water
Analysis Batch: 312603

Client Sample ID: B39RB3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N - DL2	3.0	D	8.00	11.3	D	mg/L		103	90 - 110

Lab Sample ID: 160-22746-13 DU
Matrix: Water
Analysis Batch: 312603

Client Sample ID: B39RB3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Nitrate as N - DL2	3.0	D	2.96	D	mg/L		2	20

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Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 160-315041/1-A
Matrix: Water
Analysis Batch: 315414

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 315041

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	20.0	U D	50.0	20.0	ug/L		06/23/17 13:36	06/26/17 21:23	2
Antimony	2.0	U D	5.0	2.0	ug/L		06/23/17 13:36	06/26/17 21:23	2
Arsenic	4.0	U D	10.0	4.0	ug/L		06/23/17 13:36	06/26/17 21:23	2
Barium	0.90	U D	2.0	0.90	ug/L		06/23/17 13:36	06/26/17 21:23	2
Beryllium	0.20	U D	0.50	0.20	ug/L		06/23/17 13:36	06/26/17 21:23	2
Cadmium	0.20	U D	0.50	0.20	ug/L		06/23/17 13:36	06/26/17 21:23	2
Chromium	4.0	U D	10.0	4.0	ug/L		06/23/17 13:36	06/26/17 21:23	2
Cobalt	0.90	U D	2.0	0.90	ug/L		06/23/17 13:36	06/26/17 21:23	2
Copper	0.40	U D	1.0	0.40	ug/L		06/23/17 13:36	06/26/17 21:23	2
Lead	1.0	U D	3.0	1.0	ug/L		06/23/17 13:36	06/26/17 21:23	2
Manganese	0.90	U D	2.0	0.90	ug/L		06/23/17 13:36	06/26/17 21:23	2
Molybdenum	2.0	U D	5.0	2.0	ug/L		06/23/17 13:36	06/26/17 21:23	2
Nickel	2.0	U D	5.0	2.0	ug/L		06/23/17 13:36	06/26/17 21:23	2
Selenium	2.0	U D	5.0	2.0	ug/L		06/23/17 13:36	06/26/17 21:23	2
Silver	0.90	U D	2.0	0.90	ug/L		06/23/17 13:36	06/26/17 21:23	2
Strontium	0.50	U D	5.0	0.50	ug/L		06/23/17 13:36	06/26/17 21:23	2

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Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 160-315041/1-A
Matrix: Water
Analysis Batch: 315414

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 315041

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thallium	0.90	U D	2.0	0.90	ug/L		06/23/17 13:36	06/26/17 21:23	2
Thorium	0.90	U D	2.0	0.90	ug/L		06/23/17 13:36	06/26/17 21:23	2
Tin	1.2	U D	2.0	1.2	ug/L		06/23/17 13:36	06/26/17 21:23	2
Uranium	0.40	U D	1.0	0.40	ug/L		06/23/17 13:36	06/26/17 21:23	2
Zinc	7.5	U D	20.0	7.5	ug/L		06/23/17 13:36	06/26/17 21:23	2

Lab Sample ID: LCS 160-315041/2-A
Matrix: Water
Analysis Batch: 315414

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 315041

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	10000	9430	D	ug/L		94	80 - 120
Antimony	500	503.5	D	ug/L		101	80 - 120
Arsenic	1000	918.4	D	ug/L		92	80 - 120
Barium	1000	994.4	D	ug/L		99	80 - 120
Beryllium	100	105.6	D	ug/L		106	80 - 120
Cadmium	1000	1032	D	ug/L		103	80 - 120
Chromium	1000	955.9	D	ug/L		96	80 - 120
Cobalt	1000	905.3	D	ug/L		91	80 - 120
Copper	1000	914.8	D	ug/L		91	80 - 120
Lead	1000	989.7	D	ug/L		99	80 - 120
Manganese	1000	942.6	D	ug/L		94	80 - 120
Molybdenum	500	474.3	D	ug/L		95	80 - 120
Nickel	1000	962.7	D	ug/L		96	80 - 120
Selenium	500	437.1	D	ug/L		87	80 - 120
Silver	200	207.4	D	ug/L		104	80 - 120
Strontium	1000	900.0	D	ug/L		90	80 - 120
Thallium	200	199.0	D	ug/L		100	80 - 120
Thorium	1000	1009	D	ug/L		101	80 - 120
Tin	1000	993.5	D	ug/L		99	80 - 120
Uranium	1000	1008	D	ug/L		101	80 - 120
Zinc	1000	895.4	D	ug/L		90	80 - 120

