

July 29, 2016

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: 300-3399-1

TestAmerica Sample Delivery Group: WC1222

Client Project/Site: F12-024

For:

CH2M Hill Plateau Remediation Company

PO BOX 1600

Mail Stop R3-50

Richland, Washington 99352

Attn: CPP Sample Management



Authorized for release by:

7/29/2016 4:58:11 PM

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Designee for

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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 designee 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.



Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Chain of Custody	5
Detection Summary	11
Client Sample Results	12
QC Sample Results	14
QC Association Summary	16
Lab Chronicle	17
Method Summary	20
Sample Summary	21
Receipt Checklists	22

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.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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)



Client: CH2M Hill Plateau Remediation Company
Project/Site: F12-024

TestAmerica Job ID: 300-3399-1
SDG: WC1222

Job ID: 300-3399-1

Laboratory: TestAmerica Richland

Narrative

**Job Narrative
300-3399-1**

Comments

No additional comments.

Receipt

The samples were received on 6/30/2016 2:15 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 15.1° 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.

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- 9
- 10
- 11
- 12
- 13

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F12-024-229	PAGE 1 OF 1
COLLECTOR CHRIS FULTON CHPRC	COMPANY CONTACT SUMNER, LC	TELEPHONE NO. 376-3922	PROJECT COORDINATOR SUMNER, LC	PRICE CODE 7H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION 100-HX Process Bldg. 689 Influent Tank Valve T-H3 (V-H3AA4)	PROJECT DESIGNATION 100-HX Pump and Treat - INFLUENT/EFFLUENT/TRANSFER TANKS - WAT	FIELD LOGBOOK NO. HAF-N-491-15	ACTUAL SAMPLE DEPTH N/A	SAF NO. F12-024	AIR QUALITY <input type="checkbox"/>
ICE CHEST NO.	OFFSITE PROPERTY NO.		COA 302845	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
SHIPPED TO TestAmerica Incorporated, Richland			BILL OF LADING/AIR BILL NO.		

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WT=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR/JATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1. N/A	PRESERVATION Cool <=6C	HOLDING TIME 24 Hours	NO. OF CONTAINER(S) 1	VOLUME 60ml	7196, CR6, COMMON;
SAMPLE NO. B35X00	MATRIX* WATER	SAMPLE DATE JUN 3 0 2016	SAMPLE TIME 1230			

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300-3399 COC

July 29, 2016

CHAIN OF POSSESSION	SIGN/ PRINT NAMES	SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM CHRIS FULTON CHPRC	RECEIVED BY/STORED IN Frank Hall CHPRC	** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.** The extraction wells associated with this SAF are all located at the Transfer Building.
DATE/TIME JUN 3 0 2016	DATE/TIME JUN 3 0 2016	
RELINQUISHED BY/REMOVED FROM Frank Hall CHPRC	RECEIVED BY/STORED IN Frank Hall CHPRC	
DATE/TIME 6/23/16	DATE/TIME 6/23/16	
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	
DATE/TIME	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	
DATE/TIME	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	
DATE/TIME	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	
DATE/TIME	DATE/TIME	

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

PRINTED ON 6/1/2016 FSR ID = FSR33004 TRVL NUM = TRVL-16-163 A:6003-618 (REV 2)

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F12-024-233	PAGE 1 OF 1
COLLECTOR CHRIS FULTON	COMPANY CONTACT SUMNER, LC	TELEPHONE NO. 376-3922	PROJECT COORDINATOR SUMNER, LC	PRICE CODE 7H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION 100-HX Process Bldg 689 Effluent Tank Valve T-H5 V-H5A6AA D	PROJECT DESIGNATION 100-HX Pump and Treat - INFLUENT/EFFLUENT/TRANSFER TANKS - WAT	FIELD LOGBOOK NO. HNF-N-191-15	SAF NO. F12-024	AIR QUALITY <input type="checkbox"/>	METHOD OF SHIPMENT GOVERNMENT VEHICLE ORIGINAL
ICE CHEST NO.	ACTUAL SAMPLE DEPTH N/A	COA 302845	BILL OF LADING/AIR BILL NO.		
SHIPPED TO TestAmerica Incorporated, Richland					

