TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Richland
2800 George Washington Way
Richland, WA 99352
Tel: (509)375-3131

TestAmerica Job ID: 300-3556-1
TestAmerica Sample Delivery Group: WC1293
Client Project/Site: X16-047

For:
CH2M Hill Plateau Remediation Company
PO BOX 1600
Mail Stop R3-50
Richland, Washington 99352

Attn: CPP Sample Management

Authorized for release by:
8/17/2016 8:19:43 AM
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Designee for

Whitney Ritari, Project Manager I
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LINKS

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Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

I certify that this Certificate of Analysis is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed in this package. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager, or a desingee as verified by the attached signature.

The laboratory is accredited to EPA 7196A in Solid and Chemical Materials, per Washington State Department of Ecology this is approved for non-discharge water samples. The sample/ sample duplicate RPD agreement is not applicable if one or both results are less than five times the MDL.

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Definitions/Glossary

Client: CH2M Hill Plateau Remediation Company
Project/Site: X16-047

TestAmerica Job ID: 300-3556-1
SDG: WC1293

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D	The reported value is from a dilution.
U	Analyzed for but not detected.

General Chemistry

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

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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
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)

Case Narrative

Client: CH2M Hill Plateau Remediation Company
Project/Site: X16-047

TestAmerica Job ID: 300-3556-1
SDG: WC1293

Job ID: 300-3556-1

Laboratory: TestAmerica Richland

Narrative

Job Narrative
300-3556-1

Comments
No additional comments.

Receipt
The samples were received on 7/22/2016 3:10 PM; the samples arrived in good condition, properly preserved and, where required, on ice.
The temperature of the cooler at receipt was 7.0º C.

HPLC/IC
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # X16-047-013 Page 1 of 1

Collector	Kevin Patterson CHPRC	Contact/Requester	WATERS-HUSTED, K	Telephone No.	376-4650
SAF No.	X16-047	Sampling Origin	Hanford Site	Purchase Order/Charge Code	304027
Project Title	100-KW Rebound Study, July 11, 2016	Logbook No.	HNF-N-506 86/60	Ice Chest No.	N/A
Shipped To (Lab)	TestAmerica Incorporated, Richland	Method of Shipment	GOVERNMENT VEHICLE	Bill of Lading/Air Bill No.	N/A
Protocol	CERCLA	Priority:	30 Days PRIORITY	Offsite Property No.	N/A

POSSIBLE SAMPLE HAZARDS/REMARKS

*Contains Radioactive Material at concentrations that are not be 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
B365Y9	Y	W	JUL 2 2 2016	1208	1x60-mL aG	7196_CR6: COMMON	24 Hours	Cool <=6C
B36601	N	W	↓	↓	1x60-mL aG	7196_CR6: COMMON	24 Hours	Cool <=6C

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300-3556 COC

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
	Kevin Patterson CHPRC		JUL 2 2 2016 1245		Janelle Zunker CHPRC		JUL 2 2 2016 1245
	Janelle Zunker CHPRC		JUL 2 2 2016 1510		J. Bock, TARL		JUL 2 2 2016 1510

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	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # X16-047-014 Page 1 of 1

Collector	Kevin Patterson CHPRC	Contact/Requester	WATERS-HUSTED, K	Telephone No.	376-4650
SAF No.	X16-047	Sampling Origin	Hanford Site	Purchase Order/Charge Code	304027
Project Title	100-KW Rebound Study, July 11, 2016	Logbook No.	HNF-N-506 86160	Ice Chest No.	N/A
Shipped To (Lab)	TestAmerica Incorporated, Richland	Method of Shipment	GOVERNMENT VEHICLE	Bill of Lading/Air Bill No.	N/A
Protocol	CERCLA	Priority: 30 Days	PRIORITY	Offsite Property No.	N/A

POSSIBLE SAMPLE HAZARDS/REMARKS
*Contains Radioactive Material at concentrations that are not be 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
B36600	Y	W	JUL 2 2 2016	1208	1x60-mL aG	7196_CR6: COMMON	24 Hours	Cool <=6C
B36602	N	W	↓	↓	1x60-mL aG	7196_CR6: COMMON	24 Hours	Cool <=6C

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Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
	Kevin Patterson CHPRC		JUL 2 2 2016 1245		Janelle Zunker CHPRC		JUL 2 2 2016 1245
	Janelle Zunker CHPRC		JUL 2 2 2016 1510		J. Bock, TARL		JUL 2 2 2016 1510

Matrix *

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

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

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # X16-047-030 Page 1 of 1

Collector	Kevin Patterson CHPRC	Contact/Requester	WATERS-HUSTED, K	Telephone No.	376-4650
SAF No.	X16-047	Sampling Origin	Hanford Site	Purchase Order/Charge Code	304027
Project Title	100-KW Rebound Study, July 11, 2016	Logbook No.	HNF-N-506 85/59	Ice Chest No.	N/A
Shipped To (Lab)	TestAmerica Incorporated, Richland	Method of Shipment	GOVERNMENT VEHICLE	Bill of Lading/Air Bill No.	N/A
Protocol	CERCLA	Priority: 30 Days	PRIORITY	Offsite Property No.	N/A

POSSIBLE SAMPLE HAZARDS/REMARKS
*Contains Radioactive Material at concentrations that are not be 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
B36624	N	W	JUL 2 2 2016	0907 0857	1x60-mL aG	7196_CR6: COMMON	24 Hours	Cool <=6C
B36623	Y	W	↓	↓	1x60-mL aG	7196_CR6: COMMON	24 Hours	Cool <=6C

