eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive
RIDC Park
Pittsburgh, PA 15238
Tel: (412)963-7058

Laboratory Job ID: 180-95857-1
Client Project/Site: WBF_BS_20190917_1B

For:
Environmental Standards Inc.
1140 Valley Forge Road
PO BOX 810
Valley Forge, Pennsylvania 19482-0810

Attn: Amanda Cover

Authorized for release by:
10/25/2019 2:46:13 PM

Jennifer Rumble, Project Manager I
(412)963-7058
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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.

PA Lab ID: 02-00416

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Definitions/Glossary 4
Certification Summary 5
Sample Summary 7
Method Summary 8
Lab Chronicle 9
Client Sample Results 13
QC Sample Results 27
QC Association Summary 29
Chain of Custody 30
Receipt Checklists 41

Job ID: 180-95857-1

Laboratory: Eurofins TestAmerica, Pittsburgh

Narrative

Job Narrative
180-95857-1

Receipt
The samples were received on 9/18/2019 9:00 AM; the samples arrived in good condition, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 1.3º C, 1.4º C and 2.9º C.

RAD
Method 901.1: Gamma Prep Batch 160-444057
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Many isotopes requested for analysis do not have any gamma emissions, or the gamma emissions they do have are very poor. Often, such analytes are reported by gamma spectrometry assuming secular equilibrium with a longer-lived parent. The client should ensure that such inference is acceptable for their sample based upon process knowledge. The following assumptions were made for this report:
Inferred from Reported to Analyte
Ac-228 Ra-228
Bi-214 Ra-226
WBF-BS-BG11-1.5/3.5-20190917 ~ WBF-BG-11 (180-95857-1), WBF-BS-BG11-6.5/8.5-20190917 ~ WBF-BG-11 (180-95857-2), WBF-BS-BG11-11.5/13.5-20190917 ~ WBF-BG-11 (180-95857-3), WBF-BS-BG11-11.5/13.5-20190917 ~ WBF-BG-11 (180-95857-3[DU]), WBF-BS-BG11-16.5/18.5-20190917 ~ WBF-BG-11 (180-95857-4), WBF-BS-BG11-0.0/0.5-20190917 ~ WBF-BG-11 (180-95857-5), WBF-BS-BG12-1.5/3.5-20190917 ~ WBF-BG-12 (180-95857-8), WBF-BS-BG12-6.5/8.5-20190917 ~ WBF-BG-12 (180-95857-9), WBF-BS-BG12-11.5/13.5-20190917 ~ WBF-BG-12 (180-95857-10), WBF-BS-BG12-16.5/18.5-20190917 ~ WBF-BG-12 (180-95857-11), WBF-BS-BG12-21.5/23.5-20190917 ~ WBF-BG-12 (180-95857-12), WBF-BS-BG12-0.0/0.5-20190917 ~ WBF-BG-12 (180-95857-13), WBF-BS-DUP03-20190917 ~ NA (180-95857-14), (LCS 160-444057/2-A) and (MB 160-444057/1-A)

Method 901.1: Gamma Prep Batch 160-443730
Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

Many isotopes requested for analysis do not have any gamma emissions, or the gamma emissions they do have are very poor. Often, such analytes are reported by gamma spectrometry assuming secular equilibrium with a longer-lived parent. The client should ensure that such inference is acceptable for their sample based upon process knowledge. The following assumptions were made for this report:
Inferred from Reported to Analyte
Ac-228 Ra-228
Bi-214 Ra-226
WBF-BS-FB09-20190917 ~ WBF-BG-11 (180-95857-6), WBF-BS-EB03-20190917 ~ WBF-BG-11 (180-95857-7), (LCS 160-443730/2-A), (MB 160-443730/1-A) and (180-95857-B-6-B DU)

Method Fill_Geo-21: Gamma Prep Batch 160-444057: Samples WBF-BS-BG11-6.5/8.5-20190917 ~ WBF-BG-11 (180-95857-2), WBF-BS-BG11-0.0/0.5-20190917 ~ WBF-BG-11 (180-95857-5), WBF-BS-BG12-6.5/8.5-20190917 ~ WBF-BG-12 (180-95857-9) and WBF-BS-BG12-0.0/0.5-20190917 ~ WBF-BG-12 (180-95857-13) are powdery soil which exhibits low density.

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

Definitions/Glossary

Client: Environmental Standards Inc.
Project/Site: WBF_BS_20190917_1B

Job ID: 180-95857-1

Qualifiers

Rad

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

Glossary

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

Accreditation/Certification Summary

Client: Environmental Standards Inc.
Project/Site: WBF_BS_20190917_1B

Job ID: 180-95857-1

Laboratory: Eurofins TestAmerica, Pittsburgh

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	19-033-0	06-27-20
California	State	2891	04-30-20
Connecticut	State	PH-0688	09-30-20
Florida	NELAP	E871008	06-30-20
Georgia	State	PA 02-00416	04-30-20
Illinois	NELAP	004375	06-30-20
Kansas	NELAP	E-10350	03-31-20
Kentucky (UST)	State	162013	04-30-20
Kentucky (WW)	State	KY98043	12-31-19
Louisiana	NELAP	04041	06-30-20
Minnesota	NELAP	042-999-482	12-31-19
Nevada	State	PA00164	07-31-20
New Hampshire	NELAP	2030	04-04-20
New Hampshire	NELAP	2030	04-04-20
New Jersey	NELAP	PA005	06-30-20
New York	NELAP	11182	04-01-20
North Carolina (WW/SW)	State	434	12-31-19
North Dakota	State	R-227	04-30-20
Oregon	NELAP	PA-2151	02-06-20
Pennsylvania	NELAP	02-00416	04-30-20
Rhode Island	State	LAO00362	12-30-19
South Carolina	State	89014	04-30-20
Texas	NELAP	T104704528	03-31-20
US Fish & Wildlife	US Federal Programs	058448	07-31-20
USDA	Federal	P-Soil-01	06-26-22
USDA	US Federal Programs	P330-16-00211	06-26-22
Utah	NELAP	PA001462019-8	05-31-20
Virginia	NELAP	10043	09-15-20
West Virginia DEP	State	142	01-31-20
Wisconsin	State	998027800	08-31-20

Accreditation/Certification Summary

Client: Environmental Standards Inc.
Project/Site: WBF_BS_20190917_1B

Job ID: 180-95857-1

Laboratory: Eurofins TestAmerica, St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-19
California	Los Angeles County Sanitation Districts	10259	06-30-20
California	State	2886	06-30-20
Connecticut	State	PH-0241	03-31-21
Florida	NELAP	E87689	06-30-20
HI - RadChem Recognition	State	n/a	06-30-20
Illinois	NELAP	004553	11-30-19
Iowa	State	373	09-17-20
Iowa	State Program	373	12-01-20
Kansas	NELAP	E-10236	10-31-19 *
Kentucky (DW)	State	KY90125	12-31-19
Louisiana	NELAP	04080	06-30-20
Louisiana (DW)	State	LA011	12-31-19
Maryland	State	310	09-30-20
MI - RadChem Recognition	State	9005	06-30-20
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-20
New Jersey	NELAP	MO002	06-30-20
New York	NELAP	11616	04-01-20
North Dakota	State	R-207	06-30-20
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-20
Pennsylvania	NELAP	68-00540	02-28-20
South Carolina	State	85002001	06-30-20
Texas	NELAP	T104704193-19-13	07-31-20
US Fish & Wildlife	US Federal Programs	058448	07-31-20
USDA	US Federal Programs	P330-17-00028	02-02-20
Utah	NELAP	MO000542019-11	07-31-20
Virginia	NELAP	10310	06-14-20
Washington	State	C592	08-30-20
Washington	State Program	C592	08-30-19 *
West Virginia DEP	State	381	10-31-19
West Virginia DEP	State Program	381	10-31-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Sample Summary