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WT=Wipe X=Other	SPECIAL HANDLING AND/OR STORAGE	PRESERVATION		Cool <=6C
		HOLDING TIME		24 Hours
		TYPE OF CONTAINER		g6
		NO. OF CONTAINER(S)		1
VOLUME		60ml		
SAMPLE ANALYSIS		7196 GR6: COMMON?		
SAMPLE NO. B35X05	MATRIX*	SAMPLE DATE JUN 30 2016	SAMPLE TIME 1240	

July 29, 2016

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CHAIN OF POSSESSION	SIGN/PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM CHRIS FULTON	DATE/TIME JUN 30 2016	RECEIVED BY/STORED IN <i>[Signature]</i>	DATE/TIME JUN 30 2016
RELINQUISHED BY/REMOVED FROM <i>[Signature]</i>	DATE/TIME 6-30-16	RECEIVED BY/STORED IN <i>[Signature]</i>	DATE/TIME 6-30-16
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.** The extraction wells associated with this SAF are all located at the Transfer Building.

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F12-024-236	PAGE 1 OF 1
COLLECTOR CHRIS FULTON CHPRC	COMPANY CONTACT SUMNER, LC	TELEPHONE NO. 376-3922	PROJECT COORDINATOR SUMNER, LC	PRICE CODE 7H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION 100-HX Process Bldg 689 Effluent Tank Valve T-H5 (V-H5A6AA)	PROJECT DESIGNATION 100-HX Pump and Treat - INFLUENT/EFFLUENT/TRANSFER TANKS - WAT	FIELD LOGBOOK NO. HNF-A-491-15	SAF NO. F12-024	AIR QUALITY <input type="checkbox"/>	METHOD OF SHIPMENT GOVERNMENT VEHICLE ORIGINAL
ICE CHEST NO.	ACTUAL SAMPLE DEPTH N/A	COA 302845	BILL OF LADING/AIR BILL NO.		
SHIPPED TO TestAmerica Incorporated, Richland	OFFSITE PROPERTY NO.				

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR/LATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1. N/A	PRESERVATION Cool <=6C	HOLDING TIME 24 Hours	NO. OF CONTAINER(S) 1	VOLUME 60ml	7196, CR6; COMMON;
SAMPLE NO. B35X09	MATRIX* WATER	SAMPLE DATE JUN 3 0 2016	SAMPLE TIME 12:00	3599 JUN 22		
SPECIAL HANDLING AND/OR STORAGE		SAMPLE ANALYSIS				

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM CHRIS FULTON CHPRC	DATE/TIME JUN 3 0 2016	RECEIVED BY/STORED IN Frank Hill CHPRC	DATE/TIME JUN 3 0 2016	** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF. ** The extraction wells associated with this SAF are all located at the Transfer Building.	
RELINQUISHED BY/REMOVED FROM Frank Hill	DATE/TIME 6-30-16	RECEIVED BY/STORED IN J. Bock, TARL	DATE/TIME 6-30-16		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME	
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME	

July 29, 2016

July 29, 2016

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F12-024-235	PAGE 1 OF 1
COLLECTOR CHRIS FULTON CHPRC	COMPANY CONTACT SUMNER, LC	TELEPHONE NO. 376-3922	PROJECT COORDINATOR SUMNER, LC	PRICE CODE 7H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION 100-HX Process Bldg 689 Effluent Tank Valve T-H5 (V-H5A6AA)	PROJECT DESIGNATION 100-HX Pump and Treat - INFLUENT/EFFLUENT/TRANSFER TANKS - WAT	FIELD LOGBOOK NO. H5E-1-191-15	SAF NO. F12-024	AIR QUALITY <input type="checkbox"/>	ORIGINAL
ICE CHEST NO.	ACTUAL SAMPLE DEPTH N/A	COA 302845	METHOD OF SHIPMENT GOVERNMENT VEHICLE		
SHIPPED TO TestAmerica Incorporated, Richland	OFFSITE PROPERTY NO.	BILL OF LADING/AIR BILL NO.			