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Relinquished By (Print / Sign)	Date/Time	Received By (Print / Sign)	Date/Time
Kevin Patterson CHPRC	JUL 2 2 2016 1105	Janelle Zunker CHPRC	JUL 2 2 2016 1105
Janelle Zunker CHPRC	JUL 2 2 2016 1510	J. Bock, TARL	JUL 2 2 2016 1510

Matrix *

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

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

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # X16-047-003 Page 1 of 1

Collector	Kevin Patterson CHPRC	Contact/Requester	WATERS-HUSTED, K	Telephone No.	376-4650
SAF No.	X16-047	Sampling Origin	Hanford Site	Purchase Order/Charge Code	304027
Project Title	100-KW Rebound Study, July 11, 2016	Logbook No.	HNF-N-506 86/59	Ice Chest No.	N/A
Shipped To (Lab)	TestAmerica Incorporated, Richland	Method of Shipment	GOVERNMENT VEHICLE	Bill of Lading/Air Bill No.	N/A
Protocol	CERCLA	Priority: 30 Days	PRIORITY	Offsite Property No.	N/A

POSSIBLE SAMPLE HAZARDS/REMARKS
*Contains Radioactive Material at concentrations that are not be 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
B365X7	Y	W	JUL 2 2 2016	0831	1x60-mL aG	7196_CR6: COMMON	24 Hours	Cool <=6C
B365X8	N	W	↓	↓	1x60-mL aG	7196_CR6: COMMON	24 Hours	Cool <=6C

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Relinquished By (Print / Sign)	Date/Time	Received By (Print / Sign)	Date/Time
Kevin Patterson CHPRC	JUL 2 2 2016 1105	Janelle Zunker CHPRC	JUL 2 2 2016 1105
Janelle Zunker CHPRC	JUL 2 2 2016 1510	J. Bock, TARL	JUL 2 2 2016 1510

Matrix *

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

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

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # **X16-047-024**

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Collector	~~Barb Briggs CHPRC~~ Kevin Patterson CHPRC (DD 7.22.16)	**Contact/Requester**	WATERS-HUSTED, K	**Telephone No.**	376-4650
SAF No.	X16-047	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	304027
Project Title	100-KW Rebound Study, July 11, 2016	**Logbook No.**	HNF-N-506 86/59	**Ice Chest No.**	N/A
Shipped To (Lab)	TestAmerica Incorporated, Richland	**Method of Shipment**	GOVERNMENT VEHICLE	**Bill of Lading/Air Bill No.**	N/A
Protocol	CERCLA	**Priority:**	**30 Days** **PRIORITY**	**Offsite Property No.**	N/A

POSSIBLE SAMPLE HAZARDS/REMARKS

*Contains Radioactive Material at concentrations that are not be 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
B36615	Y	W	JUL 2 2 2016	1021	1x60-mL aG	7196_CR6: COMMON	24 Hours	Cool <=6C
B36616	N	W	↓	↓	1x60-mL aG	7196_CR6: COMMON	24 Hours	Cool <=6C

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Relinquished By (Print / Sign)	Date/Time	Received By (Print / Sign)	Date/Time
Kevin Patterson CHPRC	JUL 2 2 2016 1105	Janelle Zunker CHPRC	JUL 2 2 2016 1105
Janelle Zunker CHPRC	JUL 2 2 2016 1510	J. Bock, TARL	JUL 2 2 2016 1510

Matrix *

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

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

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # X16-047-007 Page 1 of 1

Collector	Kevin Patterson CHPRC	Contact/Requester	WATERS-HUSTED, K	Telephone No.	376-4650
SAF No.	X16-047	Sampling Origin	Hanford Site	Purchase Order/Charge Code	304027
Project Title	100-KW Rebound Study, July 11, 2016	Logbook No.	HNF-N-506 86/59	Ice Chest No.	N/A
Shipped To (Lab)	TestAmerica Incorporated, Richland	Method of Shipment	GOVERNMENT VEHICLE	Bill of Lading/Air Bill No.	N/A
Protocol	CERCLA	Priority: 30 Days	PRIORITY	Offsite Property No.	N/A

POSSIBLE SAMPLE HAZARDS/REMARKS
*Contains Radioactive Material at concentrations that are not be 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
B365Y2	Y	W	JUL 2 2 2016	0942	1x60-mL aG	7196_CR6: COMMON	24 Hours	Cool <=6C
B365Y3	N	W	↓	↓	1x60-mL aG	7196_CR6: COMMON	24 Hours	Cool <=6C

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Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
	Kevin Patterson CHPRC		JUL 2 2 2016 1105		Janelle Zunker CHPRC		JUL 2 2 2016 1105
Relinquished By	Janelle Zunker CHPRC		JUL 2 2 2016 1510	Received By	J. Bock, TARL		JUL 2 2 2016 1510
Relinquished By			Date/Time	Received By			Date/Time
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

CH2MHill Plateau Remediation Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # **X16-047-004**