Client: Environmental Standards Inc.
Project/Site: WBF_BS_20190917_1B

Job ID: 180-95857-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-95857-1	WBF-BS-BG11-1.5/3.5-20190917 ~ WBF-BG-11	Solid	09/17/19 08:32	09/18/19 09:00	
180-95857-2	WBF-BS-BG11-6.5/8.5-20190917 ~ WBF-BG-11	Solid	09/17/19 08:48	09/18/19 09:00	
180-95857-3	WBF-BS-BG11-11.5/13.5-20190917 ~ WBF-BG-11	Solid	09/17/19 09:08	09/18/19 09:00	
180-95857-4	WBF-BS-BG11-16.5/18.5-20190917 ~ WBF-BG-11	Solid	09/17/19 09:28	09/18/19 09:00	
180-95857-5	WBF-BS-BG11-0.0/0.5-20190917 ~ WBF-BG-11	Solid	09/17/19 10:04	09/18/19 09:00	
180-95857-6	WBF-BS-FB09-20190917 ~ WBF-BG-11	Water	09/17/19 09:57	09/18/19 09:00	
180-95857-7	WBF-BS-EB03-20190917 ~ WBF-BG-11	Water	09/17/19 10:12	09/18/19 09:00	
180-95857-8	WBF-BS-BG12-1.5/3.5-20190917 ~ WBF-BG-12	Solid	09/17/19 13:18	09/18/19 09:00	
180-95857-9	WBF-BS-BG12-6.5/8.5-20190917 ~ WBF-BG-12	Solid	09/17/19 13:30	09/18/19 09:00	
180-95857-10	WBF-BS-BG12-11.5/13.5-20190917 ~ WBF-BG-12	Solid	09/17/19 13:52	09/18/19 09:00	
180-95857-11	WBF-BS-BG12-16.5/18.5-20190917 ~ WBF-BG-12	Solid	09/17/19 14:06	09/18/19 09:00	
180-95857-12	WBF-BS-BG12-21.5/23.5-20190917 ~ WBF-BG-12	Solid	09/17/19 14:31	09/18/19 09:00	
180-95857-13	WBF-BS-BG12-0.0/0.5-20190917 ~ WBF-BG-12	Solid	09/17/19 14:50	09/18/19 09:00	
180-95857-14	WBF-BS-DUP03-20190917 ~ NA	Solid	09/17/19 00:00	09/18/19 09:00	

Method Summary

Client: Environmental Standards Inc.
Project/Site: WBF_BS_20190917_1B

Job ID: 180-95857-1

Method	Method Description	Protocol	Laboratory
901.1	Radium-226 & Other Gamma Emitters (GS)	EPA	TAL SL
Dry and Grind	Preparation, Dry and Grind	None	TAL SL
Fill_Geo-21	Fill Geometry, 21-Day In-Growth	None	TAL SL

Protocol References:

EPA = US Environmental Protection Agency
None = None

Laboratory References:

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

Lab Chronicle

Client: Environmental Standards Inc.
Project/Site: WBF_BS_20190917_1B

Job ID: 180-95857-1

Client Sample ID: WBF-BS-BG11-1.5/3.5-20190917 ~ WBF-BG-11

Lab Sample ID: 180-95857-1

Date Collected: 09/17/19 08:32
Date Received: 09/18/19 09:00

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Leach	Dry and Grind			1.0 g	1.0 g	443563	09/20/19 15:21	DRO	TAL SL
Total/NA	Prep	Fill_Geo-21			279.3 g	1.0 g	444057	09/24/19 13:36	KRS	TAL SL
Total/NA	Analysis	901.1		1			446103	10/15/19 10:05	KLS	TAL SL
	Instrument ID:	GAMMAVISION								

Client Sample ID: WBF-BS-BG11-6.5/8.5-20190917 ~ WBF-BG-11

Lab Sample ID: 180-95857-2

Date Collected: 09/17/19 08:48
Date Received: 09/18/19 09:00

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Leach	Dry and Grind			1.0 g	1.0 g	443563	09/20/19 15:21	DRO	TAL SL
Total/NA	Prep	Fill_Geo-21			236.2 g	1.0 g	444057	09/24/19 13:36	KRS	TAL SL
Total/NA	Analysis	901.1		1			446100	10/15/19 10:44	KLS	TAL SL
	Instrument ID:	GAMMAVISION								

Client Sample ID: WBF-BS-BG11-11.5/13.5-20190917 ~ WBF-BG-11

Lab Sample ID: 180-95857-3

Date Collected: 09/17/19 09:08
Date Received: 09/18/19 09:00

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Leach	Dry and Grind			1.0 g	1.0 g	443563	09/20/19 15:21	DRO	TAL SL
Total/NA	Prep	Fill_Geo-21			280.4 g	1.0 g	444057	09/24/19 13:36	KRS	TAL SL
Total/NA	Analysis	901.1		1			446102	10/15/19 10:42	KLS	TAL SL
	Instrument ID:	GAMMAVISION								

Client Sample ID: WBF-BS-BG11-16.5/18.5-20190917 ~ WBF-BG-11

Lab Sample ID: 180-95857-4

Date Collected: 09/17/19 09:28
Date Received: 09/18/19 09:00

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Leach	Dry and Grind			1.0 g	1.0 g	443563	09/20/19 15:21	DRO	TAL SL
Total/NA	Prep	Fill_Geo-21			253.5 g	1.0 g	444057	09/24/19 13:36	KRS	TAL SL
Total/NA	Analysis	901.1		1			446103	10/15/19 10:43	KLS	TAL SL
	Instrument ID:	GAMMAVISION								

Lab Chronicle

Client: Environmental Standards Inc.
Project/Site: WBF_BS_20190917_1B

Job ID: 180-95857-1

Client Sample ID: WBF-BS-BG11-0.0/0.5-20190917 ~ WBF-BG-11

Lab Sample ID: 180-95857-5

Date Collected: 09/17/19 10:04
Date Received: 09/18/19 09:00

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Leach	Dry and Grind			1.0 g	1.0 g	443563	09/20/19 15:21	DRO	TAL SL
Total/NA	Prep	Fill_Geo-21			240.5 g	1.0 g	444057	09/24/19 13:36	KRS	TAL SL
Total/NA	Analysis	901.1		1			446101	10/15/19 11:04	KLS	TAL SL
	Instrument ID:	GAMMAVISION								

Client Sample ID: WBF-BS-FB09-20190917 ~ WBF-BG-11

Lab Sample ID: 180-95857-6

Date Collected: 09/17/19 09:57
Date Received: 09/18/19 09:00

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Fill_Geo-21			1000 mL	1.0 g	443730	09/23/19 11:56	KRS	TAL SL
Total/NA	Analysis	901.1		1			445992	10/14/19 07:02	KLS	TAL SL
	Instrument ID:	GAMMAVISION								

