JANUARY 21, 2013

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: 160-1125-1
TestAmerica Sample Delivery Group: SL1346
Client Project/Site: S,W,I,A ,X SAFS- GROUNDWATER

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

Attn: General Mailbox

Authorized for release by:
1/21/2013 2:27:28 PM

Jayna Awalt
Project Manager I
jayna.awalt@testamericainc.com

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.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Chain of Custody 7
Receipt Checklists 16
Definitions/Glossary 20
Method Summary 21
Sample Summary 22
Detection Summary 23
Client Sample Results 24
QC Sample Results 27
QC Association Summary 37
Surrogate Summary 39

Job ID: 160-1125-1

Laboratory: TestAmerica St. Louis

Narrative

CASE NARRATIVE

CH2MHill Plateau Remediation Company
P.O. Box 1600
MS B3-60
Richland, Washington 99352
January 21, 2013
Attention: Scot Fitzgerald

SDG	: SL1346
Number of Samples	: 6 samples
Sample Matrix	: Water
Data Deliverable	: Summary
Date SDG Closed	: December 21, 2012

II. Introduction

Between December 17, 2012 and December 21, 2012, 6 water samples were received by TestAmerica - St. Louis for chemical analysis. The samples were received within temperature criteria. See the COC and CUR forms for documentation of any variations on receipt conditions and temperature. Upon receipt, the 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: W13-012, I13-009, I13-006, W13-011

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 a LCS/LCS duplicate.

Deviation from Request: None

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

Job ID: 160-1125-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

MDL.

- **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.
- **D** - For all analyses, the sample result was obtained from the analysis of a dilution.
- **N** - For inorganics 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.
- **M**- For inorganic analyses, the precision was outside control 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.

Pesticides

Batch: 23371/24289

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with batch 23371 using the method specified volume. MS/MSD was performed using half volume.

The laboratory control sample (LCS) associated with batch 23371 was outside acceptance criteria for 4,4'-DDE, Aldrin, Dieldrin, Endosulfan sulfate, Endrin, and Endrin aldehyde. Re-extraction could not be performed due to no sample left to re-extract; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance. These analytes have been qualified accordingly with an “O” flag in the associated samples.

The matrix spike / matrix spike duplicate (MS/MSD) precision associated with batch 23371 was outside control limits: (160-1191-1 MS), (160-1191-1 MSD). The MS/MSD recoveries were within acceptance limits indicating the presence of matrix interference.

Metals

Batch: 26126/24695

Silver was detected in method blank MB 160-24695/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged “B”. If the associated sample reported a result above the MDL and/or RL, the result has been “C” flagged.

Ion Chromatography

Batch: 23513

The following sample was diluted to bring the concentrations of Chloride, Nitrate, and Sulfate within the calibration range in batch 23513: (160-1190-1 DU), (160-1190-1 MS), B2MXH5 (160-1190-1). Elevated reporting limits (RLs) are provided. These analytes have been qualified accordingly with a "D" flag in the associated samples.

The MS recovery for Nitrite was outside control limits in batch 23513. The associated LCS recovery met acceptance criteria, as did the MS recoveries for the other reported anions. This analyte has been qualified accordingly with an "N" flag in the associated samples.

Sulfide

Job ID: 160-1125-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

Batch: 23677

For the Sulfide analysis of associated sample in batch #23677, hold time expired before analysis could be performed. Sample was analyzed within two times the hold time. Per SDR13-078, the sample data has been reported.

There were no observations or nonconformances for the following methods:

Phenols
Alkalinity

I certify that this Summary Package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. The Laboratory Manager or a designee, as verified by the signature on the cover page has authorized release of the data contained in this hard copy data package.

Reviewed and approved:

Jayna Awalt
St. Louis Project Manager

SAMPLE ISSUE RESOLUTION

SIR NUM	SDR13-078
REV NUM	0
DATE INITIATED	1/8/2013

SAMPLE EVENT INFORMATION

SAF NUM(S)	W13-011
OPERABLE UNIT(S)	NONE
PROJECT(S)	RCRA13
SAMPLE EVENT TITLE(S)	RCRA13
LABORATORY	TestAmerica St. Louis

SAMPLING INFORMATION

NUMBER OF SAMPLES	1
SAMPLE NUMBERS	B2MN26
SAMPLE MATRIX	WATER
COLLECTION DATE	12/19/2012 - 12/19/2012
SDG NUM	SL1346

ISSUE BACKGROUND

CLASS	Laboratory Issue
TYPE	Analysis Holding Time Exceeded
DESCRIPTION	For Sulfide analysis on affected sample, hold time expired before analysis could be performed. Sample was analyzed within two times the hold time. TASL is currently undergoing lab re-structuring and Wet Chemistry analyses are running behind which led to missed hold time.

DISPOSITION

DESCRIPTION	PROPOSED DISPOSITION: TASL PROPOSES TO REPORT SULFIDE RESULTS PERFORMED OUTSIDE INITIAL HOLD BUT WITHIN TWO TIMES HOLD TIME.
JUSTIFICATION	ACCEPTED DISPOSITION: Accept proposed resolution.

SUBMITTED BY: Jayna Awalt/TASL DATE: 1/8/13
ACCEPTED BY: Scot Fitzgerald/CHPRC DATE: 1/8/13

A-6003-640 (03/30)

PAGE 1 of 1

CH2MHill Plateau Remediation Company SL3346	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # W13-012-040 Page 1 of 1

Collector	F. M. Hall	Contact/Requester	Karen Waters-Husted	Telephone No.	376-4650
SAF No.	W13-012	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071ES20
Project Title	RCRA, DECEMBER 2012	Logbook No.	HNF-N-506 51165	Ice Chest No.	GWS-236
Shipped To (Lab)	TestAmerica St. Louis	Method of Shipment	Commercial Carrier	Bill of Lading/Air Bill No.	7943 1111 6294
Protocol	RCRA	Priority:	30 Days PRIORITY	Offsite Property No.	

POSSIBLE SAMPLE HAZARDS/REMARKS

** ** Contains Radioactive Material at concentations that are not regulated for transportation per 49 CRF but are not releasable per DOE Order 5400 5 (1990/1993)

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

FY12 and FY13 samples cannot be in the same SDG.
Site Wide Generator Knowledge Information Form applies.
The CACN for all analytical work at WSCF is 401647.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2MXB5	N	W	12/14/12	1232	3x1-L aG	8041_PHENOLIC_GC: COMMON	7/40 Days	Na2S2O3/Cool~4C
B2MXB5	N	W	↓	↓	1x20-mL P	Activity Scan	6 Months	None

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
F. M. Hall			DEC 14 2012 1245	Mitzi White			DEC 14 2012 1245
Mitzi White			DEC 14 2012 1400	FEDEX			
FedEx							12-17-12 0930

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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A-6004-842 (REV 2)

JANUARY 21, 2013

1/21/2013

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FedEx

794311116294

Ship (P/U) date :
Fri 12/14/2012 3:28 pm
RICHLAND, WA US

Delivered
Signed for by: B.DANIELS

Actual delivery :
Mon 12/17/2012 9:21 am
EARTH CITY, MO US

Travel History

Date/Time	Activity	Location
- 12/17/2012 - Monday		
9:21 am	Delivered	EARTH CITY, MO
6:31 am	On FedEx vehicle for delivery	EARTH CITY, MO
6:26 am	At local FedEx facility	EARTH CITY, MO
- 12/15/2012 - Saturday		
5:00 am	At destination sort facility	BERKELEY, MO
4:13 am	Departed FedEx location	MEMPHIS, TN
12:52 am	Arrived at FedEx location	MEMPHIS, TN
- 12/14/2012 - Friday		
6:12 pm	At local FedEx facility	SPOKANE, WA
5:06 pm	Left FedEx origin facility	PASCO, WA
3:28 pm	Picked up	PASCO, WA
3:25 pm	Shipment information sent to FedEx	

Local Scan Time

Shipment Facts

Tracking number	794311116294	**Service**	FedEx Priority Overnight
Weight	57 lbs	**Delivered To**	Shipping/Receiving
Total pieces	1	**Total shipment weight**	57 lbs / 25.9 kgs
Shipper reference	GWS-236	**Packaging**	Your Packaging
Special handling section	Deliver Weekday		

CH2MHill Plateau Remediation Company SL13446	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # I13-009-014 Page 1 of 1

Collector	F. M. Hall	Contact/Requester	Karen Waters-Husted	Telephone No.	376-4650
SAF No.	I13-009	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071ES20
Project Title	200ZP1, DECEMBER 2012	Logbook No.	HNF-N-506 49 / 95	Ice Chest No.	GWS-236
Shipped To (Lab)	TestAmerica St. Louis	Method of Shipment	Commercial Carrier	Bill of Lading/Air Bill No.	7943 1111 6294
Protocol	CERCLA	Priority: 30 Days	PRIORITY	Offsite Property No.	