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Collector	Kevin Patterson CHPRC	**Contact/Requester**	WATERS-HUSTED, K	**Telephone No.**	376-4650
SAF No.	X16-047	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	304027
Project Title	100-KW Rebound Study, July 11, 2016	**Logbook No.**	HNF-N-506 86/59	**Ice Chest No.**	N/A
Shipped To (Lab)	TestAmerica Incorporated, Richland	**Method of Shipment**	GOVERNMENT VEHICLE	**Bill of Lading/Air Bill No.**	N/A
Protocol	CERCLA	**Priority:**	**30 Days** **PRIORITY**	**Offsite Property No.**	N/A

POSSIBLE SAMPLE HAZARDS/REMARKS

*Contains Radioactive Material at concentrations that are not be 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
B365X9	N	W	JUL 2 2 2016	0831	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
Kevin Patterson CHPRC	JUL 2 2 2016 1105	Janelle Zunker CHPRC	JUL 2 2 2016 1105
Janelle Zunker CHPRC	JUL 2 2 2016 1510	J. Bock, TARL	JUL 2 2 2016 1510

Matrix *

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

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

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # X16-047-029 Page 1 of 1

Collector	Kevin Patterson CHPRC	Contact/Requester	WATERS-HUSTED, K	Telephone No.	376-4650
SAF No.	X16-047	Sampling Origin	Hanford Site	Purchase Order/Charge Code	304027
Project Title	100-KW Rebound Study, July 11, 2016	Logbook No.	HNF-N-506 86/59	Ice Chest No.	N/A
Shipped To (Lab)	TestAmerica Incorporated, Richland	Method of Shipment	GOVERNMENT VEHICLE	Bill of Lading/Air Bill No.	N/A
Protocol	CERCLA	Priority: 30 Days	PRIORITY	Offsite Property No.	N/A

POSSIBLE SAMPLE HAZARDS/REMARKS
*Contains Radioactive Material at concentrations that are not be 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 bb 7.22.16	No/Type Container	Sample Analysis	Holding Time	Preservative
B36622	N	W	JUL 2 2 2016	~~0857~~ 0907	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
Kevin Patterson CHPRC			JUL 2 2 2016 1105	Janelle Zunker CHPRC			JUL 2 2 2016 1105
Janelle Zunker CHPRC			JUL 2 2 2016 1510	J. Bock, TARL			JUL 2 2 2016 1510

Matrix *

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

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

CH2MHill Plateau Remediation Company	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # X16-047-023 Page 1 of 1

Collector	Kevin Patterson CHPRC	Contact/Requester	WATERS-HUSTED, K	Telephone No.	376-4650
SAF No.	X16-047	Sampling Origin	Hanford Site	Purchase Order/Charge Code	304027
Project Title	100-KW Rebound Study, July 11, 2016	Logbook No.	HNF-N-506 86/56	Ice Chest No.	N/A
Shipped To (Lab)	TestAmerica Incorporated, Richland	Method of Shipment	GOVERNMENT VEHICLE	Bill of Lading/Air Bill No.	N/A
Protocol	CERCLA	Priority: 30 Days	PRIORITY	Offsite Property No.	N/A

POSSIBLE SAMPLE HAZARDS/REMARKS
*Contains Radioactive Material at concentrations that are not be 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
B36614	N	W	JUL 2 2 2016	1021	1x125-mL P	300.0_ANIONS_IC: COMMON	48 Hours	Cool <=6C

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WC1293

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
Kevin Patterson CHPRC			JUL 2 2 2016 1105	Janelle Zunker CHPRC			JUL 2 2 2016 1105
Janelle Zunker CHPRC			JUL 2 2 2016 1510	J. Bock, TARL			JUL 2 2 2016 1510

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	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # X16-047-012 Page 1 of 1

Collector	Kevin Patterson CHPRC	Contact/Requester	WATERS-HUSTED, K	Telephone No.	376-4650
SAF No.	X16-047	Sampling Origin	Hanford Site	Purchase Order/Charge Code	304027
Project Title	100-KW Rebound Study, July 11, 2016	Logbook No.	HNF-N-506 86/60	Ice Chest No.	N/A
Shipped To (Lab)	TestAmerica Incorporated, Richland	Method of Shipment	GOVERNMENT VEHICLE	Bill of Lading/Air Bill No.	N/A
Protocol	CERCLA	Priority:	30 Days PRIORITY	Offsite Property No.	N/A

POSSIBLE SAMPLE HAZARDS/REMARKS
*Contains Radioactive Material at concentrations that are not be 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
B365Y8	N	W	JUL 2 2 2016	1208	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
Kevin Patterson CHPRC			JUL 2 2 2016 1245	Janelle Zunker CHPRC			JUL 2 2 2016 1245
Janelle Zunker CHPRC			JUL 2 2 2016 1510	J. Bock, TARL			JUL 2 2 2016 1510

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	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # X16-047-011 Page 1 of 1

Collector	Kevin Patterson CHPRC	Contact/Requester	WATERS-HUSTED, K	Telephone No.	376-4650
SAF No.	X16-047	Sampling Origin	Hanford Site	Purchase Order/Charge Code	304027
Project Title	100-KW Rebound Study, July 11, 2016	Logbook No.	HNF-N-506 86160	Ice Chest No.	N/A
Shipped To (Lab)	TestAmerica Incorporated, Richland	Method of Shipment	GOVERNMENT VEHICLE	Bill of Lading/Air Bill No.	N/A
Protocol	CERCLA	Priority:	30 Days **PRIORITY**	Offsite Property No.	N/A