MATRIX*	POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/ATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1. N/A	PRESERVATION Cool <=6C	HOLDING TIME 28 Days/48 Hours	TYPE OF CONTAINER P	NO. OF CONTAINER(S) 1	VOLUME 500ml	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=TIssue V=Vegetation W=Water WI=Wipe X=Other							
SPECIAL HANDLING AND/OR STORAGE							
SAMPLE NO. B35X08	MATRIX*	SAMPLE DATE JUN 30 2016	SAMPLE TIME 1830				

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CHAIN OF POSSESSION	SIGN/ PRINT NAMES	SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM CHRIS FULTON	DATE/TIME JUN 30 2016	RECEIVED BY/STORED IN CHRIS FULTON
RELINQUISHED BY/REMOVED FROM CHRIS FULTON	DATE/TIME JUN 30 2016	RECEIVED BY/STORED IN CHRIS FULTON
RELINQUISHED BY/REMOVED FROM CHRIS FULTON	DATE/TIME JUN 30 2016	RECEIVED BY/STORED IN CHRIS FULTON
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN
LABORATORY SECTION	RECEIVED BY	TITLE
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DATE/TIME

** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF.** The extraction wells associated with this SAF are all located at the Transfer Building.
(1) 300.0_ANIONS_IC: COMMON {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate}; 300.0_ANIONS_IC: COMMON (Add-on) {Phosphorus in phosphate};

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F12-024-232	PAGE 1 OF 1
COLLECTOR CHRIS FULTON	COMPANY CONTACT SUMNER, LC	TELEPHONE NO. 376-3922	PROJECT COORDINATOR SUMNER, LC	PRICE CODE 7H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION 100-HX Process Big 689 Effluent Tank Valve T-H5 V-H5A6AA D	PROJECT DESIGNATION 100-HX Pump and Treat - INFLUENT/EFFLUENT/TRANSFER TANKS - WAT	FIELD LOGBOOK NO. F12-024	SAF NO. F12-024	AIR QUALITY <input type="checkbox"/>	METHOD OF SHIPMENT GOVERNMENT VEHICLE ORIGINAL
ICE CHEST NO.	ACTUAL SAMPLE DEPTH COA 302845	BILL OF LADING/AIR BILL NO.			
SHIPPED TO Testamerica Incorporated, Richland		OFFSITE PROPERTY NO. N/A			

MATRIX*	POSSIBLE SAMPLE HAZARDS/ REMARKS	PRESERVATION	NO. OF CONTAINER(S)	VOLUME	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WF=Wipe X=Other	*Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR/DATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1. N/A	Code <=6C 28 Days/48 Hours	1	500mL	
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B35X04	WATER	JUN 3 0 2016	1240	✓	

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July 29, 2016

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM CHRIS FULTON	DATE/TIME JUN 3 0 2016	RECEIVED BY/STORED IN Frank Hart	DATE/TIME JUN 3 0 2016	** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF. ** The extraction wells associated with this SAF are all located at the Transfer Building.	
RELINQUISHED BY/REMOVED FROM Frank Hart	DATE/TIME 6-23-16	RECEIVED BY/STORED IN J. Bock, TARL	DATE/TIME 6-23-16	(1) 300.0_ANIONS_IC: COMMON {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate}; 300.0_ANIONS_IC: COMMON (Add-on) {Phosphorus in phosphate};	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME		
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME		

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F12-024-228	PAGE 1 OF 1
COLLECTOR CHRIS FULTON	COMPANY CONTACT SUMNER, LC	TELEPHONE NO. 376-3922	PROJECT COORDINATOR SUMNER, LC	PRICE CODE 7H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION CHRIS FULTON	PROJECT DESIGNATION 100-HX Pump and Treat - INFLUENT/EFFLUENT/TRANSFER TANKS - WAT	FIELD LOGBOOK NO. HMS-N-491-15	SAF NO. F12-024	AIR QUALITY <input type="checkbox"/>	METHOD OF SHIPMENT GOVERNMENT VEHICLE ORIGINAL
ICE CHEST NO.	ACTUAL SAMPLE DEPTH N/A	COA 302845	BILL OF LADING/AIR BILL NO.		
SHIPPED TO TestAmerica Incorporated, Richland					

MATRIX*	POSSIBLE SAMPLE HAZARDS/ REMARKS	PRESERVATION	Cool <=6C
A=Air	*Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR/LATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1. N/A	HOLDING TIME	28 Days/48 Hours
DL=Drum		TYPE OF CONTAINER	P
L=Liquid		NO. OF CONTAINER(S)	1
O=Oil		VOLUME	500mL
S=Soil		SPECIAL HANDLING AND/OR STORAGE	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
SE=Sediment			
T=Tissue			
V=Vegetation			
W=Water			
WI=Wipe			
X=Other			