Client Sample ID: WBF-BS-EB03-20190917 ~ WBF-BG-11

Lab Sample ID: 180-95857-7

Date Collected: 09/17/19 10:12
Date Received: 09/18/19 09:00

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Fill_Geo-21			1000 mL	1.0 g	443730	09/23/19 11:56	KRS	TAL SL
Total/NA	Analysis	901.1		1			445994	10/14/19 09:20	KLS	TAL SL
	Instrument ID:	GAMMAVISION								

Client Sample ID: WBF-BS-BG12-1.5/3.5-20190917 ~ WBF-BG-12

Lab Sample ID: 180-95857-8

Date Collected: 09/17/19 13:18
Date Received: 09/18/19 09:00

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Leach	Dry and Grind			1.0 g	1.0 g	443563	09/20/19 15:21	DRO	TAL SL
Total/NA	Prep	Fill_Geo-21			254.1 g	1.0 g	444057	09/24/19 13:36	KRS	TAL SL
Total/NA	Analysis	901.1		1			446102	10/15/19 11:17	KLS	TAL SL
	Instrument ID:	GAMMAVISION								

Client Sample ID: WBF-BS-BG12-6.5/8.5-20190917 ~ WBF-BG-12

Lab Sample ID: 180-95857-9

Date Collected: 09/17/19 13:30
Date Received: 09/18/19 09:00

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Leach	Dry and Grind			1.0 g	1.0 g	443563	09/20/19 15:21	DRO	TAL SL
Total/NA	Prep	Fill_Geo-21			228.2 g	1.0 g	444057	09/24/19 13:36	KRS	TAL SL
Total/NA	Analysis	901.1		1			446100	10/15/19 11:20	KLS	TAL SL
	Instrument ID:	GAMMAVISION								

Lab Chronicle

Client: Environmental Standards Inc.
Project/Site: WBF_BS_20190917_1B

Job ID: 180-95857-1

Client Sample ID: WBF-BS-BG12-11.5/13.5-20190917 ~ WBF-BG-12

Lab Sample ID: 180-95857-10

Date Collected: 09/17/19 13:52
Date Received: 09/18/19 09:00

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Leach	Dry and Grind			1.0 g	1.0 g	443563	09/20/19 15:21	DRO	TAL SL
Total/NA	Prep	Fill_Geo-21			267.5 g	1.0 g	444057	09/24/19 13:36	KRS	TAL SL
Total/NA	Analysis	901.1		1			446101	10/15/19 11:57	KLS	TAL SL
	Instrument ID:	GAMMAVISION								

Client Sample ID: WBF-BS-BG12-16.5/18.5-20190917 ~ WBF-BG-12

Lab Sample ID: 180-95857-11

Date Collected: 09/17/19 14:06
Date Received: 09/18/19 09:00

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Leach	Dry and Grind			1.0 g	1.0 g	443563	09/20/19 15:21	DRO	TAL SL
Total/NA	Prep	Fill_Geo-21			251.5 g	1.0 g	444057	09/24/19 13:36	KRS	TAL SL
Total/NA	Analysis	901.1		1			446100	10/15/19 11:59	KLS	TAL SL
	Instrument ID:	GAMMAVISION								

Client Sample ID: WBF-BS-BG12-21.5/23.5-20190917 ~ WBF-BG-12

Lab Sample ID: 180-95857-12

Date Collected: 09/17/19 14:31
Date Received: 09/18/19 09:00

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Leach	Dry and Grind			1.0 g	1.0 g	443563	09/20/19 15:21	DRO	TAL SL
Total/NA	Prep	Fill_Geo-21			267.9 g	1.0 g	444057	09/24/19 13:36	KRS	TAL SL
Total/NA	Analysis	901.1		1			446102	10/15/19 11:55	KLS	TAL SL
	Instrument ID:	GAMMAVISION								

Client Sample ID: WBF-BS-BG12-0.0/0.5-20190917 ~ WBF-BG-12

Lab Sample ID: 180-95857-13

Date Collected: 09/17/19 14:50
Date Received: 09/18/19 09:00

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Leach	Dry and Grind			1.0 g	1.0 g	443563	09/20/19 15:21	DRO	TAL SL
Total/NA	Prep	Fill_Geo-21			213.3 g	1.0 g	444057	09/24/19 13:36	KRS	TAL SL
Total/NA	Analysis	901.1		1			446103	10/15/19 11:56	KLS	TAL SL
	Instrument ID:	GAMMAVISION								

Lab Chronicle

Client: Environmental Standards Inc.
Project/Site: WBF_BS_20190917_1B

Job ID: 180-95857-1

Client Sample ID: WBF-BS-DUP03-20190917 ~ NA

Lab Sample ID: 180-95857-14

Date Collected: 09/17/19 00:00
Date Received: 09/18/19 09:00

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Leach	Dry and Grind			1.0 g	1.0 g	443563	09/20/19 15:21	DRO	TAL SL
Total/NA	Prep	Fill_Geo-21			245.7 g	1.0 g	444057	09/24/19 13:36	KRS	TAL SL
Total/NA	Analysis	901.1		1			446101	10/15/19 12:45	KLS	TAL SL
	Instrument ID:	GAMMAVISION								

Laboratory References:

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

Analyst References:

Lab: TAL SL

Batch Type: Leach

DRO = David Oetter

Batch Type: Prep

KRS = Kurt Slama

Batch Type: Analysis

KLS = Kody Saulters

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: WBF_BS_20190917_1B

Job ID: 180-95857-1

Client Sample ID: WBF-BS-BG11-1.5/3.5-20190917 ~ WBF-BG-11

Lab Sample ID: 180-95857-1

Date Collected: 09/17/19 08:32
Date Received: 09/18/19 09:00

Matrix: Solid

Method: 901.1 - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228 (positive only)	2.25		0.428	0.459			pCi/g	09/24/19 13:36	10/15/19 10:05	1
Radium-226	0.988		0.211	0.235	1.00	0.178	pCi/g	09/24/19 13:36	10/15/19 10:05	1
Radium-228	1.26		0.372	0.394		0.404	pCi/g	09/24/19 13:36	10/15/19 10:05	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: WBF_BS_20190917_1B

Job ID: 180-95857-1

Client Sample ID: WBF-BS-BG11-6.5/8.5-20190917 ~ WBF-BG-11

Lab Sample ID: 180-95857-2

Date Collected: 09/17/19 08:48
Date Received: 09/18/19 09:00

Matrix: Solid

Method: 901.1 - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228 (positive only)	3.43		0.494	0.554			pCi/g	09/24/19 13:36	10/15/19 10:44	1
Radium-226	1.33		0.325	0.352	1.00	0.283	pCi/g	09/24/19 13:36	10/15/19 10:44	1
Radium-228	2.10		0.372	0.428		0.159	pCi/g	09/24/19 13:36	10/15/19 10:44	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: WBF_BS_20190917_1B

Job ID: 180-95857-1

Client Sample ID: WBF-BS-BG11-11.5/13.5-20190917 ~ WBF-BG-11

Lab Sample ID: 180-95857-3

Date Collected: 09/17/19 09:08
Date Received: 09/18/19 09:00

Matrix: Solid

Method: 901.1 - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228 (positive only)	2.91		0.471	0.517			pCi/g	09/24/19 13:36	10/15/19 10:42	1
Radium-226	1.26		0.279	0.309	1.00	0.278	pCi/g	09/24/19 13:36	10/15/19 10:42	1
Radium-228	1.65		0.379	0.415		0.266	pCi/g	09/24/19 13:36	10/15/19 10:42	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: WBF_BS_20190917_1B