POSSIBLE SAMPLE HAZARDS/REMARKS
*Contains Radioactive Material at concentrations that are not be 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
B365Y7	N	W	JUL 2 2 2016	1208	1x125-mL P	300.0_ANIONS_IC: COMMON	48 Hours	Cool <=6C

3556
WC1293

Relinquished By (Print / Sign)	Date/Time	Received By (Print / Sign)	Date/Time
Kevin Patterson CHPRC	JUL 2 2 2016 1245	Janelle Zunker CHPRC	JUL 2 2 2016 1245
Janelle Zunker CHPRC	JUL 2 2 2016 1510	J. Bock, TARL	JUL 2 2 2016 1510

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 6/30/2016 FSR ID = FSR26418 A-6004-842 (REV 2)

Detection Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: X16-047

TestAmerica Job ID: 300-3556-1
SDG: WC1293

Client Sample ID: B365Y9 — Lab Sample ID: 300-3556-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.016		0.0040	0.0015	mg/L	1		7196A	Total/NA

Client Sample ID: B36601 — Lab Sample ID: 300-3556-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.016		0.0040	0.0015	mg/L	1		7196A	Total/NA

Client Sample ID: B36600 — Lab Sample ID: 300-3556-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.016		0.0040	0.0015	mg/L	1		7196A	Total/NA

Client Sample ID: B36602 — Lab Sample ID: 300-3556-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.016		0.0040	0.0015	mg/L	1		7196A	Total/NA

Client Sample ID: B36624 — Lab Sample ID: 300-3556-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.0074		0.0040	0.0015	mg/L	1		7196A	Total/NA

Client Sample ID: B36623 — Lab Sample ID: 300-3556-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.0069		0.0040	0.0015	mg/L	1		7196A	Total/NA

Client Sample ID: B365X7 — Lab Sample ID: 300-3556-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.0037	B	0.0040	0.0015	mg/L	1		7196A	Total/NA

Client Sample ID: B365X8 — Lab Sample ID: 300-3556-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.0034	B	0.0040	0.0015	mg/L	1		7196A	Total/NA

Client Sample ID: B36615 — Lab Sample ID: 300-3556-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.0035	B	0.0040	0.0015	mg/L	1		7196A	Total/NA

Client Sample ID: B36616 — Lab Sample ID: 300-3556-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.0040		0.0040	0.0015	mg/L	1		7196A	Total/NA

Client Sample ID: B365Y2 — Lab Sample ID: 300-3556-11

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: X16-047

TestAmerica Job ID: 300-3556-1
SDG: WC1293

Client Sample ID: B365Y2 (Continued) — Lab Sample ID: 300-3556-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.0069		0.0040	0.0015	mg/L	1		7196A	Total/NA

Client Sample ID: B365Y3 — Lab Sample ID: 300-3556-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.0069		0.0040	0.0015	mg/L	1		7196A	Total/NA

Client Sample ID: B365X9 — Lab Sample ID: 300-3556-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	48	D	0.40	0.20	mg/L	2		300.0	Total/NA
Nitrate as N	14	D	0.28	0.14	mg/L	10		300.0	Total/NA
Fluoride	0.27	D	0.10	0.050	mg/L	2		300.0	Total/NA
Sulfate	16	D	0.50	0.25	mg/L	2		300.0	Total/NA

Client Sample ID: B36622 — Lab Sample ID: 300-3556-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	18	D	0.40	0.20	mg/L	2		300.0	Total/NA
Nitrate as N	9.3	D	0.056	0.028	mg/L	2		300.0	Total/NA
Fluoride	0.25	D	0.10	0.050	mg/L	2		300.0	Total/NA
Sulfate	66	D	0.50	0.25	mg/L	2		300.0	Total/NA

Client Sample ID: B36614 — Lab Sample ID: 300-3556-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	22	D	0.40	0.20	mg/L	2		300.0	Total/NA
Nitrate as N	9.7	D	0.056	0.028	mg/L	2		300.0	Total/NA
Fluoride	0.24	D	0.10	0.050	mg/L	2		300.0	Total/NA
Sulfate	31	D	0.50	0.25	mg/L	2		300.0	Total/NA

Client Sample ID: B365Y8 — Lab Sample ID: 300-3556-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	15	D	0.40	0.20	mg/L	2		300.0	Total/NA
Nitrate as N	11	D	0.056	0.028	mg/L	2		300.0	Total/NA
Fluoride	0.16	D	0.10	0.050	mg/L	2		300.0	Total/NA
Sulfate	71	D	0.50	0.25	mg/L	2		300.0	Total/NA

Client Sample ID: B365Y7 — Lab Sample ID: 300-3556-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	15	D	0.40	0.20	mg/L	2		300.0	Total/NA
Nitrate as N	11	D	0.056	0.028	mg/L	2		300.0	Total/NA
Fluoride	0.16	D	0.10	0.050	mg/L	2		300.0	Total/NA
Sulfate	71	D	0.50	0.25	mg/L	2		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: X16-047

TestAmerica Job ID: 300-3556-1
SDG: WC1293

Client Sample ID: B365Y9 — Lab Sample ID: 300-3556-1

Date Collected: 07/22/16 12:08 — **Matrix: Water**
Date Received: 07/22/16 15:10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.016		0.0040	0.0015	mg/L			07/22/16 18:22	1

Client Sample ID: B36601 — Lab Sample ID: 300-3556-2

Date Collected: 07/22/16 12:08 — **Matrix: Water**
Date Received: 07/22/16 15:10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.016		0.0040	0.0015	mg/L			07/22/16 18:22	1