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B36WY9	WATER	JUN 30 2016	1230	✓

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July 29, 2016

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM CHRIS FULTON	DATE/TIME JUN 30 2016	RECEIVED BY/STORED IN Frank Hall	DATE/TIME JUN 30 2016	** The 100 Area S&GRP Characterization and Monitoring Sampling and Analysis GKI applies to this SAF. ** The extraction wells associated with this SAF are all located at the Transfer Building.	
RELINQUISHED BY/REMOVED FROM Frank Hall	DATE/TIME 6-30-16	RECEIVED BY/STORED IN J. Bock, TARL	DATE/TIME 6-30-16	Nitrate, Nitrogen in Nitrite, Sulfate}; 300.0 ANIONS_IC: COMMON (Add-on) {Phosphorus in phosphate};	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME		
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME		

July 29, 2016
Detection Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: F12-024

TestAmerica Job ID: 300-3399-1
SDG: WC1222

Client Sample ID: B35X00

Lab Sample ID: 300-3399-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cr (VI)	0.018		0.0040	0.0015	mg/L	1		7196A	Total/NA

Client Sample ID: B35X05

Lab Sample ID: 300-3399-2

No Detections.

Client Sample ID: B35X09

Lab Sample ID: 300-3399-3

No Detections.

Client Sample ID: B35X08

Lab Sample ID: 300-3399-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	8.2	D	0.40	0.20	mg/L	2		300.0	Total/NA
Nitrate as N	3.0	D	0.056	0.028	mg/L	2		300.0	Total/NA
Fluoride	0.22	D	0.10	0.050	mg/L	2		300.0	Total/NA
Sulfate	61	D	0.50	0.25	mg/L	2		300.0	Total/NA

Client Sample ID: B35X04

Lab Sample ID: 300-3399-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	8.2	D	0.40	0.20	mg/L	2		300.0	Total/NA
Nitrate as N	3.0	D	0.056	0.028	mg/L	2		300.0	Total/NA
Fluoride	0.22	D	0.10	0.050	mg/L	2		300.0	Total/NA
Sulfate	61	D	0.50	0.25	mg/L	2		300.0	Total/NA

Client Sample ID: B35WY9

Lab Sample ID: 300-3399-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	8.6	D	0.40	0.20	mg/L	2		300.0	Total/NA
Nitrate as N	3.1	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	66	D	0.50	0.25	mg/L	2		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Richland

July 29, 2016
Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: F12-024

TestAmerica Job ID: 300-3399-1
SDG: WC1222

Client Sample ID: B35X00

Lab Sample ID: 300-3399-1

Date Collected: 06/30/16 12:30

Matrix: Water

Date Received: 06/30/16 14:15

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.018		0.0040	0.0015	mg/L			06/30/16 17:29	1

Client Sample ID: B35X05

Lab Sample ID: 300-3399-2

Date Collected: 06/30/16 12:40

Matrix: Water

Date Received: 06/30/16 14:15

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0015	U	0.0040	0.0015	mg/L			06/30/16 17:29	1

Client Sample ID: B35X09

Lab Sample ID: 300-3399-3

Date Collected: 06/30/16 12:40

Matrix: Water

Date Received: 06/30/16 14:15

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0015	U	0.0040	0.0015	mg/L			06/30/16 17:30	1

Client Sample ID: B35X08

Lab Sample ID: 300-3399-4

Date Collected: 06/30/16 12:40

Matrix: Water

Date Received: 06/30/16 14:15

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8.2	D	0.40	0.20	mg/L			06/30/16 19:33	2
Nitrate as N	3.0	D	0.056	0.028	mg/L			06/30/16 19:33	2
Fluoride	0.22	D	0.10	0.050	mg/L			06/30/16 19:33	2
Nitrite as N	0.038	U D	0.076	0.038	mg/L			06/30/16 19:33	2
Orthophosphate as P	0.082	U D	0.16	0.082	mg/L			06/30/16 19:33	2
Sulfate	61	D	0.50	0.25	mg/L			06/30/16 19:33	2