POSSIBLE SAMPLE HAZARDS/REMARKS
** ** Contains Radioactive Material at concentations that are not regulated for transportation per 49 CRF but are not releasable per DOE Order 5400 5 (1990/1993)

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐
200 Area Generator Knowledge Information Form applies.
The CACN for all analytical work at WSCF is 401647.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2MXY1	N	W	12-13-12	1330	3x500-mL G/P	9030_SULFIDE: Sulfide (1)	7 Days	ZnAc+NaOH to pH > 9/Cool~4C
B2MXY1	N	W	↓	↓	1x20-mL P	Activity Scan	6 Months	None

Relinquished By	Print / Sign	Date/Time	Received By	Print / Sign	Date/Time
	F. M. Hall	DEC 13 2012 1525	SSU #1		DEC 13 2012 1525
SSU #1		DEC 14 2012	Mitzi White		DEC 14 2012
Mitzi White		DEC 14 2012 1400	FEDEX	Sue Wilson	12-17-12 0930
Fed 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

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JANUARY 21, 2013

1/21/2013

CH2MHill Plateau Remediation Company SL13466	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # I13-009-013 Page 1 of 1

Collector	F. M. Hall	Contact/Requester	Karen Waters-Husted	Telephone No.	376-4650
SAF No.	I13-009	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071ES20
Project Title	200ZP1, DECEMBER 2012	Logbook No.	HNF-N-506 49195	Ice Chest No.	CWS-236
Shipped To (Lab)	TestAmerica St. Louis	Method of Shipment	Commercial Carrier	Bill of Lading/Air Bill No.	7943 1111 6294
Protocol	CERCLA	Priority:	30 Days PRIORITY	Offsite Property No.	

POSSIBLE SAMPLE HAZARDS/REMARKS

** ** Contains Radioactive Material at concentations that are not regulated for transportation per 49 CRF but are not releasable per DOE Order 5400 5 (1990/1993)

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

200 Area Generator Knowledge Information Form applies.
The CACN for all analytical work at WSCF is 401647.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2MXY0	N	W	12-13-12	1330	3x500-mL G/P	9030_SULFIDE: Sulfide (1)	7 Days	ZnAc+NaOH to pH > 9/Cool~4C
B2MXY0	N	W	↓	↓	1x20-mL P	Activity Scan	6 Months	None

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
F. M. Hall	F. M. Hall	[signature]	DEC 13 2012 1525	SSU #1			DEC 13 2012 1525
SSU #1			DEC 14 2012 1245	Mitzi White	Mitzi White	[signature]	DEC 14 2012 1245
Mitzi White	Mitzi White	[signature]	DEC 14 2012 1400	FEDEX			
FedEx				SWilson		[signature]	12-17-12 0930

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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JANUARY 21, 2013

1/21/2013

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FedEx

794311116294

Ship (P/U) date :
Fri 12/14/2012 3:28 pm
RICHLAND, WA US

Delivered
Signed for by: B.DANIELS

Actual delivery :
Mon 12/17/2012 9:21 am
EARTH CITY, MO US

Travel History

Date/Time	Activity	Location
- 12/17/2012 - Monday		
9:21 am	Delivered	EARTH CITY, MO
6:31 am	On FedEx vehicle for delivery	EARTH CITY, MO
6:26 am	At local FedEx facility	EARTH CITY, MO
- 12/15/2012 - Saturday		
5:00 am	At destination sort facility	BERKELEY, MO
4:13 am	Departed FedEx location	MEMPHIS, TN
12:52 am	Arrived at FedEx location	MEMPHIS, TN
- 12/14/2012 - Friday		
6:12 pm	At local FedEx facility	SPOKANE, WA
5:06 pm	Left FedEx origin facility	PASCO, WA
3:28 pm	Picked up	PASCO, WA
3:25 pm	Shipment information sent to FedEx	

Local Scan Time

Shipment Facts

Tracking number	794311116294	**Service**	FedEx Priority Overnight
Weight	57 lbs	**Delivered To**	Shipping/Receiving
Total pieces	1	**Total shipment weight**	57 lbs / 25.9 kgs
Shipper reference	GWS-236	**Packaging**	Your Packaging
Special handling section	Deliver Weekday		

CUR 301 Job 1190

CH2MHill Plateau Remediation Company SL13446	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # I13-006-010 Page 1 of 1

Collector	DAVE FLOYD	Contact/Requester	Karen Waters-Husted	Telephone No.	376-4650
SAF No.	I13-006	Sampling Origin	Hanford Site	Purchase Order/Charge Code	300071ES20
Project Title	100KR4, DECEMBER 2012	Logbook No.	HNF-N-506 53 / 3	Ice Chest No.	GWS-298
Shipped To (Lab)	TestAmerica St. Louis	Method of Shipment	Commercial Carrier	Bill of Lading/Air Bill No.	7943-5029-1484
Protocol	CERCLA	Priority: 30 Days	PRIORITY	Offsite Property No.	

POSSIBLE SAMPLE HAZARDS/REMARKS

** ** Contains Radioactive Material at concentations that are not regulated for transportation per 49 CRF but are not releasable per DOE Order 5400 5 (1990/1993)

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

100 Area Generator Knowledge Information Form applies.
The CACN for all analytical work at WSCF is 401647.
FY12 and FY13 samples cannot be in the same SDG.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2MXH5	N	W	12-19-12	0944	1x500-mL P	300.0_ANIONS_IC: List-1 (5)	48 Hours	Cool~4C
B2MXH5	N	W	↓	↓	1x500-mL G/P	310.1_ALKALINITY: Alkalinity (1)	14 Days	Cool~4C
B2MXH5	N	W	↓	↓	1x500-mL G/P	6020_METALS_ICPMS: DURA LIST (10)	6 Months	HNO3 to pH <2
B2MXH5	N	W	↓	↓	1x20-mL P	Activity Scan	6 Months	None
B2MXH9	Y	W	12-19-12	0944	1x500-mL G/P	6020_METALS_ICPMS: DURA LIST (10)	6 Months	HNO3 to pH <2

Relinquished By (Print / Sign)	Date/Time	Received By (Print / Sign)	Date/Time
DAVE FLOYD	DEC 19 2012 1030	CFulton	DEC 19 2012 1030
CFulton	12/19/12 1400	FEDEX	
Fed Ex		Steven Claxton	12-21-12 1045

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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JANUARY 21, 2013

1/21/2013

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FedEx

794350291484

Ship (P/U) date :
Wed 12/19/2012 4:10 pm
RICHLAND, WA US

Delivered
Signed for by: B.DANIELS

Actual delivery :
Fri 12/21/2012 10:39 am
EARTH CITY, MO US

Travel History

Date/Time	Activity	Location
- 12/21/2012 - Friday		
10:39 am	Delivered	EARTH CITY, MO
6:38 am	On FedEx vehicle for delivery	EARTH CITY, MO
6:32 am	At local FedEx facility	EARTH CITY, MO
- 12/20/2012 - Thursday		
10:11 pm	At destination sort facility	BERKELEY, MO
4:43 pm	Departed FedEx location	MEMPHIS, TN
5:49 am	In transit	MEMPHIS, TN
4:47 am	Arrived at FedEx location	MEMPHIS, TN
- 12/19/2012 - Wednesday		
5:18 pm	Left FedEx origin facility	PASCO, WA
4:10 pm	Picked up	PASCO, WA
12:53 pm	Shipment information sent to FedEx	

Local Scan Time

Shipment Facts

Tracking number	794350291484	**Service**	FedEx Priority Overnight
Weight	36 lbs	**Delivered To**	Shipping/Receiving
Total pieces	1	**Total shipment weight**	36 lbs / 16.3 kgs
Shipper reference	GWS-298	**Packaging**	Your Packaging
Special handling section	Deliver Weekday, Additional Handling Surcharge		

CUR 301 Job 1191

CH2MHill Plateau Remediation Company SL4346

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # **W13-011-048**

Collector	DAVE FLOYD	**Contact/Requester**	Karen Waters-Husted	**Telephone No.**	376-4650
SAF No.	W13-011	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300071ES20
Project Title	RCRA, NOVEMBER 2012	**Logbook No.**	HNF-N-506 53/3	**Ice Chest No.**	GWS-210 (49)
Shipped To (Lab)	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	7943 6144 6705
Protocol	RCRA	**Priority:**	**30 Days** **PRIORITY**	**Offsite Property No.**	N/A

POSSIBLE SAMPLE HAZARDS/REMARKS

** ** Contains Radioactive Material at concentations that are not regulated for transportation per 49 CRF but are not releasable per DOE Order 5400 5 (1990/1993)