Job ID: 180-95857-1

Client Sample ID: WBF-BS-BG11-16.5/18.5-20190917 ~ WBF-BG-11

Lab Sample ID: 180-95857-4

Date Collected: 09/17/19 09:28
Date Received: 09/18/19 09:00

Matrix: Solid

Method: 901.1 - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228 (positive only)	3.09		0.408	0.468			pCi/g	09/24/19 13:36	10/15/19 10:43	1
Radium-226	1.18		0.248	0.276	1.00	0.166	pCi/g	09/24/19 13:36	10/15/19 10:43	1
Radium-228	1.91		0.324	0.378		0.238	pCi/g	09/24/19 13:36	10/15/19 10:43	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: WBF_BS_20190917_1B

Job ID: 180-95857-1

Client Sample ID: WBF-BS-BG11-0.0/0.5-20190917 ~ WBF-BG-11

Lab Sample ID: 180-95857-5

Date Collected: 09/17/19 10:04
Date Received: 09/18/19 09:00

Matrix: Solid

Method: 901.1 - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228 (positive only)	2.49		0.326	0.372			pCi/g	09/24/19 13:36	10/15/19 11:04	1
Radium-226	1.24		0.204	0.241	1.00	0.140	pCi/g	09/24/19 13:36	10/15/19 11:04	1
Radium-228	1.25		0.254	0.284		0.202	pCi/g	09/24/19 13:36	10/15/19 11:04	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: WBF_BS_20190917_1B

Job ID: 180-95857-1

Client Sample ID: WBF-BS-FB09-20190917 ~ WBF-BG-11

Lab Sample ID: 180-95857-6

Date Collected: 09/17/19 09:57
Date Received: 09/18/19 09:00

Matrix: Water

Method: 901.1 - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228 (positive only)	16.6	U	22.1	22.2			pCi/L	09/23/19 11:56	10/14/19 07:02	1
Radium-226	2.35	U	3.47	3.48	50.0	37.9	pCi/L	09/23/19 11:56	10/14/19 07:02	1
Radium-228	14.2	U	21.8	21.9	50.0	26.0	pCi/L	09/23/19 11:56	10/14/19 07:02	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: WBF_BS_20190917_1B

Job ID: 180-95857-1

Client Sample ID: WBF-BS-EB03-20190917 ~ WBF-BG-11

Lab Sample ID: 180-95857-7

Date Collected: 09/17/19 10:12
Date Received: 09/18/19 09:00

Matrix: Water

Method: 901.1 - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228 (positive only)	15.1	U	17.7	17.7			pCi/L	09/23/19 11:56	10/14/19 09:20	1
Radium-226	10.7	U	12.4	12.5	50.0	16.7	pCi/L	09/23/19 11:56	10/14/19 09:20	1
Radium-228	4.39	U	12.6	12.6	50.0	26.8	pCi/L	09/23/19 11:56	10/14/19 09:20	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: WBF_BS_20190917_1B

Job ID: 180-95857-1

Client Sample ID: WBF-BS-BG12-1.5/3.5-20190917 ~ WBF-BG-12

Lab Sample ID: 180-95857-8

Date Collected: 09/17/19 13:18
Date Received: 09/18/19 09:00

Matrix: Solid

Method: 901.1 - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228 (positive only)	3.23		0.494	0.548			pCi/g	09/24/19 13:36	10/15/19 11:17	1
Radium-226	1.38		0.293	0.326	1.00	0.191	pCi/g	09/24/19 13:36	10/15/19 11:17	1
Radium-228	1.85		0.398	0.441		0.461	pCi/g	09/24/19 13:36	10/15/19 11:17	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: WBF_BS_20190917_1B

Job ID: 180-95857-1

Client Sample ID: WBF-BS-BG12-6.5/8.5-20190917 ~ WBF-BG-12

Lab Sample ID: 180-95857-9

Date Collected: 09/17/19 13:30
Date Received: 09/18/19 09:00

Matrix: Solid

Method: 901.1 - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228 (positive only)	3.44		0.605	0.654			pCi/g	09/24/19 13:36	10/15/19 11:20	1
Radium-226	1.54		0.339	0.373	1.00	0.263	pCi/g	09/24/19 13:36	10/15/19 11:20	1
Radium-228	1.90		0.501	0.537		0.582	pCi/g	09/24/19 13:36	10/15/19 11:20	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: WBF_BS_20190917_1B

Job ID: 180-95857-1

Client Sample ID: WBF-BS-BG12-11.5/13.5-20190917 ~ WBF-BG-12

Lab Sample ID: 180-95857-10

Date Collected: 09/17/19 13:52
Date Received: 09/18/19 09:00

Matrix: Solid

Method: 901.1 - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228 (positive only)	3.18		0.371	0.438			pCi/g	09/24/19 13:36	10/15/19 11:57	1
Radium-226	1.39		0.237	0.277	1.00	0.173	pCi/g	09/24/19 13:36	10/15/19 11:57	1
Radium-228	1.79		0.285	0.339		0.272	pCi/g	09/24/19 13:36	10/15/19 11:57	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: WBF_BS_20190917_1B

Job ID: 180-95857-1

Client Sample ID: WBF-BS-BG12-16.5/18.5-20190917 ~ WBF-BG-12

Lab Sample ID: 180-95857-11

Date Collected: 09/17/19 14:06
Date Received: 09/18/19 09:00

Matrix: Solid

Method: 901.1 - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228 (positive only)	3.00		0.428	0.480			pCi/g	09/24/19 13:36	10/15/19 11:59	1
Radium-226	1.33		0.257	0.291	1.00	0.195	pCi/g	09/24/19 13:36	10/15/19 11:59	1
Radium-228	1.67		0.342	0.382		0.240	pCi/g	09/24/19 13:36	10/15/19 11:59	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: WBF_BS_20190917_1B

Job ID: 180-95857-1

Client Sample ID: WBF-BS-BG12-21.5/23.5-20190917 ~ WBF-BG-12

Lab Sample ID: 180-95857-12

Date Collected: 09/17/19 14:31
Date Received: 09/18/19 09:00

Matrix: Solid

Method: 901.1 - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228 (positive only)	2.93		0.517	0.560			pCi/g	09/24/19 13:36	10/15/19 11:55	1
Radium-226	1.20		0.300	0.325	1.00	0.239	pCi/g	09/24/19 13:36	10/15/19 11:55	1
Radium-228	1.73		0.421	0.456		0.188	pCi/g	09/24/19 13:36	10/15/19 11:55	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: WBF_BS_20190917_1B

Job ID: 180-95857-1

Client Sample ID: WBF-BS-BG12-0.0/0.5-20190917 ~ WBF-BG-12

Lab Sample ID: 180-95857-13

Date Collected: 09/17/19 14:50
Date Received: 09/18/19 09:00

Matrix: Solid

Method: 901.1 - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228 (positive only)	**2.05**		0.379	0.413			pCi/g	09/24/19 13:36	10/15/19 11:56	1
Radium-226	0.528	U	0.220	0.227	1.00	0.542	pCi/g	09/24/19 13:36	10/15/19 11:56	1
Radium-228	**1.52**		0.309	0.345		0.193	pCi/g	09/24/19 13:36	10/15/19 11:56	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: WBF_BS_20190917_1B