Client Sample ID: B35X04

Lab Sample ID: 300-3399-5

Date Collected: 06/30/16 12:40

Matrix: Water

Date Received: 06/30/16 14:15

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8.2	D	0.40	0.20	mg/L			06/30/16 20:18	2
Nitrate as N	3.0	D	0.056	0.028	mg/L			06/30/16 20:18	2
Fluoride	0.22	D	0.10	0.050	mg/L			06/30/16 20:18	2
Nitrite as N	0.038	U D	0.076	0.038	mg/L			06/30/16 20:18	2
Orthophosphate as P	0.082	U D	0.16	0.082	mg/L			06/30/16 20:18	2
Sulfate	61	D	0.50	0.25	mg/L			06/30/16 20:18	2

TestAmerica Richland

July 29, 2016
Client Sample Results

Client: CH2M Hill Plateau Remediation Company
Project/Site: F12-024

TestAmerica Job ID: 300-3399-1
SDG: WC1222

Client Sample ID: B35WY9

Lab Sample ID: 300-3399-6

Date Collected: 06/30/16 12:30

Matrix: Water

Date Received: 06/30/16 14:15

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8.6	D	0.40	0.20	mg/L			06/30/16 20:33	2
Nitrate as N	3.1	D	0.056	0.028	mg/L			06/30/16 20:33	2
Fluoride	0.24	D	0.10	0.050	mg/L			06/30/16 20:33	2
Nitrite as N	0.038	U D	0.076	0.038	mg/L			06/30/16 20:33	2
Orthophosphate as P	0.082	U D	0.16	0.082	mg/L			06/30/16 20:33	2
Sulfate	66	D	0.50	0.25	mg/L			06/30/16 20:33	2

Client: CH2M Hill Plateau Remediation Company
Project/Site: F12-024

TestAmerica Job ID: 300-3399-1
SDG: WC1222

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 300-4747/29
Matrix: Water
Analysis Batch: 4747

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	0.014	U	0.028	0.014	mg/L			06/30/16 19:03	1
Nitrite as N	0.019	U	0.038	0.019	mg/L			06/30/16 19:03	1
Orthophosphate as P	0.041	U	0.082	0.041	mg/L			06/30/16 19:03	1

Lab Sample ID: LCS 300-4747/30
Matrix: Water
Analysis Batch: 4747

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	2.26	2.33		mg/L		103	80 - 120
Nitrite as N	3.04	3.12		mg/L		103	80 - 120
Orthophosphate as P	6.53	6.74		mg/L		103	80 - 120

Lab Sample ID: 300-3399-4 MS
Matrix: Water
Analysis Batch: 4747

Client Sample ID: B35X08
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	3.0	D	0.452	3.46	D	mg/L		101	75 - 125
Nitrite as N	0.038	U D	0.609	0.540	D	mg/L		89	75 - 125
Orthophosphate as P	0.082	U D	1.31	1.17	D	mg/L		89	75 - 125

Lab Sample ID: 300-3399-4 DU
Matrix: Water
Analysis Batch: 4747

Client Sample ID: B35X08
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Nitrate as N	3.0	D	2.99	D	mg/L		0.7	20
Nitrite as N	0.038	U D	0.038	U D	mg/L		NC	20
Orthophosphate as P	0.082	U D	0.082	U D	mg/L		NC	20

Lab Sample ID: MB 300-4748/29
Matrix: Water
Analysis Batch: 4748

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.10	U	0.20	0.10	mg/L			06/30/16 19:03	1
Fluoride	0.025	U	0.050	0.025	mg/L			06/30/16 19:03	1
Sulfate	0.13	U	0.25	0.13	mg/L			06/30/16 19:03	1

Lab Sample ID: LCS 300-4748/30
Matrix: Water
Analysis Batch: 4748

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	16.0	16.2		mg/L		101	80 - 120
Fluoride	4.00	4.09		mg/L		102	80 - 120
Sulfate	20.0	20.4		mg/L		102	80 - 120

Client: CH2M Hill Plateau Remediation Company
Project/Site: F12-024

TestAmerica Job ID: 300-3399-1
SDG: WC1222

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 300-3399-4 MS
Matrix: Water
Analysis Batch: 4748

Client Sample ID: B35X08
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier		Result	Qualifier					
Chloride	8.2	D	3.20	11.4	D	mg/L		101	75 - 125	
Fluoride	0.22	D	0.800	0.968	D	mg/L		93	75 - 125	
Sulfate	61	D	4.00	64.8	D	mg/L		85	75 - 125	