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

FY12 and FY13 samples cannot be in the same SDG.
Site Wide Generator Knowledge Information Form applies.
The CACN for all analytical work at WSCF is 401647.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2MN26	N	W	12-19-12	1103	2x1-L aG	8081_PEST_GC: List-1 (19)	7/40 Days	Cool~4C
B2MN26	N	W	↓	↓	3x500-mL G/P	9030_SULFIDE: Sulfide (1)	7 Days	ZnAc+NaOH to pH > 9/Cool~4C
B2MN26	N	W	12-19-12	1103	1x20-mL P	Activity Scan	6 Months	None

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
DAVE FLOYD			DEC 19 2012 1500	SSU			DEC 19 2012 1500
SSU			DEC 20 2012 0700	KC Patterson CHPRC			DEC 20 2012 0700
KC Patterson CHPRC			DEC 20 2012 1400	FEDEX			
FedEx				Steven Clayton	Steven Clayton		12-21-12 0945 TASTL

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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A-6004-842 (REV 2)

JANUARY 21, 2013

1/21/2013

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FedEx

794361446705

Ship (P/U) date :
Thur 12/20/2012 4:13 pm
RICHLAND, WA US

Delivered
Signed for by: B.DANIELS

Actual delivery :
Fri 12/21/2012 10:39 am
EARTH CITY, MO US

Travel History

Date/Time	Activity	Location
- 12/21/2012 - Friday		
10:39 am	Delivered	EARTH CITY, MO
9:00 am	On FedEx vehicle for delivery	EARTH CITY, MO
8:54 am	At local FedEx facility	EARTH CITY, MO
8:35 am	At destination sort facility	BERKELEY, MO
2:34 am	Arrived at FedEx location	MEMPHIS, TN
- 12/20/2012 - Thursday		
7:47 pm	At local FedEx facility	SPOKANE, WA
5:25 pm	Left FedEx origin facility	PASCO, WA
4:13 pm	Picked up	PASCO, WA
10:25 am	Shipment information sent to FedEx	

Local Scan Time

Shipment Facts

Tracking number	794361446705	**Service**	FedEx Priority Overnight
Weight	49 lbs	**Dimensions**	16x16x17 in.
Delivered To	Shipping/Receiving	**Total pieces**	1
Total shipment weight	49 lbs / 22.2 kgs	**Shipper reference**	GWS-210
Packaging	Your Packaging	**Special handling section**	Deliver Weekday, Additional Handling Surcharge

Login Sample Receipt Checklist

Client: CH2M Hill Plateau Remediation Company

Job Number: 160-1125-1
SDG Number: SL1346

Login Number: 1125
List Number: 1
Creator: Daniels, Brian

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	
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.	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	False	Insufficient volume received for MS/MSD.
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	

Login Sample Receipt Checklist

Client: CH2M Hill Plateau Remediation Company

Job Number: 160-1125-1
SDG Number: SL1346

Login Number: 1126
List Number: 1
Creator: Daniels, Brian

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	
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.	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	

Login Sample Receipt Checklist

Client: CH2M Hill Plateau Remediation Company

Job Number: 160-1125-1
SDG Number: SL1346

Login Number: 1190
List Number: 1
Creator: Claxton, Steven

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	
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.	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	

Login Sample Receipt Checklist

Client: CH2M Hill Plateau Remediation Company

Job Number: 160-1125-1
SDG Number: SL1346

Login Number: 1191
List Number: 1
Creator: Claxton, Steven

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	
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.	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	

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
U	Analyzed for but not detected.
O	LCS, LCSD: Recovery exceeds upper or lower control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
U	Analyzed for but not detected.
B	Estimated result. Result is less than the RL, but greater than MDL
C	The analyte was detected in both the sample and the assoicated QC blank, and the sample concentration was </= 5X the blank concentration.

General Chemistry

Qualifier	Qualifier Description
U	Analyzed for but not detected.
N	MS, MSD: Spike recovery exceeds upper or lower control limits.
D	Sample results are obtained from a dilution; the surrogate or matrix spike recoveries reported are calculated from diluted samples.

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
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
MDA	Minimum detectable activity
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
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)

Method Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: S,W,I,A ,X SAFS- GROUNDWATER

TestAmerica Job ID: 160-1125-1
SDG: SL1346

Method	Method Description	Protocol	Laboratory
8041A	Phenols (GC)	SW846	TAL SL
8081B	Organochlorine Pesticides (GC)	SW846	TAL SL
6020A	Metals (ICP/MS)	SW846	TAL SL
300.0	Anions, Ion Chromatography	MCAWW	TAL SL
310.1	Alkalinity	MCAWW	TAL SL
9034	Sulfide, Acid Soluble and Insoluble (Titrimetric)	SW846	TAL SL

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

Sample Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: S,W,I,A ,X SAFS- GROUNDWATER

TestAmerica Job ID: 160-1125-1
SDG: SL1346

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
160-1125-1	B2MXB5	Water	12/14/12 12:32	12/17/12 09:30
160-1126-1	B2MXY1	Water	12/13/12 13:30	12/17/12 09:30
160-1126-2	B2MXY0	Water	12/13/12 13:30	12/17/12 09:30
160-1190-1	B2MXH5	Water	12/19/12 09:44	12/21/12 10:45
160-1190-2	B2MXH9	Water	12/19/12 09:44	12/21/12 10:45
160-1191-1	B2MN26	Water	12/19/12 11:03	12/21/12 10:45

Detection Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: S,W,I,A ,X SAFS- GROUNDWATER

TestAmerica Job ID: 160-1125-1
SDG: SL1346

Client Sample ID: B2MXB5 — Lab Sample ID: 160-1125-1

No Detections

Client Sample ID: B2MXY1 — Lab Sample ID: 160-1126-1

No Detections

Client Sample ID: B2MXY0 — Lab Sample ID: 160-1126-2

No Detections

Client Sample ID: B2MXH5 — Lab Sample ID: 160-1190-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	1110		30.0	12.9	ug/L	1		6020A	Total/NA
Arsenic	4.9	B	10.0	1.2	ug/L	1		6020A	Total/NA
Barium	36.9		2.0	0.22	ug/L	1		6020A	Total/NA
Boron	14.0	B	50.0	10.0	ug/L	1		6020A	Total/NA
Chromium	7.2	B	10.0	3.3	ug/L	1		6020A	Total/NA
Cobalt	1.2	B	2.0	0.22	ug/L	1		6020A	Total/NA
Copper	3.8		1.0	0.45	ug/L	1		6020A	Total/NA
Lead	1.2	B	3.0	0.17	ug/L	1		6020A	Total/NA
Molybdenum	4.5	B	5.0	1.0	ug/L	1		6020A	Total/NA
Selenium	1.8	B	5.0	1.6	ug/L	1		6020A	Total/NA
Silver	0.58	B C	2.0	0.050	ug/L	1		6020A	Total/NA
Tin	2.0		2.0	1.0	ug/L	1		6020A	Total/NA
Fluoride	0.29		0.10	0.010	mg/L	1		300.0	Total/NA
Alkalinity	110		5.0	0.54	mg/L	1		310.1	Total/NA
Nitrate as N - DL	2.5	D	0.20	0.040	mg/L	10		300.0	Total/NA
Chloride - DL	14.3	D	2.0	0.20	mg/L	10		300.0	Total/NA
Sulfate - DL	63.0	D	5.0	0.50	mg/L	10		300.0	Total/NA

Client Sample ID: B2MXH9 — Lab Sample ID: 160-1190-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	4.9	B	10.0	1.2	ug/L	1		6020A	Dissolved
Barium	28.2		2.0	0.22	ug/L	1		6020A	Dissolved
Boron	19.3	B	50.0	10.0	ug/L	1		6020A	Dissolved
Molybdenum	4.9	B	5.0	1.0	ug/L	1		6020A	Dissolved
Selenium	2.4	B	5.0	1.6	ug/L	1		6020A	Dissolved
Silver	0.67	B C	2.0	0.050	ug/L	1		6020A	Dissolved
Thallium	0.74	B	2.0	0.55	ug/L	1		6020A	Dissolved

Client Sample ID: B2MN26 — Lab Sample ID: 160-1191-1

No Detections

This Detection Summary does not include radiochemical test results.