Client Sample ID: B36600 — Lab Sample ID: 300-3556-3

Date Collected: 07/22/16 12:08 — **Matrix: Water**
Date Received: 07/22/16 15:10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.016		0.0040	0.0015	mg/L			07/22/16 18:22	1

Client Sample ID: B36602 — Lab Sample ID: 300-3556-4

Date Collected: 07/22/16 12:08 — **Matrix: Water**
Date Received: 07/22/16 15:10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.016		0.0040	0.0015	mg/L			07/22/16 18:25	1

Client Sample ID: B36624 — Lab Sample ID: 300-3556-5

Date Collected: 07/22/16 09:07 — **Matrix: Water**
Date Received: 07/22/16 15:10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0074		0.0040	0.0015	mg/L			07/22/16 18:25	1

Client Sample ID: B36623 — Lab Sample ID: 300-3556-6

Date Collected: 07/22/16 09:07 — **Matrix: Water**
Date Received: 07/22/16 15:10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0069		0.0040	0.0015	mg/L			07/22/16 18:26	1

Client Sample ID: B365X7 — Lab Sample ID: 300-3556-7

Date Collected: 07/22/16 08:31 — **Matrix: Water**
Date Received: 07/22/16 15:10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0037	B	0.0040	0.0015	mg/L			07/22/16 18:26	1

Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: X16-047

TestAmerica Job ID: 300-3556-1
SDG: WC1293

Client Sample ID: B365X8
Lab Sample ID: 300-3556-8
Date Collected: 07/22/16 08:31
Matrix: Water
Date Received: 07/22/16 15:10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0034	B	0.0040	0.0015	mg/L			07/22/16 18:27	1

Client Sample ID: B36615
Lab Sample ID: 300-3556-9
Date Collected: 07/22/16 10:21
Matrix: Water
Date Received: 07/22/16 15:10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0035	B	0.0040	0.0015	mg/L			07/22/16 18:27	1

Client Sample ID: B36616
Lab Sample ID: 300-3556-10
Date Collected: 07/22/16 10:21
Matrix: Water
Date Received: 07/22/16 15:10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0040		0.0040	0.0015	mg/L			07/22/16 18:30	1

Client Sample ID: B365Y2
Lab Sample ID: 300-3556-11
Date Collected: 07/22/16 09:42
Matrix: Water
Date Received: 07/22/16 15:10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0069		0.0040	0.0015	mg/L			07/22/16 18:30	1

Client Sample ID: B365Y3
Lab Sample ID: 300-3556-12
Date Collected: 07/22/16 09:42
Matrix: Water
Date Received: 07/22/16 15:10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0069		0.0040	0.0015	mg/L			07/22/16 18:30	1

Client Sample ID: B365X9
Lab Sample ID: 300-3556-13
Date Collected: 07/22/16 08:31
Matrix: Water
Date Received: 07/22/16 15:10

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	48	D	0.40	0.20	mg/L			07/22/16 20:12	2
Nitrate as N	14	D	0.28	0.14	mg/L			07/22/16 23:14	10
Fluoride	0.27	D	0.10	0.050	mg/L			07/22/16 20:12	2
Nitrite as N	0.038	U D	0.076	0.038	mg/L			07/22/16 20:12	2
Sulfate	16	D	0.50	0.25	mg/L			07/22/16 20:12	2

Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: X16-047

TestAmerica Job ID: 300-3556-1
SDG: WC1293

Client Sample ID: B36622

Lab Sample ID: 300-3556-14
Date Collected: 07/22/16 09:07
Matrix: Water
Date Received: 07/22/16 15:10

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	18	D	0.40	0.20	mg/L			07/22/16 20:27	2
Nitrate as N	9.3	D	0.056	0.028	mg/L			07/22/16 20:27	2
Fluoride	0.25	D	0.10	0.050	mg/L			07/22/16 20:27	2
Nitrite as N	0.038	U D	0.076	0.038	mg/L			07/22/16 20:27	2
Sulfate	66	D	0.50	0.25	mg/L			07/22/16 20:27	2

Client Sample ID: B36614

Lab Sample ID: 300-3556-15
Date Collected: 07/22/16 10:21
Matrix: Water
Date Received: 07/22/16 15:10

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	22	D	0.40	0.20	mg/L			07/22/16 20:42	2
Nitrate as N	9.7	D	0.056	0.028	mg/L			07/22/16 20:42	2
Fluoride	0.24	D	0.10	0.050	mg/L			07/22/16 20:42	2
Nitrite as N	0.038	U D	0.076	0.038	mg/L			07/22/16 20:42	2
Sulfate	31	D	0.50	0.25	mg/L			07/22/16 20:42	2

Client Sample ID: B365Y8

Lab Sample ID: 300-3556-16
Date Collected: 07/22/16 12:08
Matrix: Water
Date Received: 07/22/16 15:10

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	15	D	0.40	0.20	mg/L			07/22/16 20:57	2
Nitrate as N	11	D	0.056	0.028	mg/L			07/22/16 20:57	2
Fluoride	0.16	D	0.10	0.050	mg/L			07/22/16 20:57	2
Nitrite as N	0.038	U D	0.076	0.038	mg/L			07/22/16 20:57	2
Sulfate	71	D	0.50	0.25	mg/L			07/22/16 20:57	2