Job ID: 180-95857-1

Client Sample ID: WBF-BS-DUP03-20190917 ~ NA

Lab Sample ID: 180-95857-14

Date Collected: 09/17/19 00:00
Matrix: Solid
Date Received: 09/18/19 09:00

Method: 901.1 - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228 (positive only)	2.94		0.391	0.446			pCi/g	09/24/19 13:36	10/15/19 12:45	1
Radium-226	1.41		0.239	0.280	1.00	0.157	pCi/g	09/24/19 13:36	10/15/19 12:45	1
Radium-228	1.53		0.309	0.347		0.250	pCi/g	09/24/19 13:36	10/15/19 12:45	1

QC Sample Results

Client: Environmental Standards Inc.
Project/Site: WBF_BS_20190917_1B

Job ID: 180-95857-1

Method: 901.1 - Radium-226 & Other Gamma Emitters (GS)

Lab Sample ID: MB 160-443730/1-A
Matrix: Water
Analysis Batch: 445993

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 443730

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228 (positive only)	14.86	U	28.9	29.0			pCi/L	09/23/19 11:56	10/14/19 06:22	1
Radium-226	14.86	U	16.8	16.9	50.0	16.7	pCi/L	09/23/19 11:56	10/14/19 06:22	1
Radium-228	-28.03	U	23.5	23.6	50.0	38.7	pCi/L	09/23/19 11:56	10/14/19 06:22	1

Lab Sample ID: LCS 160-443730/2-A
Matrix: Water
Analysis Batch: 445994

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 443730

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Americium-241	136000	129700		15000		293	pCi/L	96	90 - 111
Cesium-137	44200	43780		4380		82.4	pCi/L	99	90 - 111
Cobalt-60	28000	27440		2710		46.9	pCi/L	98	89 - 110

Lab Sample ID: 180-95857-6 DU
Matrix: Water
Analysis Batch: 447046

Client Sample ID: WBF-BS-FB09-20190917 ~ WBF-BG-11
Prep Type: Total/NA
Prep Batch: 443730

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium 226 and 228 (positive only)	16.6	U	28.59		24.9			pCi/L	0.26	
Radium-226	2.35	U	15.70	U	14.6	50.0	18.1	pCi/L	0.74	1
Radium-228	14.2	U	12.89	U	20.2	50.0	26.8	pCi/L	0.03	1

Lab Sample ID: MB 160-444057/1-A
Matrix: Solid
Analysis Batch: 446100

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 444057

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium 226 and 228 (positive only)	0.2367	U	0.117	0.119			pCi/g	09/24/19 13:36	10/15/19 10:06	1
Radium-226	0.04714	U	0.0422	0.0424	1.00	0.288	pCi/g	09/24/19 13:36	10/15/19 10:06	1
Radium-228	0.1896		0.109	0.111		0.129	pCi/g	09/24/19 13:36	10/15/19 10:06	1

Lab Sample ID: LCS 160-444057/2-A
Matrix: Solid
Analysis Batch: 446102

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 444057

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Americium-241	96.6	98.56		10.4		1.28	pCi/g	102	87 - 116
Cesium-137	27.5	26.80		2.89		0.362	pCi/g	98	87 - 120
Cobalt-60	11.0	11.04		1.19		0.0587	pCi/g	100	87 - 115

Method: 901.1 - Radium-226 & Other Gamma Emitters (GS) (Continued)

Lab Sample ID: 180-95857-3 DU
Client Sample ID: WBF-BS-BG11-11.5/13.5-20190917 ~ WBF-BG-11
Matrix: Solid
Prep Type: Total/NA
Analysis Batch: 446103
Prep Batch: 444057

Analyte	Sample Result	Sample Qual		DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit			RER	RER Limit
Radium 226 and 228 (positive only)	2.91			3.113		0.486			pCi/g			0.20	
Radium-226	1.26			1.491		0.338	1.00	0.206	pCi/g			0.36	1
Radium-228	1.65			1.622		0.349		0.147	pCi/g			0.04	1

QC Association Summary

Client: Environmental Standards Inc.
Project/Site: WBF_BS_20190917_1B

Job ID: 180-95857-1

Rad

Leach Batch: 443563

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-95857-1	WBF-BS-BG11-1.5/3.5-20190917 ~ WBF-BG-11	Total/NA	Solid	Dry and Grind	
180-95857-2	WBF-BS-BG11-6.5/8.5-20190917 ~ WBF-BG-11	Total/NA	Solid	Dry and Grind	
180-95857-3	WBF-BS-BG11-11.5/13.5-20190917 ~ WBF-BG-'	Total/NA	Solid	Dry and Grind	
180-95857-4	WBF-BS-BG11-16.5/18.5-20190917 ~ WBF-BG-'	Total/NA	Solid	Dry and Grind	
180-95857-5	WBF-BS-BG11-0.0/0.5-20190917 ~ WBF-BG-11	Total/NA	Solid	Dry and Grind	
180-95857-8	WBF-BS-BG12-1.5/3.5-20190917 ~ WBF-BG-12	Total/NA	Solid	Dry and Grind	
180-95857-9	WBF-BS-BG12-6.5/8.5-20190917 ~ WBF-BG-12	Total/NA	Solid	Dry and Grind	
180-95857-10	WBF-BS-BG12-11.5/13.5-20190917 ~ WBF-BG-'	Total/NA	Solid	Dry and Grind	
180-95857-11	WBF-BS-BG12-16.5/18.5-20190917 ~ WBF-BG-'	Total/NA	Solid	Dry and Grind	
180-95857-12	WBF-BS-BG12-21.5/23.5-20190917 ~ WBF-BG-'	Total/NA	Solid	Dry and Grind	
180-95857-13	WBF-BS-BG12-0.0/0.5-20190917 ~ WBF-BG-12	Total/NA	Solid	Dry and Grind	
180-95857-14	WBF-BS-DUP03-20190917 ~ NA	Total/NA	Solid	Dry and Grind	
180-95857-3 DU	WBF-BS-BG11-11.5/13.5-20190917 ~ WBF-BG-'	Total/NA	Solid	Dry and Grind	

Prep Batch: 443730

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-95857-6	WBF-BS-FB09-20190917 ~ WBF-BG-11	Total/NA	Water	Fill_Geo-21	
180-95857-7	WBF-BS-EB03-20190917 ~ WBF-BG-11	Total/NA	Water	Fill_Geo-21	
MB 160-443730/1-A	Method Blank	Total/NA	Water	Fill_Geo-21	
LCS 160-443730/2-A	Lab Control Sample	Total/NA	Water	Fill_Geo-21	
180-95857-6 DU	WBF-BS-FB09-20190917 ~ WBF-BG-11	Total/NA	Water	Fill_Geo-21	