Method: 8041A - Phenols (GC)

Client Sample ID: B2MXB5
Date Collected: 12/14/12 12:32
Date Received: 12/17/12 09:30

Lab Sample ID: 160-1125-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,4,6-Tetrachlorophenol	2.1	U	4.7	2.1	ug/L		12/19/12 12:45	01/02/13 13:41	1
2,4,5-Trichlorophenol	1.3	U	4.7	1.3	ug/L		12/19/12 12:45	01/02/13 13:41	1
2,4,6-Trichlorophenol	1.2	U	4.7	1.2	ug/L		12/19/12 12:45	01/02/13 13:41	1
2,4-Dichlorophenol	1.4	U	4.7	1.4	ug/L		12/19/12 12:45	01/02/13 13:41	1
2,4-Dimethylphenol	1.3	U	4.7	1.3	ug/L		12/19/12 12:45	01/02/13 13:41	1
2,4-Dinitrophenol	1.7	U	4.7	1.7	ug/L		12/19/12 12:45	01/02/13 13:41	1
2,6-Dichlorophenol	1.2	U	4.7	1.2	ug/L		12/19/12 12:45	01/02/13 13:41	1
2-Chlorophenol	1.6	U	4.7	1.6	ug/L		12/19/12 12:45	01/02/13 13:41	1
2-Methylphenol	1.4	U	4.7	1.4	ug/L		12/19/12 12:45	01/02/13 13:41	1
2-Nitrophenol	0.68	U	4.7	0.68	ug/L		12/19/12 12:45	01/02/13 13:41	1
3 & 4 Methylphenol	1.5	U	4.7	1.5	ug/L		12/19/12 12:45	01/02/13 13:41	1
4,6-Dinitro-2-methylphenol	1.6	U	4.7	1.6	ug/L		12/19/12 12:45	01/02/13 13:41	1
4-Chloro-3-methylphenol	1.3	U	4.7	1.3	ug/L		12/19/12 12:45	01/02/13 13:41	1
4-Nitrophenol	1.8	U	4.7	1.8	ug/L		12/19/12 12:45	01/02/13 13:41	1
Dinoseb	1.6	U	4.7	1.6	ug/L		12/19/12 12:45	01/02/13 13:41	1
Pentachlorophenol	1.4	U	4.7	1.4	ug/L		12/19/12 12:45	01/02/13 13:41	1
Phenol	1.7	U	4.7	1.7	ug/L		12/19/12 12:45	01/02/13 13:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*111*		*54 - 139*	*12/19/12 12:45*	*01/02/13 13:41*	*1*
2-Fluorophenol	*82*		*34 - 121*	*12/19/12 12:45*	*01/02/13 13:41*	*1*

Method: 8081B - Organochlorine Pesticides (GC)

Client Sample ID: B2MN26
Date Collected: 12/19/12 11:03
Date Received: 12/21/12 10:45

Lab Sample ID: 160-1191-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.0095	U O	0.047	0.0095	ug/L		12/26/12 12:30	12/27/12 17:17	1
alpha-BHC	0.0095	U	0.047	0.0095	ug/L		12/26/12 12:30	12/27/12 17:17	1
beta-BHC	0.012	U	0.047	0.012	ug/L		12/26/12 12:30	12/27/12 17:17	1
delta-BHC	0.0095	U	0.047	0.0095	ug/L		12/26/12 12:30	12/27/12 17:17	1
gamma-BHC (Lindane)	0.0095	U	0.047	0.0095	ug/L		12/26/12 12:30	12/27/12 17:17	1
4,4'-DDD	0.0095	U	0.047	0.0095	ug/L		12/26/12 12:30	12/27/12 17:17	1
4,4'-DDE	0.013	U O	0.047	0.013	ug/L		12/26/12 12:30	12/27/12 17:17	1
4,4'-DDT	0.022	U	0.047	0.022	ug/L		12/26/12 12:30	12/27/12 17:17	1
Dieldrin	0.0095	U O	0.047	0.0095	ug/L		12/26/12 12:30	12/27/12 17:17	1
Endosulfan I	0.018	U	0.047	0.018	ug/L		12/26/12 12:30	12/27/12 17:17	1
Endosulfan II	0.0095	U	0.047	0.0095	ug/L		12/26/12 12:30	12/27/12 17:17	1
Endosulfan sulfate	0.0095	U O	0.047	0.0095	ug/L		12/26/12 12:30	12/27/12 17:17	1
Endrin	0.017	U O	0.047	0.017	ug/L		12/26/12 12:30	12/27/12 17:17	1
Endrin aldehyde	0.0095	U O	0.047	0.0095	ug/L		12/26/12 12:30	12/27/12 17:17	1
Heptachlor	0.0095	U	0.047	0.0095	ug/L		12/26/12 12:30	12/27/12 17:17	1
Heptachlor epoxide	0.016	U	0.047	0.016	ug/L		12/26/12 12:30	12/27/12 17:17	1
Methoxychlor	0.012	U	0.47	0.012	ug/L		12/26/12 12:30	12/27/12 17:17	1
Toxaphene	0.25	U	1.9	0.25	ug/L		12/26/12 12:30	12/27/12 17:17	1
Technical Chlordane	0.095	U	0.47	0.095	ug/L		12/26/12 12:30	12/27/12 17:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*82*		*50 - 125*	*12/26/12 12:30*	*12/27/12 17:17*	*1*

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Client Sample ID: B2MN26 — **Lab Sample ID: 160-1191-1**
Date Collected: 12/19/12 11:03 — **Matrix: Water**
Date Received: 12/21/12 10:45

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	83		68 - 123	12/26/12 12:30	12/27/12 17:17	1

Method: 6020A - Metals (ICP/MS)

Client Sample ID: B2MXH5 — **Lab Sample ID: 160-1190-1**
Date Collected: 12/19/12 09:44 — **Matrix: Water**
Date Received: 12/21/12 10:45

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**1110**		30.0	12.9	ug/L		01/03/13 13:24	01/10/13 03:37	1
Antimony	1.7	U	5.0	1.7	ug/L		01/03/13 13:24	01/10/13 03:37	1
Arsenic	**4.9**	**B**	10.0	1.2	ug/L		01/03/13 13:24	01/10/13 03:37	1
Barium	**36.9**		2.0	0.22	ug/L		01/03/13 13:24	01/10/13 03:37	1
Beryllium	0.35	U	0.50	0.35	ug/L		01/03/13 13:24	01/10/13 03:37	1
Boron	**14.0**	**B**	50.0	10.0	ug/L		01/03/13 13:24	01/10/13 03:37	1
Cadmium	0.10	U	0.50	0.10	ug/L		01/03/13 13:24	01/10/13 03:37	1
Chromium	**7.2**	**B**	10.0	3.3	ug/L		01/03/13 13:24	01/15/13 17:30	1
Cobalt	**1.2**	**B**	2.0	0.22	ug/L		01/03/13 13:24	01/10/13 03:37	1
Copper	**3.8**		1.0	0.45	ug/L		01/03/13 13:24	01/10/13 03:37	1
Lead	**1.2**	**B**	3.0	0.17	ug/L		01/03/13 13:24	01/10/13 03:37	1
Molybdenum	**4.5**	**B**	5.0	1.0	ug/L		01/03/13 13:24	01/10/13 03:37	1
Selenium	**1.8**	**B**	5.0	1.6	ug/L		01/03/13 13:24	01/15/13 17:30	1
Silver	**0.58**	**B C**	2.0	0.050	ug/L		01/03/13 13:24	01/10/13 03:37	1
Thallium	0.55	U	2.0	0.55	ug/L		01/03/13 13:24	01/10/13 03:37	1
Tin	**2.0**		2.0	1.0	ug/L		01/03/13 13:24	01/10/13 03:37	1

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

Client Sample ID: B2MXH9 — **Lab Sample ID: 160-1190-2**
Date Collected: 12/19/12 09:44 — **Matrix: Water**
Date Received: 12/21/12 10:45

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	12.9	U	30.0	12.9	ug/L		01/03/13 13:24	01/10/13 04:04	1
Antimony	1.7	U	5.0	1.7	ug/L		01/03/13 13:24	01/10/13 04:04	1
Arsenic	**4.9**	**B**	10.0	1.2	ug/L		01/03/13 13:24	01/10/13 04:04	1
Barium	**28.2**		2.0	0.22	ug/L		01/03/13 13:24	01/10/13 04:04	1
Beryllium	0.35	U	0.50	0.35	ug/L		01/03/13 13:24	01/10/13 04:04	1
Boron	**19.3**	**B**	50.0	10.0	ug/L		01/03/13 13:24	01/10/13 04:04	1
Cadmium	0.10	U	0.50	0.10	ug/L		01/03/13 13:24	01/10/13 04:04	1
Chromium	3.3	U	10.0	3.3	ug/L		01/03/13 13:24	01/15/13 18:10	1
Cobalt	0.22	U	2.0	0.22	ug/L		01/03/13 13:24	01/10/13 04:04	1
Copper	0.45	U	1.0	0.45	ug/L		01/03/13 13:24	01/10/13 04:04	1
Lead	0.17	U	3.0	0.17	ug/L		01/03/13 13:24	01/10/13 04:04	1
Molybdenum	**4.9**	**B**	5.0	1.0	ug/L		01/03/13 13:24	01/10/13 04:04	1
Selenium	**2.4**	**B**	5.0	1.6	ug/L		01/03/13 13:24	01/15/13 18:10	1
Silver	**0.67**	**B C**	2.0	0.050	ug/L		01/03/13 13:24	01/10/13 04:04	1
Thallium	**0.74**	**B**	2.0	0.55	ug/L		01/03/13 13:24	01/10/13 04:04	1
Tin	1.0	U	2.0	1.0	ug/L		01/03/13 13:24	01/10/13 04:04	1