Client Sample ID: B365Y7

Lab Sample ID: 300-3556-17
Date Collected: 07/22/16 12:08
Matrix: Water
Date Received: 07/22/16 15:10

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	15	D	0.40	0.20	mg/L			07/22/16 21:42	2
Nitrate as N	11	D	0.056	0.028	mg/L			07/22/16 21:42	2
Fluoride	0.16	D	0.10	0.050	mg/L			07/22/16 21:42	2
Nitrite as N	0.038	U D	0.076	0.038	mg/L			07/22/16 21:42	2
Sulfate	71	D	0.50	0.25	mg/L			07/22/16 21:42	2

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: X16-047

TestAmerica Job ID: 300-3556-1
SDG: WC1293

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 300-5006/5 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 5006

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	0.014	U	0.028	0.014	mg/L			07/22/16 18:41	1
Nitrite as N	0.019	U	0.038	0.019	mg/L			07/22/16 18:41	1

Lab Sample ID: LCS 300-5006/6 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 5006

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	2.26	2.31		mg/L		102	80 - 120
Nitrite as N	3.04	3.14		mg/L		103	80 - 120

Lab Sample ID: 300-3554-A-2 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 5006

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	5.2	D	0.452	5.69	D	mg/L		107	75 - 125
Nitrite as N	0.038	U D	0.609	0.533	D	mg/L		88	75 - 125

Lab Sample ID: 300-3554-A-2 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 5006

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Nitrate as N	5.2	D	5.27	D	mg/L		1	20
Nitrite as N	0.038	U D	0.038	U D	mg/L		NC	20

Lab Sample ID: MB 300-5007/5 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 5007

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.10	U	0.20	0.10	mg/L			07/22/16 18:41	1
Fluoride	0.025	U	0.050	0.025	mg/L			07/22/16 18:41	1
Sulfate	0.13	U	0.25	0.13	mg/L			07/22/16 18:41	1

Lab Sample ID: LCS 300-5007/6 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 5007

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	16.0	16.1		mg/L		101	80 - 120
Fluoride	4.00	4.04		mg/L		101	80 - 120
Sulfate	20.0	20.2		mg/L		101	80 - 120

QC Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: X16-047

TestAmerica Job ID: 300-3556-1
SDG: WC1293

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 300-3554-A-2 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 5007

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	18	D	3.20	21.8	D	mg/L		103	75 - 125
Fluoride	0.10	D	0.800	0.810	D	mg/L		89	75 - 125
Sulfate	32	D	4.00	36.3	D	mg/L		107	75 - 125

Lab Sample ID: 300-3554-A-2 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 5007

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chloride	18	D	18.7	D	mg/L		1	20
Fluoride	0.10	D	0.102	D	mg/L		0.5	20
Sulfate	32	D	32.5	D	mg/L		1	20

Method: 7196A - Chromium, Hexavalent

Lab Sample ID: MB 300-5016/31 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 5016

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0015	U	0.0040	0.0015	mg/L			07/22/16 18:16	1

Lab Sample ID: LCS 300-5016/32 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 5016

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	0.250	0.245		mg/L		98	80 - 120

Lab Sample ID: 300-3553-A-12 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 5016

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	0.0015	U	0.0500	0.0497		mg/L		99	75 - 125

Lab Sample ID: 300-3553-A-12 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 5016

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Cr (VI)	0.0015	U	0.0015	U	mg/L		NC	20

QC Association Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: X16-047

TestAmerica Job ID: 300-3556-1
SDG: WC1293

HPLC/IC

Analysis Batch: 5006

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-3556-13	B365X9	Total/NA	Water	300.0	
300-3556-13	B365X9	Total/NA	Water	300.0	
300-3556-14	B36622	Total/NA	Water	300.0	
300-3556-15	B36614	Total/NA	Water	300.0	
300-3556-16	B365Y8	Total/NA	Water	300.0	
300-3556-17	B365Y7	Total/NA	Water	300.0	
MB 300-5006/5	Method Blank	Total/NA	Water	300.0	
LCS 300-5006/6	Lab Control Sample	Total/NA	Water	300.0	
300-3554-A-2 MS	Matrix Spike	Total/NA	Water	300.0	
300-3554-A-2 DU	Duplicate	Total/NA	Water	300.0	

Analysis Batch: 5007

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-3556-13	B365X9	Total/NA	Water	300.0	
300-3556-14	B36622	Total/NA	Water	300.0	
300-3556-15	B36614	Total/NA	Water	300.0	
300-3556-16	B365Y8	Total/NA	Water	300.0	
300-3556-17	B365Y7	Total/NA	Water	300.0	
MB 300-5007/5	Method Blank	Total/NA	Water	300.0	
LCS 300-5007/6	Lab Control Sample	Total/NA	Water	300.0	
300-3554-A-2 MS	Matrix Spike	Total/NA	Water	300.0	
300-3554-A-2 DU	Duplicate	Total/NA	Water	300.0	