Prep Batch: 444057

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-95857-1	WBF-BS-BG11-1.5/3.5-20190917 ~ WBF-BG-11	Total/NA	Solid	Fill_Geo-21	443563
180-95857-2	WBF-BS-BG11-6.5/8.5-20190917 ~ WBF-BG-11	Total/NA	Solid	Fill_Geo-21	443563
180-95857-3	WBF-BS-BG11-11.5/13.5-20190917 ~ WBF-BG-'	Total/NA	Solid	Fill_Geo-21	443563
180-95857-4	WBF-BS-BG11-16.5/18.5-20190917 ~ WBF-BG-'	Total/NA	Solid	Fill_Geo-21	443563
180-95857-5	WBF-BS-BG11-0.0/0.5-20190917 ~ WBF-BG-11	Total/NA	Solid	Fill_Geo-21	443563
180-95857-8	WBF-BS-BG12-1.5/3.5-20190917 ~ WBF-BG-12	Total/NA	Solid	Fill_Geo-21	443563
180-95857-9	WBF-BS-BG12-6.5/8.5-20190917 ~ WBF-BG-12	Total/NA	Solid	Fill_Geo-21	443563
180-95857-10	WBF-BS-BG12-11.5/13.5-20190917 ~ WBF-BG-'	Total/NA	Solid	Fill_Geo-21	443563
180-95857-11	WBF-BS-BG12-16.5/18.5-20190917 ~ WBF-BG-'	Total/NA	Solid	Fill_Geo-21	443563
180-95857-12	WBF-BS-BG12-21.5/23.5-20190917 ~ WBF-BG-'	Total/NA	Solid	Fill_Geo-21	443563
180-95857-13	WBF-BS-BG12-0.0/0.5-20190917 ~ WBF-BG-12	Total/NA	Solid	Fill_Geo-21	443563
180-95857-14	WBF-BS-DUP03-20190917 ~ NA	Total/NA	Solid	Fill_Geo-21	443563
MB 160-444057/1-A	Method Blank	Total/NA	Solid	Fill_Geo-21	
LCS 160-444057/2-A	Lab Control Sample	Total/NA	Solid	Fill_Geo-21	
180-95857-3 DU	WBF-BS-BG11-11.5/13.5-20190917 ~ WBF-BG-'	Total/NA	Solid	Fill_Geo-21	443563

TVA Environmental Investigations

Tennessee Valley Authority

COOLER No.:	1	of	3
COC No:	WBF_BS_20190917_1B		
1 of 1 Pages			
Task Desc:	WBF_BS		

Chain-of-Custody / Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed and accurate

Required Ship to Lab:		Required Project Information:		Required Sampler Information	
Lab Name:	TestAmerica Pittsburgh	Site ID #:	Watts Bar Fossil Plant	Sampler:	Joe Ottolino
Lab Address:	301 Alpha Drive	Project #:		Sampling Company:	Stantec
	Pittsburgh, PA 15238	Site Address	933 Old Ferry Road	Address	601 Grassmere Park Suite 22
		City	Spring City, State, Zip: TN 37381	City/State	Nashville/TN, Phone: (615) 885-1144
Lab Manager Contact Information		Site PM Name:	Roy Quinn		
Lab PM:	Gail Lage	Phone/Fax:	423-751-3753	Sampling Team Number:	1
Phone/Fax:	615-301-5741/615-726-3404	Site PM Email:	jrquinn@tva.gov	Send EDD/Hard Copy to:	tva_deliverables@envstd.com
Lab Email:	Gail.Lage@testamericainc.com				

Analysis Turnaround Time: ☐ CALENDAR DAYS ☑ WORKING DAYS

TAT if different from Below _____
- ☐ 24 Hours
- ☐ 3 Business Days
- ☐ 5 Business Days
- ☑ 10 Business Days

180-95857 Chain of Custody

ITEMS #	SAMPLE ID Samples IDs MUST BE UNIQUE	SAMPLE LOCATION	Sample Depth: Start Depth (Depth Unit)	Sample Depth: End Depth (Select Unit)	MATRIX CODE	G= GRAB C=COMP	SAMPLE TYPE	SAMPLE DATE	SAMPLE TIME	# OF CONTAINERS	Comments/ Lab Sample I.D.	MS/MSD	Analysis: BACKGROUNDSOIL_RAD	Analysis: BACKGROUNDSOIL_BLANKS_RAD
1	WBF-BS-BG11-1.5/3.5-20190917	WBF-BG-11	1.5	3.5	BS	G	N	9/17/2019	0832	2	NA	☐	x	
2	WBF-BS-BG11-6.5/8.5-20190917	WBF-BG-11	6.5	8.5	BS	G	N	9/17/2019	0848	2	NA	☐	x	
3	WBF-BS-BG11-11.5/13.5-20190917	WBF-BG-11	11.5	13.5	BS	G	N	9/17/2019	0908	2	NA	X	x	
4	WBF-BS-BG11-16.5/18.5-20190917	WBF-BG-11	16.5	18.5	BS	G	N	9/17/2019	0928	2	NA	☐	x	
5	WBF-BS-BG11-0.0/0.5-20190917	WBF-BG-11	0	0.5	BS	G	N	9/17/2019	1004	2	NA	☐	x	
6	WBF-BS-FB09-20190917	WBF-BG-11	--	--	AQ	G	FB	9/17/2019	0957	3	NA	☐		x
7	WBF-BS-EB03-20190917	WBF-BG-11	--	--	AQ	G	EB	9/17/2019	1012	3	NA	☐		x
8	WBF-BS-BG12-1.5/3.5-20190917	WBF-BG-12	1.5	3.5	BS	G	N	9/17/2019	1318	2	NA	☐	x	
9	WBF-BS-BG12-6.5/8.5-20190917	WBF-BG-12	6.5	8.5	BS	G	N	9/17/2019	1330	2	NA	☐	x	
10	WBF-BS-BG12-11.5/13.5-20190917	WBF-BG-12	11.5	13.5	BS	G	N	9/17/2019	1352	2	NA	☐	x	
11	WBF-BS-BG12-16.5/18.5-20190917	WBF-BG-12	16.5	18.5	BS	G	N	9/17/2019	1406	2	NA	☐	x	
12	WBF-BS-BG12-21.5/23.5-20190917	WBF-BG-12	21.5	23.5	BS	G	N	9/17/2019	1431	2	NA	☐	x	
13	WBF-BS-BG12-0.0/0.5-20190917	WBF-BG-12	0	0.5	BS	G	N	9/17/2019	1450	2	NA	☐	x	
14	WBF-BS-DUP03-20190917	--	--	--	BS	G	N	9/17/2019	--	2	NA		x	

JO 9/17/2019

Additional Comments/Special Instructions:

Additional volume collected should be used for laboratory duplicate analysis.

JO 9/17/2019

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Joe Ottolino / Stantec	9/17/2019	17:00	Craig Millhollin / Stantec	9/17/2019	17:00

JO 9/17/2019

Sample Receipt Conditions			
☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
Temperature in °C	Cooler on Ice?	Cooler Intact?	Trip Blank?

SHIPPING METHOD:	SAMPLER NAME AND SIGNATURE
Fedex	Joe Ottolino

JO

Dep: Wgt: 10.00 LBS SPECIAL: 0.00
HANDLING: 0.00
DV: 0.00 TOTAL: 0.00

Svcs: PRIORITY OVERNIGHT Master 1155 5314 4255
TRCK: 1155 5314 4277

Dep: Wgt: 10.00 LBS
DV: 0.00

Svcs: PRIORITY OVERNIGHT Master 1155 5314 4255
TRCK: 1155 5314 4314

Dep: Wgt: 10.00 LBS
DV: 0.00

Svcs: PRIORITY OVERNIGHT Master 1155 5314 4255
TRCK: 1155 5314 4325

TVA Environmental Investigations

Tennessee Valley Authority

COOLER No.:	2	of	3
COC No:	WBF_BS_20190917_1B		
1 of 1 Pages			
Task Desc:	WBF_BS		

Chain-of-Custody / Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed and accurate