Lab Sample ID: 300-3399-4 DU
Matrix: Water
Analysis Batch: 4748

Client Sample ID: B35X08
Prep Type: Total/NA

Analyte	Sample	Sample	DU		Unit	D	RPD	RPD	Limit
	Result	Qualifier	Result	Qualifier					
Chloride	8.2	D	8.17	D	mg/L		0.6	20	
Fluoride	0.22	D	0.221	D	mg/L		0.7	20	
Sulfate	61	D	61.0	D	mg/L		0.6	20	

Method: 7196A - Chromium, Hexavalent

Lab Sample ID: MB 300-4759/3
Matrix: Water
Analysis Batch: 4759

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

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Cr (VI)	0.0015	U	0.0040	0.0015	mg/L			06/30/16 17:25	1

Lab Sample ID: LCS 300-4759/4
Matrix: Water
Analysis Batch: 4759

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

Analyte	Spike	Added	LCS	LCS	Unit	D	%Rec	%Rec.	Limits
			Result	Qualifier					
Cr (VI)	0.250	0.252			mg/L		101	80 - 120	

Lab Sample ID: 300-3399-1 MS
Matrix: Water
Analysis Batch: 4759

Client Sample ID: B35X00
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier		Result	Qualifier					
Cr (VI)	0.018		0.0499	0.0674		mg/L		100	75 - 125	

Lab Sample ID: 300-3399-1 DU
Matrix: Water
Analysis Batch: 4759

Client Sample ID: B35X00
Prep Type: Total/NA

Analyte	Sample	Sample	DU		Unit	D	RPD	RPD	Limit
	Result	Qualifier	Result	Qualifier					
Cr (VI)	0.018		0.0188		mg/L		7	20	

Client: CH2M Hill Plateau Remediation Company
Project/Site: F12-024

TestAmerica Job ID: 300-3399-1
SDG: WC1222

HPLC/IC

Analysis Batch: 4747

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-3399-4	B35X08	Total/NA	Water	300.0	
300-3399-5	B35X04	Total/NA	Water	300.0	
300-3399-6	B35WY9	Total/NA	Water	300.0	
MB 300-4747/29	Method Blank	Total/NA	Water	300.0	
LCS 300-4747/30	Lab Control Sample	Total/NA	Water	300.0	
300-3399-4 MS	B35X08	Total/NA	Water	300.0	
300-3399-4 DU	B35X08	Total/NA	Water	300.0	

Analysis Batch: 4748

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-3399-4	B35X08	Total/NA	Water	300.0	
300-3399-5	B35X04	Total/NA	Water	300.0	
300-3399-6	B35WY9	Total/NA	Water	300.0	
MB 300-4748/29	Method Blank	Total/NA	Water	300.0	
LCS 300-4748/30	Lab Control Sample	Total/NA	Water	300.0	
300-3399-4 MS	B35X08	Total/NA	Water	300.0	
300-3399-4 DU	B35X08	Total/NA	Water	300.0	

General Chemistry

Analysis Batch: 4759

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
300-3399-1	B35X00	Total/NA	Water	7196A	
300-3399-2	B35X05	Total/NA	Water	7196A	
300-3399-3	B35X09	Total/NA	Water	7196A	
MB 300-4759/3	Method Blank	Total/NA	Water	7196A	
LCS 300-4759/4	Lab Control Sample	Total/NA	Water	7196A	
300-3399-1 MS	B35X00	Total/NA	Water	7196A	
300-3399-1 DU	B35X00	Total/NA	Water	7196A	

Client: CH2M Hill Plateau Remediation Company
Project/Site: F12-024

TestAmerica Job ID: 300-3399-1
SDG: WC1222

Client Sample ID: B35X00

Date Collected: 06/30/16 12:30

Date Received: 06/30/16 14:15

Lab Sample ID: 300-3399-1

Matrix: Water

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			4759	06/30/16 17:29	RLC	TAL RCH

Client Sample ID: B35X05

Date Collected: 06/30/16 12:40

Date Received: 06/30/16 14:15

Lab Sample ID: 300-3399-2

Matrix: Water

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			4759	06/30/16 17:29	RLC	TAL RCH