General Chemistry

Analysis Batch: 5016

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-3556-1	B365Y9	Total/NA	Water	7196A	
300-3556-2	B36601	Total/NA	Water	7196A	
300-3556-3	B36600	Total/NA	Water	7196A	
300-3556-4	B36602	Total/NA	Water	7196A	
300-3556-5	B36624	Total/NA	Water	7196A	
300-3556-6	B36623	Total/NA	Water	7196A	
300-3556-7	B365X7	Total/NA	Water	7196A	
300-3556-8	B365X8	Total/NA	Water	7196A	
300-3556-9	B36615	Total/NA	Water	7196A	
300-3556-10	B36616	Total/NA	Water	7196A	
300-3556-11	B365Y2	Total/NA	Water	7196A	
300-3556-12	B365Y3	Total/NA	Water	7196A	
MB 300-5016/31	Method Blank	Total/NA	Water	7196A	
LCS 300-5016/32	Lab Control Sample	Total/NA	Water	7196A	
300-3553-A-12 MS	Matrix Spike	Total/NA	Water	7196A	
300-3553-A-12 DU	Duplicate	Total/NA	Water	7196A	

Lab Chronicle

Client: CH2M Hill Plateau Remediation Company
Project/Site: X16-047

TestAmerica Job ID: 300-3556-1
SDG: WC1293

Client Sample ID: B365Y9 — Lab Sample ID: 300-3556-1

Date Collected: 07/22/16 12:08 — **Matrix: Water**
Date Received: 07/22/16 15:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7196A		1			5016	07/22/16 18:22	RLC	TAL RCH

Client Sample ID: B36601 — Lab Sample ID: 300-3556-2

Date Collected: 07/22/16 12:08 — **Matrix: Water**
Date Received: 07/22/16 15:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7196A		1			5016	07/22/16 18:22	RLC	TAL RCH

Client Sample ID: B36600 — Lab Sample ID: 300-3556-3

Date Collected: 07/22/16 12:08 — **Matrix: Water**
Date Received: 07/22/16 15:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7196A		1			5016	07/22/16 18:22	RLC	TAL RCH

Client Sample ID: B36602 — Lab Sample ID: 300-3556-4

Date Collected: 07/22/16 12:08 — **Matrix: Water**
Date Received: 07/22/16 15:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7196A		1			5016	07/22/16 18:25	RLC	TAL RCH

Client Sample ID: B36624 — Lab Sample ID: 300-3556-5

Date Collected: 07/22/16 09:07 — **Matrix: Water**
Date Received: 07/22/16 15:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7196A		1			5016	07/22/16 18:25	RLC	TAL RCH

Client Sample ID: B36623 — Lab Sample ID: 300-3556-6

Date Collected: 07/22/16 09:07 — **Matrix: Water**
Date Received: 07/22/16 15:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7196A		1			5016	07/22/16 18:26	RLC	TAL RCH

Lab Chronicle

Client: CH2M Hill Plateau Remediation Company
Project/Site: X16-047

TestAmerica Job ID: 300-3556-1
SDG: WC1293

Client Sample ID: B365X7 — Lab Sample ID: 300-3556-7

Date Collected: 07/22/16 08:31 — **Matrix: Water**
Date Received: 07/22/16 15:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7196A		1			5016	07/22/16 18:26	RLC	TAL RCH

Client Sample ID: B365X8 — Lab Sample ID: 300-3556-8

Date Collected: 07/22/16 08:31 — **Matrix: Water**
Date Received: 07/22/16 15:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7196A		1			5016	07/22/16 18:27	RLC	TAL RCH

Client Sample ID: B36615 — Lab Sample ID: 300-3556-9

Date Collected: 07/22/16 10:21 — **Matrix: Water**
Date Received: 07/22/16 15:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7196A		1			5016	07/22/16 18:27	RLC	TAL RCH

Client Sample ID: B36616 — Lab Sample ID: 300-3556-10

Date Collected: 07/22/16 10:21 — **Matrix: Water**
Date Received: 07/22/16 15:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7196A		1			5016	07/22/16 18:30	RLC	TAL RCH

Client Sample ID: B365Y2 — Lab Sample ID: 300-3556-11

Date Collected: 07/22/16 09:42 — **Matrix: Water**
Date Received: 07/22/16 15:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7196A		1			5016	07/22/16 18:30	RLC	TAL RCH

Client Sample ID: B365Y3 — Lab Sample ID: 300-3556-12

Date Collected: 07/22/16 09:42 — **Matrix: Water**
Date Received: 07/22/16 15:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7196A		1			5016	07/22/16 18:30	RLC	TAL RCH

Lab Chronicle

Client: CH2M Hill Plateau Remediation Company
Project/Site: X16-047

TestAmerica Job ID: 300-3556-1
SDG: WC1293

Client Sample ID: B365X9 — Lab Sample ID: 300-3556-13

Date Collected: 07/22/16 08:31 — **Matrix: Water**
Date Received: 07/22/16 15:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2			5006	07/22/16 20:12	RLC	TAL RCH
Total/NA	Analysis	300.0		2			5007	07/22/16 20:12	RLC	TAL RCH
Total/NA	Analysis	300.0		10			5006	07/22/16 23:14	RLC	TAL RCH

Client Sample ID: B36622 — Lab Sample ID: 300-3556-14

Date Collected: 07/22/16 09:07 — **Matrix: Water**
Date Received: 07/22/16 15:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2			5006	07/22/16 20:27	RLC	TAL RCH
Total/NA	Analysis	300.0		2			5007	07/22/16 20:27	RLC	TAL RCH

Client Sample ID: B36614 — Lab Sample ID: 300-3556-15

Date Collected: 07/22/16 10:21 — **Matrix: Water**
Date Received: 07/22/16 15:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2			5006	07/22/16 20:42	RLC	TAL RCH
Total/NA	Analysis	300.0		2			5007	07/22/16 20:42	RLC	TAL RCH