General Chemistry

Client Sample ID: B2MXY1 — **Lab Sample ID: 160-1126-1**
Date Collected: 12/13/12 13:30 — **Matrix: Water**
Date Received: 12/17/12 09:30

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	0.083	U	1.0	0.083	mg/L			12/20/12 10:00	1

Client Sample ID: B2MXY0 — **Lab Sample ID: 160-1126-2**
Date Collected: 12/13/12 13:30 — **Matrix: Water**
Date Received: 12/17/12 09:30

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	0.083	U	1.0	0.083	mg/L			12/20/12 10:00	1

Client Sample ID: B2MXH5 — **Lab Sample ID: 160-1190-1**
Date Collected: 12/19/12 09:44 — **Matrix: Water**
Date Received: 12/21/12 10:45

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	0.0030	U N	0.020	0.0030	mg/L			12/21/12 22:06	1
Fluoride	**0.29**		0.10	0.010	mg/L			12/21/12 22:06	1
Alkalinity	**110**		5.0	0.54	mg/L			01/02/13 18:00	1

Client Sample ID: B2MN26 — **Lab Sample ID: 160-1191-1**
Date Collected: 12/19/12 11:03 — **Matrix: Water**
Date Received: 12/21/12 10:45

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	0.083	U	1.0	0.083	mg/L			12/27/12 16:30	1

General Chemistry - DL

Client Sample ID: B2MXH5 — **Lab Sample ID: 160-1190-1**
Date Collected: 12/19/12 09:44 — **Matrix: Water**
Date Received: 12/21/12 10:45

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	**2.5**	**D**	0.20	0.040	mg/L			12/21/12 22:56	10
Chloride	**14.3**	**D**	2.0	0.20	mg/L			12/21/12 22:56	10
Sulfate	**63.0**	**D**	5.0	0.50	mg/L			12/21/12 22:56	10

Method: 8041A - Phenols (GC)

Lab Sample ID: MB 160-22446/1-A
Matrix: Water
Analysis Batch: 26141

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 22446

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,4,6-Tetrachlorophenol	2.2	U	5.0	2.2	ug/L		12/19/12 12:45	01/02/13 12:56	1
2,4,5-Trichlorophenol	1.4	U	5.0	1.4	ug/L		12/19/12 12:45	01/02/13 12:56	1
2,4,6-Trichlorophenol	1.2	U	5.0	1.2	ug/L		12/19/12 12:45	01/02/13 12:56	1
2,4-Dichlorophenol	1.4	U	5.0	1.4	ug/L		12/19/12 12:45	01/02/13 12:56	1
2,4-Dimethylphenol	1.3	U	5.0	1.3	ug/L		12/19/12 12:45	01/02/13 12:56	1
2,4-Dinitrophenol	1.8	U	5.0	1.8	ug/L		12/19/12 12:45	01/02/13 12:56	1
2,6-Dichlorophenol	1.3	U	5.0	1.3	ug/L		12/19/12 12:45	01/02/13 12:56	1
2-Chlorophenol	1.6	U	5.0	1.6	ug/L		12/19/12 12:45	01/02/13 12:56	1
2-Methylphenol	1.5	U	5.0	1.5	ug/L		12/19/12 12:45	01/02/13 12:56	1
2-Nitrophenol	0.72	U	5.0	0.72	ug/L		12/19/12 12:45	01/02/13 12:56	1
3 & 4 Methylphenol	1.6	U	5.0	1.6	ug/L		12/19/12 12:45	01/02/13 12:56	1
4,6-Dinitro-2-methylphenol	1.7	U	5.0	1.7	ug/L		12/19/12 12:45	01/02/13 12:56	1
4-Chloro-3-methylphenol	1.3	U	5.0	1.3	ug/L		12/19/12 12:45	01/02/13 12:56	1
4-Nitrophenol	1.9	U	5.0	1.9	ug/L		12/19/12 12:45	01/02/13 12:56	1
Dinoseb	1.7	U	5.0	1.7	ug/L		12/19/12 12:45	01/02/13 12:56	1
Pentachlorophenol	1.5	U	5.0	1.5	ug/L		12/19/12 12:45	01/02/13 12:56	1
Phenol	1.8	U	5.0	1.8	ug/L		12/19/12 12:45	01/02/13 12:56	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*108*		*54 - 139*	*12/19/12 12:45*	*01/02/13 12:56*	*1*
2-Fluorophenol	*86*		*34 - 121*	*12/19/12 12:45*	*01/02/13 12:56*	*1*

Lab Sample ID: LCS 160-22446/2-A
Matrix: Water
Analysis Batch: 26141

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 22446

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,4,6-Tetrachlorophenol	100	110		ug/L		110	48 - 140
2,4,5-Trichlorophenol	100	106		ug/L		106	49 - 140
2,4,6-Trichlorophenol	100	103		ug/L		103	51 - 140
2,4-Dichlorophenol	100	95.8		ug/L		96	43 - 131
2,4-Dimethylphenol	100	97.6		ug/L		98	38 - 130
2,4-Dinitrophenol	100	107		ug/L		107	32 - 140
2,6-Dichlorophenol	100	99.1		ug/L		99	45 - 136
2-Chlorophenol	100	94.7		ug/L		95	35 - 139
2-Methylphenol	100	96.6		ug/L		97	42 - 131
2-Nitrophenol	100	97.4		ug/L		97	44 - 134
3 & 4 Methylphenol	200	199		ug/L		100	43 - 133
4,6-Dinitro-2-methylphenol	100	104		ug/L		104	52 - 140
4-Chloro-3-methylphenol	100	103		ug/L		103	46 - 139
4-Nitrophenol	100	118		ug/L		118	48 - 140
Dinoseb	100	120		ug/L		120	49 - 140
Pentachlorophenol	100	110		ug/L		110	47 - 140
Phenol	100	89.0		ug/L		89	41 - 126

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol	*115*		*54 - 139*

Method: 8041A - Phenols (GC) (Continued)

Lab Sample ID: LCS 160-22446/2-A
Matrix: Water
Analysis Batch: 26141

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 22446

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorophenol	*89*		*34 - 121*

Lab Sample ID: 160-1125-1 MS
Matrix: Water
Analysis Batch: 26141

Client Sample ID: B2MXB5
Prep Type: Total/NA
Prep Batch: 22446

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
2,3,4,6-Tetrachlorophenol	2.1	U	94.9	107		ug/L		113	54 - 150
2,4,5-Trichlorophenol	1.3	U	94.9	102		ug/L		107	53 - 149
2,4,6-Trichlorophenol	1.2	U	94.9	104		ug/L		109	53 - 150
2,4-Dichlorophenol	1.4	U	94.9	91.5		ug/L		96	43 - 140
2,4-Dimethylphenol	1.3	U	94.9	89.1		ug/L		94	44 - 143
2,4-Dinitrophenol	1.7	U	94.9	107		ug/L		113	25 - 150
2,6-Dichlorophenol	1.2	U	94.9	93.8		ug/L		99	46 - 145
2-Chlorophenol	1.6	U	94.9	88.7		ug/L		93	47 - 131
2-Methylphenol	1.4	U	94.9	91.1		ug/L		96	44 - 140
2-Nitrophenol	0.68	U	94.9	91.9		ug/L		97	44 - 145
3 & 4 Methylphenol	1.5	U	189	189		ug/L		100	44 - 142
4,6-Dinitro-2-methylphenol	1.6	U	94.9	101		ug/L		106	54 - 147
4-Chloro-3-methylphenol	1.3	U	94.9	99.3		ug/L		105	50 - 145
4-Nitrophenol	1.8	U	94.9	118		ug/L		125	54 - 150
Dinoseb	1.6	U	94.9	118		ug/L		125	56 - 150
Pentachlorophenol	1.4	U	94.9	110		ug/L		116	54 - 160
Phenol	1.7	U	94.9	87.0		ug/L		92	45 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2,4,6-Tribromophenol	*116*		*54 - 139*
2-Fluorophenol	*89*		*34 - 121*

Lab Sample ID: 160-1125-1 MSD
Matrix: Water
Analysis Batch: 26141

Client Sample ID: B2MXB5
Prep Type: Total/NA
Prep Batch: 22446

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,3,4,6-Tetrachlorophenol	2.1	U	95.2	102		ug/L		107	54 - 150	5	20
2,4,5-Trichlorophenol	1.3	U	95.2	97.1		ug/L		102	53 - 149	5	20
2,4,6-Trichlorophenol	1.2	U	95.2	96.9		ug/L		102	53 - 150	7	20
2,4-Dichlorophenol	1.4	U	95.2	86.9		ug/L		91	43 - 140	5	20
2,4-Dimethylphenol	1.3	U	95.2	87.6		ug/L		92	44 - 143	2	20
2,4-Dinitrophenol	1.7	U	95.2	101		ug/L		106	25 - 150	6	20
2,6-Dichlorophenol	1.2	U	95.2	90.0		ug/L		95	46 - 145	4	20
2-Chlorophenol	1.6	U	95.2	85.6		ug/L		90	47 - 131	4	20
2-Methylphenol	1.4	U	95.2	87.5		ug/L		92	44 - 140	4	20
2-Nitrophenol	0.68	U	95.2	88.1		ug/L		93	44 - 145	4	20
3 & 4 Methylphenol	1.5	U	190	181		ug/L		95	44 - 142	4	20
4,6-Dinitro-2-methylphenol	1.6	U	95.2	94.9		ug/L		100	54 - 147	6	20
4-Chloro-3-methylphenol	1.3	U	95.2	94.5		ug/L		99	50 - 145	5	20
4-Nitrophenol	1.8	U	95.2	110		ug/L		115	54 - 150	8	20