Lab Sample ID: 160-22781-A-15-B MS
Matrix: Water
Analysis Batch: 315414

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 315041

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	20.0	U D	10000	9543	D	ug/L		95	75 - 125
Antimony	2.0	U D	500	529.7	D	ug/L		106	75 - 125
Arsenic	4.0	U D	1000	981.9	D	ug/L		98	75 - 125
Barium	19.0	D	1000	1040	D	ug/L		102	75 - 125
Beryllium	0.20	U D	100	109.2	D	ug/L		109	75 - 125
Cadmium	0.20	U D	1000	1080	D	ug/L		108	75 - 125
Chromium	7.5	B D	1000	991.5	D	ug/L		98	75 - 125
Cobalt	0.90	U D	1000	929.5	D	ug/L		93	75 - 125
Copper	0.54	B D	1000	945.4	D	ug/L		94	75 - 125
Lead	1.0	U D	1000	1021	D	ug/L		102	75 - 125
Manganese	0.90	U D	1000	982.1	D	ug/L		98	75 - 125

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Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 160-22781-A-15-B MS
Matrix: Water
Analysis Batch: 315414

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 315041

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Molybdenum	2.0	U D	500	496.9	D	ug/L		99	75 - 125
Nickel	2.0	U D	1000	990.9	D	ug/L		99	75 - 125
Selenium	2.0	U D	500	461.3	D	ug/L		92	75 - 125
Silver	0.90	U D	200	214.2	D	ug/L		107	75 - 125
Strontium	136	D	1000	1066	D	ug/L		93	75 - 125
Thallium	0.90	U D	200	204.2	D	ug/L		102	75 - 125
Thorium	0.90	U D	1000	1046	D	ug/L		104	75 - 125
Tin	1.2	U D	1000	1034	D	ug/L		103	75 - 125
Uranium	1.1	D	1000	1048	D	ug/L		105	75 - 125
Zinc	7.5	U D	1000	944.5	D	ug/L		94	75 - 125

Lab Sample ID: 160-22781-A-15-C MSD
Matrix: Water
Analysis Batch: 315414

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 315041

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	20.0	U D	10000	9605	D	ug/L		96	75 - 125	1	20
Antimony	2.0	U D	500	523.2	D	ug/L		105	75 - 125	1	20
Arsenic	4.0	U D	1000	979.7	D	ug/L		98	75 - 125	0	20
Barium	19.0	D	1000	1034	D	ug/L		101	75 - 125	1	20
Beryllium	0.20	U D	100	106.0	D	ug/L		106	75 - 125	3	20
Cadmium	0.20	U D	1000	1069	D	ug/L		107	75 - 125	1	20
Chromium	7.5	B D	1000	982.5	D	ug/L		98	75 - 125	1	20
Cobalt	0.90	U D	1000	937.0	D	ug/L		94	75 - 125	1	20
Copper	0.54	B D	1000	936.9	D	ug/L		94	75 - 125	1	20
Lead	1.0	U D	1000	1013	D	ug/L		101	75 - 125	1	20
Manganese	0.90	U D	1000	976.5	D	ug/L		98	75 - 125	1	20
Molybdenum	2.0	U D	500	491.4	D	ug/L		98	75 - 125	1	20
Nickel	2.0	U D	1000	998.5	D	ug/L		100	75 - 125	1	20
Selenium	2.0	U D	500	462.2	D	ug/L		92	75 - 125	0	20
Silver	0.90	U D	200	210.3	D	ug/L		105	75 - 125	2	20
Strontium	136	D	1000	1058	D	ug/L		92	75 - 125	1	20
Thallium	0.90	U D	200	205.2	D	ug/L		103	75 - 125	0	20
Thorium	0.90	U D	1000	1040	D	ug/L		104	75 - 125	1	20
Tin	1.2	U D	1000	1025	D	ug/L		103	75 - 125	1	20
Uranium	1.1	D	1000	1044	D	ug/L		104	75 - 125	0	20
Zinc	7.5	U D	1000	944.6	D	ug/L		94	75 - 125	0	20

Method: 310.1 - Alkalinity

Lab Sample ID: MB 160-313245/1
Matrix: Water
Analysis Batch: 313245

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	0.54	U	5.0	0.54	mg/L			06/13/17 21:41	1
Bicarbonate Alkalinity	0.54	U	5.0	0.54	mg/L			06/13/17 21:41	1
Carbonate Alkalinity	0.54	U	5.0	0.54	mg/L			06/13/17 21:41	1