Client Sample ID: B365Y8 — Lab Sample ID: 300-3556-16

Date Collected: 07/22/16 12:08 — **Matrix: Water**
Date Received: 07/22/16 15:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2			5006	07/22/16 20:57	RLC	TAL RCH
Total/NA	Analysis	300.0		2			5007	07/22/16 20:57	RLC	TAL RCH

Client Sample ID: B365Y7 — Lab Sample ID: 300-3556-17

Date Collected: 07/22/16 12:08 — **Matrix: Water**
Date Received: 07/22/16 15:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2			5006	07/22/16 21:42	RLC	TAL RCH
Total/NA	Analysis	300.0		2			5007	07/22/16 21:42	RLC	TAL RCH

Lab Chronicle

Client: CH2M Hill Plateau Remediation Company
Project/Site: X16-047

TestAmerica Job ID: 300-3556-1
SDG: WC1293

Client Sample ID: Method Blank — Lab Sample ID: MB 300-5006/5

Date Collected: N/A — **Matrix: Water**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			5006	07/22/16 18:41	RLC	TAL RCH

Client Sample ID: Method Blank — Lab Sample ID: MB 300-5007/5

Date Collected: N/A — **Matrix: Water**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			5007	07/22/16 18:41	RLC	TAL RCH

Client Sample ID: Method Blank — Lab Sample ID: MB 300-5016/31

Date Collected: N/A — **Matrix: Water**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7196A		1			5016	07/22/16 18:16	RLC	TAL RCH

Client Sample ID: Lab Control Sample — Lab Sample ID: LCS 300-5006/6

Date Collected: N/A — **Matrix: Water**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			5006	07/22/16 18:56	RLC	TAL RCH

Client Sample ID: Lab Control Sample — Lab Sample ID: LCS 300-5007/6

Date Collected: N/A — **Matrix: Water**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			5007	07/22/16 18:56	RLC	TAL RCH

Client Sample ID: Lab Control Sample — Lab Sample ID: LCS 300-5016/32

Date Collected: N/A — **Matrix: Water**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7196A		1			5016	07/22/16 18:16	RLC	TAL RCH

Lab Chronicle

Client: CH2M Hill Plateau Remediation Company
Project/Site: X16-047

TestAmerica Job ID: 300-3556-1
SDG: WC1293

Client Sample ID: Matrix Spike — Lab Sample ID: 300-3553-A-12 MS

Date Collected: 07/22/16 06:45 — **Matrix: Water**
Date Received: 07/22/16 15:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	7196A		1			5016	07/22/16 18:16	RLC	TAL RCH

Client Sample ID: Matrix Spike — Lab Sample ID: 300-3554-A-2 MS

Date Collected: 07/22/16 10:08 — **Matrix: Water**
Date Received: 07/22/16 15:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2			5006	07/22/16 19:26	RLC	TAL RCH
Total/NA	Analysis	300.0		2			5007	07/22/16 19:26	RLC	TAL RCH

Laboratory References:

TAL RCH = TestAmerica Richland, 2800 George Washington Way, Richland, WA 99352, TEL (509)375-3131

Method Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: X16-047

TestAmerica Job ID: 300-3556-1
SDG: WC1293

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL RCH
7196A	Chromium, Hexavalent	SW846	TAL RCH

Protocol References:

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 RCH = TestAmerica Richland, 2800 George Washington Way, Richland, WA 99352, TEL (509)375-3131

Sample Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: X16-047

TestAmerica Job ID: 300-3556-1
SDG: WC1293

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
300-3556-1	B365Y9	Water	07/22/16 12:08	07/22/16 15:10
300-3556-2	B36601	Water	07/22/16 12:08	07/22/16 15:10
300-3556-3	B36600	Water	07/22/16 12:08	07/22/16 15:10
300-3556-4	B36602	Water	07/22/16 12:08	07/22/16 15:10
300-3556-5	B36624	Water	07/22/16 09:07	07/22/16 15:10
300-3556-6	B36623	Water	07/22/16 09:07	07/22/16 15:10
300-3556-7	B365X7	Water	07/22/16 08:31	07/22/16 15:10
300-3556-8	B365X8	Water	07/22/16 08:31	07/22/16 15:10
300-3556-9	B36615	Water	07/22/16 10:21	07/22/16 15:10
300-3556-10	B36616	Water	07/22/16 10:21	07/22/16 15:10
300-3556-11	B365Y2	Water	07/22/16 09:42	07/22/16 15:10
300-3556-12	B365Y3	Water	07/22/16 09:42	07/22/16 15:10
300-3556-13	B365X9	Water	07/22/16 08:31	07/22/16 15:10
300-3556-14	B36622	Water	07/22/16 09:07	07/22/16 15:10
300-3556-15	B36614	Water	07/22/16 10:21	07/22/16 15:10
300-3556-16	B365Y8	Water	07/22/16 12:08	07/22/16 15:10
300-3556-17	B365Y7	Water	07/22/16 12:08	07/22/16 15:10

Login Sample Receipt Checklist

Client: CH2M Hill Plateau Remediation Company

Job Number: 300-3556-1
SDG Number: WC1293

Login Number: 3556
List Number: 1
Creator: Bock, Julie A

List Source: TestAmerica Richland

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.	N/A	
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	
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.	N/A	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	