Required Ship to Lab:		Required Project Information:		Required Sampler Information	
Lab Name:	TestAmerica Pittsburgh	Site ID #:	Watts Bar Fossil Plant	Sampler:	Joe Ottolino
Lab Address:	301 Alpha Drive	Project #:		Sampling Company:	Stantec
	Pittsburgh, PA 15238	Site Address	933 Old Ferry Road	Address	601 Grassmere Park Suite 22
		City	Spring City State, Zip: TN 37381	City/State	Nashville/TN Phone: (615) 885-1144
Lab Manager Contact Information		Site PM Name:	Roy Quinn		
Lab PM:	Gail Lage	Phone/Fax:	423-751-3753	Sampling Team Number:	1
Phone/Fax:	615-301-5741/615-726-3404	Site PM Email:	jrquinn@tva.gov	Send EDD/Hard Copy to:	tva_deliverables@envstd.com
Lab Email:	Gail.Lage@testamericainc.com				

Analysis Turnaround Time

☐ CALENDAR DAYS ☑ WORKING DAYS

TAT if different from Below _____

☐ 24 Hours
☐ 3 Business Days
☐ 5 Business Days
☑ **10 Business Days**

ITEMS #	SAMPLE ID Samples IDs MUST BE UNIQUE	SAMPLE LOCATION	Sample Depth: Depth Unit / Start Depth	Sample Depth: Select Unit / End Depth	MATRIX CODE	G= GRAB C=COMP	SAMPLE TYPE	SAMPLE DATE	SAMPLE TIME	# OF CONTAINERS	Comments/ Lab Sample I.D.	MS/MSD	Filtered: N	Filtered: N	Preserve: None	Preserve: HNO3	Analysis: BACKGROUNDSOIL_RAD	Analysis: BACKGROUNDSOIL_BLANKS_RAD
1	WBF-BS-BG11-1.5/3.5-20190917	WBF-BG-11	1.5	3.5	BS	G	N	9/17/2019	0832	2	NA	☐					X	
2	WBF-BS-BG11-6.5/8.5-20190917	WBF-BG-11	6.5	8.5	BS	G	N	9/17/2019	0848	2	NA	☐					X	
3	WBF-BS-BG11-11.5/13.5-20190917	WBF-BG-11	11.5	13.5	BS	G	N	9/17/2019	0908	2	NA	X					X	
4	WBF-BS-BG11-16.5/18.5-20190917	WBF-BG-11	16.5	18.5	BS	G	N	9/17/2019	0928	2	NA	☐					X	
5	WBF-BS-BG11-0.0/0.5-20190917	WBF-BG-11	0	0.5	BS	G	N	9/17/2019	1004	2	NA	☐					X	
6	WBF-BS-FB09-20190917	WBF-BG-11	--	--	AQ	G	FB	9/17/2019	0957	3	NA	☐				X		
7	WBF-BS-EB03-20190917	WBF-BG-11	--	--	AQ	G	EB	9/17/2019	1012	3	NA	☐				X		
8	WBF-BS-BG12-1.5/3.5-20190917	WBF-BG-12	1.5	3.5	BS	G	N	9/17/2019	1318	2	NA	☐					X	
9	WBF-BS-BG12-6.5/8.5-20190917	WBF-BG-12	6.5	8.5	BS	G	N	9/17/2019	1330	2	NA	☐					X	
10	WBF-BS-BG12-11.5/13.5-20190917	WBF-BG-12	11.5	13.5	BS	G	N	9/17/2019	1352	2	NA	☐					X	
11	WBF-BS-BG12-16.5/18.5-20190917	WBF-BG-12	16.5	18.5	BS	G	N	9/17/2019	1406	2	NA	☐					X	
12	WBF-BS-BG12-21.5/23.5-20190917	WBF-BG-12	21.5	23.5	BS	G	N	9/17/2019	1431	2	NA	☐					X	
13	WBF-BS-BG12-0.0/0.5-20190917	WBF-BG-12	0	0.5	BS	G	N	9/17/2019	1450	2	NA	☐					X	
14	WBF-BS-DUP03-20190917	--	--	--	BS	G	N	9/17/2019	--	2	NA						X	

JO 9/17/2019

Additional Comments/Special Instructions:

Additional volume collected should be used for laboratory duplicate analysis.

JO 9/17/2019

RELINQISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Joe Ottolino / Stantec	9/17/2019	17:00	Craig Millhollin / Stantec	9/17/2019	17:00
JO 9/17/2019				9/18/19	9:00

SHIPPING METHOD:	SAMPLER NAME AND SIGNATURE
Fedex JO	Joe Ottolino 9/17/2019

Sample Receipt Conditions

Temperature in °C	Sample on Ice?	Sample Intact?	Trip Blank?
☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
☑ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No	☐ Yes ☑ No
☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No

Form TVA 30067A

TVA Environmental Investigations

Tennessee Valley Authority

COOLER No.:	3	of	3
COC No:	WBF_BS_20190917_1B		
1 of 1 Pages			
Task Desc:	WBF_BS		

Chain-of-Custody / Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed and accurate

Required Ship to Lab:		Required Project Information:		Required Sampler Information	
Lab Name:	TestAmerica Pittsburgh	Site ID #:	Watts Bar Fossil Plant	Sampler:	Joe Ottolino
Lab Address:	301 Alpha Drive	Project #:		Sampling Company:	Stantec
	Pittsburgh, PA 15238	Site Address	933 Old Ferry Road	Address	601 Grassmere Park Suite 22
		City	Spring City State, Zip: TN 37381	City/State	Nashville/TN Phone: (615) 885-1144
Lab Manager Contact Information		Site PM Name:	Roy Quinn		
Lab PM:	Gail Lage	Phone/Fax:	423-751-3753	Sampling Team Number:	1
Phone/Fax:	615-301-5741/615-726-3404	Site PM Email:	jrquinn@tva.gov	Send EDD/Hard Copy to:	tva_deliverables@envstd.com
Lab Email:	Gail.Lage@testamericainc.com				

Analysis Turnaround Time: ☐ CALENDAR DAYS ☑ WORKING DAYS

TAT if different from Below _____
- ☐ 24 Hours
- ☐ 3 Business Days
- ☐ 5 Business Days
- ☑ 10 Business Days

ITEMS #	SAMPLE ID Samples IDs MUST BE UNIQUE	SAMPLE LOCATION	Sample Depth: Start Depth (Depth Unit)	Sample Depth: End Depth (Select Unit)	MATRIX CODE	G= GRAB C=COMP	SAMPLE TYPE	SAMPLE DATE	SAMPLE TIME	# OF CONTAINERS	Comments/ Lab Sample I.D.	MS/MSD	Analysis: BACKGROUNDSOIL_RAD	Analysis: BACKGROUNDSOIL_BLANKS_RAD	Filtered: N	Filtered: N	Preserve: None	Preserve: HNO3
1	WBF-BS-BG11-1.5/3.5-20190917	WBF-BG-11	1.5	3.5	BS	G	N	9/17/2019	0832	2	NA	☐	X					
2	WBF-BS-BG11-6.5/8.5-20190917	WBF-BG-11	6.5	8.5	BS	G	N	9/17/2019	0848	2	NA	☐	X					
3	WBF-BS-BG11-11.5/13.5-20190917	WBF-BG-11	11.5	13.5	BS	G	N	9/17/2019	0908	2	NA	X	X					
4	WBF-BS-BG11-16.5/18.5-20190917	WBF-BG-11	16.5	18.5	BS	G	N	9/17/2019	0928	2	NA	☐	X					
5	WBF-BS-BG11-0.0/0.5-20190917	WBF-BG-11	0	0.5	BS	G	N	9/17/2019	1004	2	NA	☐	X					
6	WBF-BS-FB09-20190917	WBF-BG-11	--	--	AQ	G	FB	9/17/2019	0957	3	NA	☐		X				
7	WBF-BS-EB03-20190917	WBF-BG-11	--	--	AQ	G	EB	9/17/2019	1012	3	NA	☐		X				
8	WBF-BS-BG12-1.5/3.5-20190917	WBF-BG-12	1.5	3.5	BS	G	N	9/17/2019	1318	2	NA	☐	X					
9	WBF-BS-BG12-6.5/8.5-20190917	WBF-BG-12	6.5	8.5	BS	G	N	9/17/2019	1330	2	NA	☐	X					
10	WBF-BS-BG12-11.5/13.5-20190917	WBF-BG-12	11.5	13.5	BS	G	N	9/17/2019	1352	2	NA	☐	X					
11	WBF-BS-BG12-16.5/18.5-20190917	WBF-BG-12	16.5	18.5	BS	G	N	9/17/2019	1406	2	NA	☐	X					
12	WBF-BS-BG12-21.5/23.5-20190917	WBF-BG-12	21.5	23.5	BS	G	N	9/17/2019	1431	2	NA	☐	X					
13	WBF-BS-BG12-0.0/0.5-20190917	WBF-BG-12	0	0.5	BS	G	N	9/17/2019	1450	2	NA	☐	X					
14	WBF-BS-DUP03-20190917	--	--	--	BS	G	N	9/17/2019	--	2	NA		X					