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Method: 310.1 - Alkalinity (Continued)

Lab Sample ID: MB 160-313245/1
Matrix: Water
Analysis Batch: 313245

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hydroxide Alkalinity	0.54	U	5.0	0.54	mg/L			06/13/17 21:41	1

Lab Sample ID: HLCS 160-313245/3
Matrix: Water
Analysis Batch: 313245

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	HLCS Result	HLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	400	374.0		mg/L		93	90 - 110
Bicarbonate Alkalinity	400	374.0		mg/L		93	90 - 110

Lab Sample ID: LCS 160-313245/2
Matrix: Water
Analysis Batch: 313245

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	200	188.0		mg/L		94	90 - 110
Bicarbonate Alkalinity	200	188.0		mg/L		94	90 - 110

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Lab Sample ID: 160-22746-10 MS
Matrix: Water
Analysis Batch: 313245

Client Sample ID: B39RC4
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	2.0	B	100	94.00		mg/L		92	80 - 120
Bicarbonate Alkalinity	2.0	B	100	94.00		mg/L		92	80 - 120

Lab Sample ID: 160-22746-10 DU
Matrix: Water
Analysis Batch: 313245

Client Sample ID: B39RC4
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity	2.0	B	2.00	B	mg/L		0	20
Bicarbonate Alkalinity	2.0	B	2.00	B	mg/L		0	20
Carbonate Alkalinity	0.54	U	0.54	U	mg/L		NC	20
Hydroxide Alkalinity	0.54	U	0.54	U	mg/L		NC	20

Method: SR-03-RC - Total Beta Strontium (GFPC)

Lab Sample ID: MB 160-313385/1-A
Matrix: Water
Analysis Batch: 313776

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 313385

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Strontium 89/90	0.0849	U	0.118	0.118	2.00	0.197	pCi/L	06/14/17 12:50	06/16/17 20:35	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Sr Carrier	*87.9*		*40 - 110*	*06/14/17 12:50*	*06/16/17 20:35*	*1*

Method: SR-03-RC - Total Beta Strontium (GFPC) (Continued)

Lab Sample ID: LCS 160-313385/2-A
Matrix: Water
Analysis Batch: 313461

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 313385

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Strontium 89/90			8.44	7.447		0.691	2.00	0.275	pCi/L	88	80 - 120		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Sr Carrier	*87.4*		*40 - 110*

Lab Sample ID: LCSD 160-313385/3-A
Matrix: Water
Analysis Batch: 313461

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 313385

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Strontium 89/90			8.44	7.099		0.666	2.00	0.249	pCi/L	84	80 - 120	0.26	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Sr Carrier	*84.3*		*40 - 110*

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Analysis Batch: 312602

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-22746-7 - DL	B39RC6	Total/NA	Water	300.0	
160-22746-8 - DL	B39RC7	Total/NA	Water	300.0	
160-22746-8 - DL2	B39RC7	Total/NA	Water	300.0	
160-22746-9 - DL	B39RY0	Total/NA	Water	300.0	
160-22746-9 - DL2	B39RY0	Total/NA	Water	300.0	
160-22746-12 - DL	B39RB4	Total/NA	Water	300.0	
160-22746-13 - DL	B39RB3	Total/NA	Water	300.0	
MB 160-312602/3	Method Blank	Total/NA	Water	300.0	
LCS 160-312602/4	Lab Control Sample	Total/NA	Water	300.0	
160-22746-13 MS - DL	B39RB3	Total/NA	Water	300.0	
160-22746-13 DU - DL	B39RB3	Total/NA	Water	300.0	

Analysis Batch: 312603

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-22746-7 - DL	B39RC6	Total/NA	Water	300.0	
160-22746-8 - DL	B39RC7	Total/NA	Water	300.0	
160-22746-8 - DL2	B39RC7	Total/NA	Water	300.0	
160-22746-9 - DL	B39RY0	Total/NA	Water	300.0	
160-22746-9 - DL3	B39RY0	Total/NA	Water	300.0	
160-22746-12 - DL	B39RB4	Total/NA	Water	300.0	
160-22746-12 - DL2	B39RB4	Total/NA	Water	300.0	
160-22746-13 - DL	B39RB3	Total/NA	Water	300.0	
160-22746-13 - DL2	B39RB3	Total/NA	Water	300.0	
MB 160-312603/3	Method Blank	Total/NA	Water	300.0	
LCS 160-312603/4	Lab Control Sample	Total/NA	Water	300.0	
160-22746-13 MS - DL	B39RB3	Total/NA	Water	300.0	
160-22746-13 MS - DL2	B39RB3	Total/NA	Water	300.0	
160-22746-13 DU - DL	B39RB3	Total/NA	Water	300.0	
160-22746-13 DU - DL2	B39RB3	Total/NA	Water	300.0	