Method: 8041A - Phenols (GC) (Continued)

Lab Sample ID: 160-1125-1 MSD — **Client Sample ID: B2MXB5**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 26141 — **Prep Batch: 22446**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dinoseb	1.6	U	95.2	113		ug/L		118	56 - 150	5	20
Pentachlorophenol	1.4	U	95.2	112		ug/L		118	54 - 160	2	20
Phenol	1.7	U	95.2	82.3		ug/L		86	45 - 130	6	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2,4,6-Tribromophenol	*110*		*54 - 139*
2-Fluorophenol	*86*		*34 - 121*

Method: 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 160-23371/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 24289 — **Prep Batch: 23371**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.010	U	0.050	0.010	ug/L		12/26/12 12:30	12/27/12 16:36	1
alpha-BHC	0.010	U	0.050	0.010	ug/L		12/26/12 12:30	12/27/12 16:36	1
beta-BHC	0.013	U	0.050	0.013	ug/L		12/26/12 12:30	12/27/12 16:36	1
delta-BHC	0.010	U	0.050	0.010	ug/L		12/26/12 12:30	12/27/12 16:36	1
gamma-BHC (Lindane)	0.010	U	0.050	0.010	ug/L		12/26/12 12:30	12/27/12 16:36	1
4,4'-DDD	0.010	U	0.050	0.010	ug/L		12/26/12 12:30	12/27/12 16:36	1
4,4'-DDE	0.014	U	0.050	0.014	ug/L		12/26/12 12:30	12/27/12 16:36	1
4,4'-DDT	0.023	U	0.050	0.023	ug/L		12/26/12 12:30	12/27/12 16:36	1
Dieldrin	0.010	U	0.050	0.010	ug/L		12/26/12 12:30	12/27/12 16:36	1
Endosulfan I	0.019	U	0.050	0.019	ug/L		12/26/12 12:30	12/27/12 16:36	1
Endosulfan II	0.010	U	0.050	0.010	ug/L		12/26/12 12:30	12/27/12 16:36	1
Endosulfan sulfate	0.010	U	0.050	0.010	ug/L		12/26/12 12:30	12/27/12 16:36	1
Endrin	0.018	U	0.050	0.018	ug/L		12/26/12 12:30	12/27/12 16:36	1
Endrin aldehyde	0.010	U	0.050	0.010	ug/L		12/26/12 12:30	12/27/12 16:36	1
Heptachlor	0.010	U	0.050	0.010	ug/L		12/26/12 12:30	12/27/12 16:36	1
Heptachlor epoxide	0.017	U	0.050	0.017	ug/L		12/26/12 12:30	12/27/12 16:36	1
Methoxychlor	0.013	U	0.50	0.013	ug/L		12/26/12 12:30	12/27/12 16:36	1
Toxaphene	0.27	U	2.0	0.27	ug/L		12/26/12 12:30	12/27/12 16:36	1
Technical Chlordane	0.10	U	0.50	0.10	ug/L		12/26/12 12:30	12/27/12 16:36	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*77*		*50 - 125*	*12/26/12 12:30*	*12/27/12 16:36*	*1*
Tetrachloro-m-xylene	*71*		*68 - 123*	*12/26/12 12:30*	*12/27/12 16:36*	*1*

Lab Sample ID: LCS 160-23371/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 24289 — **Prep Batch: 23371**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aldrin	0.500	0.335	O	ug/L		67	76 - 118
alpha-BHC	0.500	0.409		ug/L		82	82 - 124
beta-BHC	0.500	0.389		ug/L		78	43 - 140

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 160-23371/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 24289 — **Prep Batch: 23371**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
delta-BHC	0.500	0.415		ug/L		83	80 - 140
gamma-BHC (Lindane)	0.500	0.414		ug/L		83	80 - 120
4,4'-DDD	0.500	0.413		ug/L		83	83 - 128
4,4'-DDE	0.500	0.372	O	ug/L		74	78 - 121
4,4'-DDT	0.500	0.408		ug/L		82	79 - 136
Dieldrin	0.500	0.391	O	ug/L		78	81 - 121
Endosulfan I	0.500	0.334		ug/L		67	47 - 131
Endosulfan II	0.500	0.351		ug/L		70	57 - 127
Endosulfan sulfate	0.500	0.392	O	ug/L		78	82 - 120
Endrin	0.500	0.406	O	ug/L		81	85 - 128
Endrin aldehyde	0.500	0.376	O	ug/L		75	78 - 124
Heptachlor	0.500	0.469		ug/L		94	76 - 132
Heptachlor epoxide	0.500	0.393		ug/L		79	79 - 121
Methoxychlor	0.500	0.416	J	ug/L		83	80 - 136

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*75*		*50 - 125*
Tetrachloro-m-xylene	*72*		*68 - 123*

Lab Sample ID: 160-1191-1 MS — **Client Sample ID: B2MN26**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 24289 — **Prep Batch: 23371**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aldrin	0.0095	U O	1.00	0.676		ug/L		67	57 - 150
alpha-BHC	0.0095	U	1.00	0.795		ug/L		79	61 - 150
beta-BHC	0.012	U	1.00	0.749		ug/L		75	38 - 150
delta-BHC	0.0095	U	1.00	0.790		ug/L		79	54 - 150
gamma-BHC (Lindane)	0.0095	U	1.00	0.799		ug/L		80	67 - 150
4,4'-DDD	0.0095	U	1.00	0.764		ug/L		76	64 - 150
4,4'-DDE	0.013	U O	1.00	0.705		ug/L		70	67 - 139
4,4'-DDT	0.022	U	1.00	0.748		ug/L		75	66 - 150
Dieldrin	0.0095	U O	1.00	0.748		ug/L		75	66 - 149
Endosulfan I	0.018	U	1.00	0.642		ug/L		64	64 - 143
Endosulfan II	0.0095	U	1.00	0.659		ug/L		66	64 - 146
Endosulfan sulfate	0.0095	U O	1.00	0.726		ug/L		72	64 - 147
Endrin	0.017	U O	1.00	0.769		ug/L		77	70 - 150
Endrin aldehyde	0.0095	U O	1.00	0.695		ug/L		69	47 - 150
Heptachlor	0.0095	U	1.00	1.35		ug/L		134	52 - 150
Heptachlor epoxide	0.016	U	1.00	0.831		ug/L		83	54 - 150
Methoxychlor	0.012	U	1.00	0.754	J	ug/L		75	58 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*66*		*50 - 125*
Tetrachloro-m-xylene	*73*		*68 - 123*

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 160-1191-1 MSD — **Client Sample ID: B2MN26**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 24289 — **Prep Batch: 23371**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aldrin	0.0095	U O	0.989	0.673		ug/L		68	57 - 150	0	20
alpha-BHC	0.0095	U	0.989	0.762		ug/L		77	61 - 150	4	20
beta-BHC	0.012	U	0.989	0.743		ug/L		75	38 - 150	1	20
delta-BHC	0.0095	U	0.989	0.781		ug/L		79	54 - 150	1	20
gamma-BHC (Lindane)	0.0095	U	0.989	0.787		ug/L		80	67 - 150	2	20
4,4'-DDD	0.0095	U	0.989	0.774		ug/L		78	64 - 150	1	20
4,4'-DDE	0.013	U O	0.989	0.711		ug/L		72	67 - 139	1	20
4,4'-DDT	0.022	U	0.989	0.757		ug/L		77	66 - 150	1	20
Dieldrin	0.0095	U O	0.989	0.748		ug/L		76	66 - 149	0	20
Endosulfan I	0.018	U	0.989	0.636		ug/L		64	64 - 143	1	20
Endosulfan II	0.0095	U	0.989	0.660		ug/L		67	64 - 146	0	20
Endosulfan sulfate	0.0095	U O	0.989	0.729		ug/L		74	64 - 147	0	20
Endrin	0.017	U O	0.989	0.771		ug/L		78	70 - 150	0	20
Endrin aldehyde	0.0095	U O	0.989	0.705		ug/L		71	47 - 150	1	20
Heptachlor	0.0095	U	0.989	0.857		ug/L		87	52 - 150	44	20
Heptachlor epoxide	0.016	U	0.989	0.833		ug/L		84	54 - 150	0	20
Methoxychlor	0.012	U	0.989	0.762	J	ug/L		77	58 - 150	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*70*		*50 - 125*
Tetrachloro-m-xylene	*68*		*68 - 123*