Client Sample ID: B35X09

Date Collected: 06/30/16 12:40

Date Received: 06/30/16 14:15

Lab Sample ID: 300-3399-3

Matrix: Water

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			4759	06/30/16 17:30	RLC	TAL RCH

Client Sample ID: B35X08

Date Collected: 06/30/16 12:40

Date Received: 06/30/16 14:15

Lab Sample ID: 300-3399-4

Matrix: Water

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			4747	06/30/16 19:33	CPM	TAL RCH
Total/NA	Analysis	300.0		2			4748	06/30/16 19:33	CPM	TAL RCH

Client Sample ID: B35X04

Date Collected: 06/30/16 12:40

Date Received: 06/30/16 14:15

Lab Sample ID: 300-3399-5

Matrix: Water

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			4747	06/30/16 20:18	CPM	TAL RCH
Total/NA	Analysis	300.0		2			4748	06/30/16 20:18	CPM	TAL RCH

Client Sample ID: B35WY9

Date Collected: 06/30/16 12:30

Date Received: 06/30/16 14:15

Lab Sample ID: 300-3399-6

Matrix: Water

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			4747	06/30/16 20:33	CPM	TAL RCH
Total/NA	Analysis	300.0		2			4748	06/30/16 20:33	CPM	TAL RCH

Client: CH2M Hill Plateau Remediation Company
Project/Site: F12-024

TestAmerica Job ID: 300-3399-1
SDG: WC1222

Client Sample ID: Method Blank

Lab Sample ID: MB 300-4747/29

Date Collected: N/A
Date Received: N/A

Matrix: Water

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			4747	06/30/16 19:03	CPM	TAL RCH

Client Sample ID: Method Blank

Lab Sample ID: MB 300-4748/29

Date Collected: N/A
Date Received: N/A

Matrix: Water

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			4748	06/30/16 19:03	CPM	TAL RCH

Client Sample ID: Method Blank

Lab Sample ID: MB 300-4759/3

Date Collected: N/A
Date Received: N/A

Matrix: Water

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			4759	06/30/16 17:25	RLC	TAL RCH

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 300-4747/30

Date Collected: N/A
Date Received: N/A

Matrix: Water

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			4747	06/30/16 19:18	CPM	TAL RCH

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 300-4748/30

Date Collected: N/A
Date Received: N/A

Matrix: Water

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			4748	06/30/16 19:18	CPM	TAL RCH

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 300-4759/4

Date Collected: N/A
Date Received: N/A

Matrix: Water

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			4759	06/30/16 17:26	RLC	TAL RCH

Client: CH2M Hill Plateau Remediation Company
Project/Site: F12-024

TestAmerica Job ID: 300-3399-1
SDG: WC1222

Client Sample ID: B35X00

Date Collected: 06/30/16 12:30

Date Received: 06/30/16 14:15

Lab Sample ID: 300-3399-1 MS

Matrix: Water

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			4759	06/30/16 17:26	RLC	TAL RCH

Client Sample ID: B35X08

Date Collected: 06/30/16 12:40

Date Received: 06/30/16 14:15

Lab Sample ID: 300-3399-4 MS

Matrix: Water

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			4747	06/30/16 19:48	CPM	TAL RCH
Total/NA	Analysis	300.0		2			4748	06/30/16 19:48	CPM	TAL RCH

Laboratory References:

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

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Client: CH2M Hill Plateau Remediation Company
Project/Site: F12-024

TestAmerica Job ID: 300-3399-1
SDG: WC1222

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



July 29, 2016
Sample Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: F12-024

TestAmerica Job ID: 300-3399-1
SDG: WC1222

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
300-3399-1	B35X00	Water	06/30/16 12:30	06/30/16 14:15
300-3399-2	B35X05	Water	06/30/16 12:40	06/30/16 14:15
300-3399-3	B35X09	Water	06/30/16 12:40	06/30/16 14:15
300-3399-4	B35X08	Water	06/30/16 12:40	06/30/16 14:15
300-3399-5	B35X04	Water	06/30/16 12:40	06/30/16 14:15
300-3399-6	B35WY9	Water	06/30/16 12:30	06/30/16 14:15

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July 29, 2016

Login Sample Receipt Checklist

Client: CH2M Hill Plateau Remediation Company

Job Number: 300-3399-1

SDG Number: WC1222

Login Number: 3399

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	