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Prep Batch: 315041

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-22746-1	B39R96	Total/NA	Water	3010A	
160-22746-2	B39RB5	Dissolved	Water	3010A	
160-22746-3	B39R97	Total/NA	Water	3010A	
160-22746-4	B39RB6	Dissolved	Water	3010A	
160-22780-1	B39PW6	Dissolved	Water	3010A	
160-22780-2	B39PW3	Total/NA	Water	3010A	
160-22780-3	B39R66	Total/NA	Water	3010A	
160-22780-4	B39R70	Dissolved	Water	3010A	
160-22780-5	B39R55	Total/NA	Water	3010A	
160-22780-6	B39R58	Dissolved	Water	3010A	
160-22780-7	B39PP7	Total/NA	Water	3010A	
160-22780-8	B39PR1	Dissolved	Water	3010A	
MB 160-315041/1-A	Method Blank	Total/NA	Water	3010A	
LCS 160-315041/2-A	Lab Control Sample	Total/NA	Water	3010A	
160-22781-A-15-B MS	Matrix Spike	Dissolved	Water	3010A	
160-22781-A-15-C MSD	Matrix Spike Duplicate	Dissolved	Water	3010A	

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Metals (Continued)

Analysis Batch: 315414

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-22746-1	B39R96	Total/NA	Water	6020A	315041
160-22746-2	B39RB5	Dissolved	Water	6020A	315041
160-22746-3	B39R97	Total/NA	Water	6020A	315041
160-22746-4	B39RB6	Dissolved	Water	6020A	315041
160-22780-1	B39PW6	Dissolved	Water	6020A	315041
160-22780-2	B39PW3	Total/NA	Water	6020A	315041
160-22780-3	B39R66	Total/NA	Water	6020A	315041
160-22780-4	B39R70	Dissolved	Water	6020A	315041
160-22780-5	B39R55	Total/NA	Water	6020A	315041
160-22780-6	B39R58	Dissolved	Water	6020A	315041
160-22780-7	B39PP7	Total/NA	Water	6020A	315041
160-22780-8	B39PR1	Dissolved	Water	6020A	315041
MB 160-315041/1-A	Method Blank	Total/NA	Water	6020A	315041
LCS 160-315041/2-A	Lab Control Sample	Total/NA	Water	6020A	315041
160-22781-A-15-B MS	Matrix Spike	Dissolved	Water	6020A	315041
160-22781-A-15-C MSD	Matrix Spike Duplicate	Dissolved	Water	6020A	315041

General Chemistry

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Analysis Batch: 313245

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-22746-10	B39RC4	Total/NA	Water	310.1	
160-22746-11	B39RC5	Total/NA	Water	310.1	
MB 160-313245/1	Method Blank	Total/NA	Water	310.1	
HLCS 160-313245/3	Lab Control Sample	Total/NA	Water	310.1	
LCS 160-313245/2	Lab Control Sample	Total/NA	Water	310.1	
160-22746-10 MS	B39RC4	Total/NA	Water	310.1	
160-22746-10 DU	B39RC4	Total/NA	Water	310.1	

Rad

Prep Batch: 313385

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-22746-5	B39P94	Total/NA	Water	PrecSep_0	
160-22746-6	B39PB2	Total/NA	Water	PrecSep_0	
MB 160-313385/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-313385/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-313385/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Tracer/Carrier Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: S17-006

TestAmerica Job ID: 160-22746-1
SDG: SL2547

Method: SR-03-RC - Total Beta Strontium (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)							
Lab Sample ID	Client Sample ID	Sr (C) (40-110)							
160-22746-5	B39P94	82.3							
160-22746-6	B39PB2	86.4							
LCS 160-313385/2-A	Lab Control Sample	87.4							
LCSD 160-313385/3-A	Lab Control Sample Dup	84.3							
MB 160-313385/1-A	Method Blank	87.9							

Tracer/Carrier Legend

Sr (C) = Sr Carrier

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