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 160-24695/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 26126 — **Prep Batch: 24695**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	12.9	U	30.0	12.9	ug/L		01/03/13 13:24	01/10/13 03:24	1
Antimony	1.7	U	5.0	1.7	ug/L		01/03/13 13:24	01/10/13 03:24	1
Arsenic	1.2	U	10.0	1.2	ug/L		01/03/13 13:24	01/10/13 03:24	1
Barium	0.22	U	2.0	0.22	ug/L		01/03/13 13:24	01/10/13 03:24	1
Beryllium	0.35	U	0.50	0.35	ug/L		01/03/13 13:24	01/10/13 03:24	1
Boron	10.0	U	50.0	10.0	ug/L		01/03/13 13:24	01/10/13 03:24	1
Cadmium	0.10	U	0.50	0.10	ug/L		01/03/13 13:24	01/10/13 03:24	1
Cobalt	0.22	U	2.0	0.22	ug/L		01/03/13 13:24	01/10/13 03:24	1
Copper	0.45	U	1.0	0.45	ug/L		01/03/13 13:24	01/10/13 03:24	1
Lead	0.17	U	3.0	0.17	ug/L		01/03/13 13:24	01/10/13 03:24	1
Molybdenum	1.0	U	5.0	1.0	ug/L		01/03/13 13:24	01/10/13 03:24	1
Silver	0.218	B	2.0	0.050	ug/L		01/03/13 13:24	01/10/13 03:24	1
Thallium	0.55	U	2.0	0.55	ug/L		01/03/13 13:24	01/10/13 03:24	1
Tin	1.0	U	2.0	1.0	ug/L		01/03/13 13:24	01/10/13 03:24	1

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

Lab Sample ID: MB 160-24695/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 27369 — **Prep Batch: 24695**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	3.3	U	10.0	3.3	ug/L		01/03/13 13:24	01/15/13 17:16	1
Selenium	1.6	U	5.0	1.6	ug/L		01/03/13 13:24	01/15/13 17:16	1

Lab Sample ID: LCS 160-24695/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 26126 — **Prep Batch: 24695**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	10000	8372		ug/L		84	80 - 120
Antimony	500	451.1		ug/L		90	80 - 120
Arsenic	1000	917.5		ug/L		92	80 - 120
Barium	1000	893.7		ug/L		89	80 - 120
Beryllium	1000	884.2		ug/L		88	80 - 120
Boron	1000	951.7		ug/L		95	80 - 120
Cadmium	1000	876.1		ug/L		88	80 - 120
Cobalt	1000	881.6		ug/L		88	80 - 120
Copper	1000	850.7		ug/L		85	80 - 120
Lead	1000	868.9		ug/L		87	80 - 120
Molybdenum	1000	944.4		ug/L		94	80 - 120
Silver	100	89.87		ug/L		90	80 - 120
Thallium	200	174.5		ug/L		87	80 - 120
Tin	1000	863.4		ug/L		86	80 - 120

Lab Sample ID: LCS 160-24695/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 27369 — **Prep Batch: 24695**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium	1000	932.9		ug/L		93	80 - 120
Selenium	1000	927.4		ug/L		93	80 - 120

Lab Sample ID: 160-1190-1 MS — **Client Sample ID: B2MXH5**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 26126 — **Prep Batch: 24695**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	1110		10000	10000		ug/L		89	80 - 120
Antimony	1.7	U	500	457.9		ug/L		92	80 - 120
Arsenic	4.9	B	1000	938.9		ug/L		93	80 - 120
Barium	36.9		1000	947.6		ug/L		91	80 - 120
Beryllium	0.35	U	1000	883.3		ug/L		88	80 - 120
Boron	14.0	B	1000	965.4		ug/L		95	80 - 120
Cadmium	0.10	U	1000	883.7		ug/L		88	80 - 120
Cobalt	1.2	B	1000	880.2		ug/L		88	80 - 120
Copper	3.8		1000	833.5		ug/L		83	80 - 120
Lead	1.2	B	1000	875.6		ug/L		87	80 - 120
Molybdenum	4.5	B	1000	943.5		ug/L		94	80 - 120
Silver	0.58	B C	100	90.85		ug/L		90	80 - 120
Thallium	0.55	U	200	178.5		ug/L		89	80 - 120

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

Lab Sample ID: 160-1190-1 MS — **Client Sample ID: B2MXH5**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 26126 — **Prep Batch: 24695**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Tin	2.0		1000	871.2		ug/L		87	80 - 120

Lab Sample ID: 160-1190-1 MS — **Client Sample ID: B2MXH5**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 27369 — **Prep Batch: 24695**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium	7.2	B	1000	936.2		ug/L		93	80 - 120
Selenium	1.8	B	1000	918.3		ug/L		92	80 - 120

Lab Sample ID: 160-1190-1 MSD — **Client Sample ID: B2MXH5**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 26126 — **Prep Batch: 24695**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	1110		10000	11220		ug/L		101	80 - 120	11	20
Antimony	1.7	U	500	473.0		ug/L		95	80 - 120	3	20
Arsenic	4.9	B	1000	967.6		ug/L		96	80 - 120	3	20
Barium	36.9		1000	996.7		ug/L		96	80 - 120	5	20
Beryllium	0.35	U	1000	900.3		ug/L		90	80 - 120	2	20
Boron	14.0	B	1000	992.5		ug/L		98	80 - 120	3	20
Cadmium	0.10	U	1000	926.0		ug/L		93	80 - 120	5	20
Cobalt	1.2	B	1000	922.8		ug/L		92	80 - 120	5	20
Copper	3.8		1000	874.8		ug/L		87	80 - 120	5	20
Lead	1.2	B	1000	944.7		ug/L		94	80 - 120	8	20
Molybdenum	4.5	B	1000	985.2		ug/L		98	80 - 120	4	20
Silver	0.58	B C	100	94.81		ug/L		94	80 - 120	4	20
Thallium	0.55	U	200	192.0		ug/L		96	80 - 120	7	20
Tin	2.0		1000	911.7		ug/L		91	80 - 120	5	20

Lab Sample ID: 160-1190-1 MSD — **Client Sample ID: B2MXH5**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 27369 — **Prep Batch: 24695**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium	7.2	B	1000	939.1		ug/L		93	80 - 120	0	20
Selenium	1.8	B	1000	927.0		ug/L		93	80 - 120	1	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 160-23513/9 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 23513

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	0.0040	U	0.020	0.0040	mg/L			12/21/12 20:27	1
Nitrite as N	0.0030	U	0.020	0.0030	mg/L			12/21/12 20:27	1
Fluoride	0.010	U	0.10	0.010	mg/L			12/21/12 20:27	1
Chloride	0.020	U	0.20	0.020	mg/L			12/21/12 20:27	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 160-23513/9 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 23513

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	0.050	U	0.50	0.050	mg/L			12/21/12 20:27	1

Lab Sample ID: LCS 160-23513/10 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 23513

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	0.400	0.386		mg/L		97	90 - 110
Nitrite as N	0.160	0.167		mg/L		104	90 - 110
Fluoride	1.00	0.977		mg/L		98	90 - 110
Chloride	2.00	1.94		mg/L		97	90 - 110
Sulfate	8.00	8.09		mg/L		101	90 - 110

Lab Sample ID: 160-1190-1 MS — **Client Sample ID: B2MXH5**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 23513

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrite as N	0.0030	U N	0.100	0.0875	N	mg/L		87	90 - 110
Fluoride	0.29		2.00	2.35		mg/L		103	90 - 110

Lab Sample ID: 160-1190-1 DU — **Client Sample ID: B2MXH5**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 23513

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Nitrite as N	0.0030	U N	0.0030	U	mg/L		NC	20
Fluoride	0.29		0.324		mg/L		10	20

Method: 300.0 - Anions, Ion Chromatography - DL

Lab Sample ID: 160-1190-1 MS — **Client Sample ID: B2MXH5**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 23513

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N - DL	2.5	D	4.00	6.27		mg/L		93	90 - 110
Chloride - DL	14.3	D	20.0	35.15		mg/L		104	90 - 110
Sulfate - DL	63.0	D	40.0	101.5		mg/L		96	90 - 110

Lab Sample ID: 160-1190-1 DU — **Client Sample ID: B2MXH5**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 23513

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Nitrate as N - DL	2.5	D	2.23		mg/L		13	20
Chloride - DL	14.3	D	14.79		mg/L		4	20
Sulfate - DL	63.0	D	60.39		mg/L		4	20

Method: 310.1 - Alkalinity

Lab Sample ID: MB 160-24459/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 24459

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	0.14	U	1.3	0.14	mg/L			01/02/13 18:00	1

Lab Sample ID: LCS 160-24459/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 24459

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	400	368.0		mg/L		92	90 - 110

Lab Sample ID: LLCS 160-24459/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 24459

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	200	189.0		mg/L		95	90 - 110

Lab Sample ID: 160-1190-1 MS — **Client Sample ID: B2MXH5**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 24459

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	110		20.0	128.0		mg/L		90	80 - 120

Lab Sample ID: 160-1190-1 DU — **Client Sample ID: B2MXH5**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 24459

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity	110		111.0		mg/L		0.9	20

Method: 9034 - Sulfide, Acid Soluble and Insoluble (Titrimetric)

Lab Sample ID: MB 160-22743/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 22743

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	0.083	U	1.0	0.083	mg/L			12/20/12 10:00	1

Lab Sample ID: LCS 160-22743/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 22743

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide	9.94	10.00		mg/L		101	70 - 130

Method: 9034 - Sulfide, Acid Soluble and Insoluble (Titrimetric) (Continued)

Lab Sample ID: 160-1126-1 MS — **Client Sample ID: B2MXY1**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 22743

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfide	0.083	U	9.94	9.60		mg/L		97	70 - 130		

Lab Sample ID: 160-1126-1 DU — **Client Sample ID: B2MXY1**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 22743

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Sulfide	0.083	U		0.083	U	mg/L				NC	20

Lab Sample ID: MB 160-23677/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 23677

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	0.083	U	1.0	0.083	mg/L			12/27/12 16:30	1

Lab Sample ID: LCS 160-23677/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 23677

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfide			9.94	9.07		mg/L		91	70 - 130		

Lab Sample ID: 160-1191-1 MS — **Client Sample ID: B2MN26**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 23677

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfide	0.083	U	9.94	9.27		mg/L		93	70 - 130		

Lab Sample ID: 160-1191-1 DU — **Client Sample ID: B2MN26**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 23677

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Sulfide	0.083	U		0.083	U	mg/L				NC	20

QC Association Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: S,W,I,A ,X SAFS- GROUNDWATER

TestAmerica Job ID: 160-1125-1
SDG: SL1346

GC Semi VOA

Prep Batch: 22446

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-1125-1	B2MXB5	Total/NA	Water	3520C	
160-1125-1 MS	B2MXB5	Total/NA	Water	3520C	
160-1125-1 MSD	B2MXB5	Total/NA	Water	3520C	
LCS 160-22446/2-A	Lab Control Sample	Total/NA	Water	3520C	
MB 160-22446/1-A	Method Blank	Total/NA	Water	3520C	

Prep Batch: 23371

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-1191-1	B2MN26	Total/NA	Water	3510C	
160-1191-1 MS	B2MN26	Total/NA	Water	3510C	
160-1191-1 MSD	B2MN26	Total/NA	Water	3510C	
LCS 160-23371/2-A	Lab Control Sample	Total/NA	Water	3510C	
MB 160-23371/1-A	Method Blank	Total/NA	Water	3510C	

Analysis Batch: 24289

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-1191-1	B2MN26	Total/NA	Water	8081B	23371
160-1191-1 MS	B2MN26	Total/NA	Water	8081B	23371
160-1191-1 MSD	B2MN26	Total/NA	Water	8081B	23371
LCS 160-23371/2-A	Lab Control Sample	Total/NA	Water	8081B	23371
MB 160-23371/1-A	Method Blank	Total/NA	Water	8081B	23371

Analysis Batch: 26141

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-1125-1	B2MXB5	Total/NA	Water	8041A	22446
160-1125-1 MS	B2MXB5	Total/NA	Water	8041A	22446
160-1125-1 MSD	B2MXB5	Total/NA	Water	8041A	22446
LCS 160-22446/2-A	Lab Control Sample	Total/NA	Water	8041A	22446
MB 160-22446/1-A	Method Blank	Total/NA	Water	8041A	22446

Metals

Prep Batch: 24695

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-1190-1	B2MXH5	Total/NA	Water	3010A	
160-1190-1 MS	B2MXH5	Total/NA	Water	3010A	
160-1190-1 MSD	B2MXH5	Total/NA	Water	3010A	
160-1190-2	B2MXH9	Dissolved	Water	3010A	
LCS 160-24695/2-A	Lab Control Sample	Total/NA	Water	3010A	
MB 160-24695/1-A	Method Blank	Total/NA	Water	3010A	

Analysis Batch: 26126

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-1190-1	B2MXH5	Total/NA	Water	6020A	24695
160-1190-1 MS	B2MXH5	Total/NA	Water	6020A	24695
160-1190-1 MSD	B2MXH5	Total/NA	Water	6020A	24695
160-1190-2	B2MXH9	Dissolved	Water	6020A	24695
LCS 160-24695/2-A	Lab Control Sample	Total/NA	Water	6020A	24695
MB 160-24695/1-A	Method Blank	Total/NA	Water	6020A	24695

Metals (Continued)

Analysis Batch: 27369

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-1190-1	B2MXH5	Total/NA	Water	6020A	24695
160-1190-1 MS	B2MXH5	Total/NA	Water	6020A	24695
160-1190-1 MSD	B2MXH5	Total/NA	Water	6020A	24695
160-1190-2	B2MXH9	Dissolved	Water	6020A	24695
LCS 160-24695/2-A	Lab Control Sample	Total/NA	Water	6020A	24695
MB 160-24695/1-A	Method Blank	Total/NA	Water	6020A	24695

General Chemistry

Analysis Batch: 22743

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-1126-1	B2MXY1	Total/NA	Water	9034	
160-1126-1 DU	B2MXY1	Total/NA	Water	9034	
160-1126-1 MS	B2MXY1	Total/NA	Water	9034	
160-1126-2	B2MXY0	Total/NA	Water	9034	
LCS 160-22743/2	Lab Control Sample	Total/NA	Water	9034	
MB 160-22743/1	Method Blank	Total/NA	Water	9034	

Analysis Batch: 23513

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-1190-1	B2MXH5	Total/NA	Water	300.0	
160-1190-1 - DL	B2MXH5	Total/NA	Water	300.0	
160-1190-1 DU - DL	B2MXH5	Total/NA	Water	300.0	
160-1190-1 DU	B2MXH5	Total/NA	Water	300.0	
160-1190-1 MS - DL	B2MXH5	Total/NA	Water	300.0	
160-1190-1 MS	B2MXH5	Total/NA	Water	300.0	
LCS 160-23513/10	Lab Control Sample	Total/NA	Water	300.0	
MB 160-23513/9	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 23677

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-1191-1	B2MN26	Total/NA	Water	9034	
160-1191-1 DU	B2MN26	Total/NA	Water	9034	
160-1191-1 MS	B2MN26	Total/NA	Water	9034	
LCS 160-23677/2	Lab Control Sample	Total/NA	Water	9034	
MB 160-23677/1	Method Blank	Total/NA	Water	9034	

Analysis Batch: 24459

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-1190-1	B2MXH5	Total/NA	Water	310.1	
160-1190-1 DU	B2MXH5	Total/NA	Water	310.1	
160-1190-1 MS	B2MXH5	Total/NA	Water	310.1	
LCS 160-24459/3	Lab Control Sample	Total/NA	Water	310.1	
LLCS 160-24459/2	Lab Control Sample	Total/NA	Water	310.1	
MB 160-24459/1	Method Blank	Total/NA	Water	310.1	

Surrogate Summary

Client: CH2M Hill Plateau Remediation Company
Project/Site: S,W,I,A ,X SAFS- GROUNDWATER

TestAmerica Job ID: 160-1125-1
SDG: SL1346

Method: 8041A - Phenols (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		TBP	2FP
Lab Sample ID	Client Sample ID	(54-139)	(34-121)
160-1125-1	B2MXB5	111	82
160-1125-1 MS	B2MXB5	116	89
160-1125-1 MSD	B2MXB5	110	86
LCS 160-22446/2-A	Lab Control Sample	115	89
MB 160-22446/1-A	Method Blank	108	86

Surrogate Legend

TBP = 2,4,6-Tribromophenol

2FP = 2-Fluorophenol

Method: 8081B - Organochlorine Pesticides (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)			
		DCB1	DCB2	TCX1	TCX2
Lab Sample ID	Client Sample ID	(50-125)	(50-125)	(68-123)	(68-123)
160-1191-1	B2MN26	82	82	84	83
160-1191-1 MS	B2MN26	66	66	74	73
160-1191-1 MSD	B2MN26	70	70	70	68
LCS 160-23371/2-A	Lab Control Sample	76	75	74	72
MB 160-23371/1-A	Method Blank	77	79	72	71

Surrogate Legend

DCB = DCB Decachlorobiphenyl (Surr)

TCX = Tetrachloro-m-xylene