JO 9/17/2019

Additional Comments/Special Instructions:

Additional volume collected should be used for laboratory duplicate analysis.

JO 9/17/2019

RELINQISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Joe Ottolino / Stantec	9/17/2019	17:00	Craig Millhollin / Stantec	9/17/2019	17:00
JO 9/17/2019				9/18/19	9:00

Sample Receipt Conditions			
☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
Temperature in °C	Sample on Ice?	Sample Intact?	Trip Blank?

SHIPPING METHOD:	SAMPLER NAME AND SIGNATURE
Fedex JO	Joe Ottolino 9/17/2019

Form TVA 30067A

eurofins | Environment Testing
TestAmerica

Part # 159470-434 REV EXP 05/20

ORIGIN ID:PHDA (615) 885-1144
GREG BUDD
STANTEC CONSULTING CORP.
933 OLD FERRY ROAD

SPRING CITY, TN 37381
UNITED STATES US

SHIP
ACTW
CAD: RT97
FZ

1
10:30

TO

EUROFINS TESTAMERICA PITTSBURGH
301 ALPHA DRIVE
RIDC PARK
PITTSBURGH PA 152382907
(412) 963-7058
REF: S180-53662

RMA:

FedEx Express

FedEx
TRK# 0221 1155 5314 4277

WED - 18 SEP 10:30A
PRIORITY OVERNIGHT

NA AGCA

15238
PA-US PIT

Uncorrected temp 2.9 °C
Thermometer ID 10

CF 0 Initials TB

PT-WI-SR-001 effective 11/8/18

180-95857 Waybill

eurofins | Environment Testing
TestAmerica

ORIGIN ID:PHDA (615) 885-1144
GREG BUDD
STANTEC CONSULTING CORP.
933 OLD FERRY ROAD

SPRING CITY, TN 37381
UNITED STATES US

TO

EUROFINS TESTAMERICA PIT
301 ALPHA DRIVE
RIDC PARK
PITTSBURGH PA 152382907

(412) 963-7058
REF: S180-53662

RMA:

FedEx Express

FedEx
TRK# 0221 1155 5314 4325

WED - 18 SEP 10:30A
PRIORITY OVERNIGHT

NA AGCA

15238
PA-US PIT

Uncorrected temp 14 °C
Thermometer ID 12
CF 0 Initials TB

PT-WI-SR-001 effective 11/8/18

#2633640 09/17 567J1/9D04/05A2

eurofins

Environment Test
TestAmerica

ORIGIN ID:PDDA (615) 885-1144
GREG BUDD
STANTEC CONSULTING CORP.
833 OLD FERRY ROAD

SPRING CITY, TN 37381
UNITED STATES US

SHIP DATE: [illegible]
ACTWGT: 10.00 LB
CAD: 6582065/CAFE

TO

EUROFINS TESTAMERICA PITTSBURGH
301 ALPHA DRIVE
RIDC PARK
PITTSBURGH PA 152382907

(412) 963-7058
REF: S190-53662

HOLD FOR PICKUP

FedEx Express

FedEx
TRK# 0221 1155 5314 4314

WED - 18 SEP 10:30A
PRIORITY OVERNIGHT

NA

Uncorrected temp 13 °C
Thermometer ID 10

CF 0 Initials B

PT-WI-SR-001 effective 11/8/18

15238
PIT

#2633640 09/17 567J1/9D04/05A2

TVA Environmental Investigations

Tennessee Valley Authority

COOLER No.:	1	of	3
COC No:	WBF_BS_20190917_1B		
1 of 1 Pages			
Task Desc:	WBF_BS		

Rev 1 BS 10/2/19

Chain-of-Custody / Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed and accurate

Required Ship to Lab:		Required Project Information:		Required Sampler Information	
Lab Name:	TestAmerica Pittsburgh	Site ID #:	Watts Bar Fossil Plant	Sampler:	Joe Ottolino
Lab Address:	301 Alpha Drive	Project #:		Sampling Company:	Stantec
	Pittsburgh, PA 15238	Site Address	933 Old Ferry Road	Address	601 Grassmere Park Suite 22
		City	Spring City, State, Zip: TN 37381	City/State	Nashville/TN, Phone: (615) 885-1144
Lab Manager Contact Information		Site PM Name:	Roy Quinn		
Lab PM:	Gail Lage	Phone/Fax:	423-751-3753	Sampling Team Number:	1
Phone/Fax:	615-301-5741/615-726-3404	Site PM Email:	jrquinn@tva.gov	Send EDD/Hard Copy to:	tva_deliverables@envstd.com
Lab Email:	Gail.Lage@testamericainc.com				

Analysis Turnaround Time: ☐ CALENDAR DAYS ☑ WORKING DAYS

TAT if different from Below _____
- ☐ 24 Hours
- ☐ 3 Business Days
- ☐ 5 Business Days
- ✓ 10 Business Days

180-95857 Chain of Custody

ITEMS #	SAMPLE ID Samples IDs MUST BE UNIQUE	SAMPLE LOCATION	Sample Depth: Depth Unit Start Depth	Sample Depth: Select Unit End Depth	MATRIX CODE	G= GRAB C=COMP	SAMPLE TYPE	SAMPLE DATE	SAMPLE TIME	# OF CONTAINERS	Comments/ Lab Sample I.D.	MS/MSD	Analysis: BACKGROUNDSOIL_RAD	Analysis: BACKGROUNDSOIL_BLANKS_RAD
1	WBF-BS-BG11-1.5/3.5-20190917	WBF-BG-11	1.5	3.5	BS	G	N	9/17/2019	0832	2	NA	☐	X	
2	WBF-BS-BG11-6.5/8.5-20190917	WBF-BG-11	6.5	8.5	BS	G	N	9/17/2019	0848	2	NA	☐	X	
3	WBF-BS-BG11-11.5/13.5-20190917	WBF-BG-11	11.5	13.5	BS	G	N	9/17/2019	0908	2	NA	X	X	
4	WBF-BS-BG11-16.5/18.5-20190917	WBF-BG-11	16.5	18.5	BS	G	N	9/17/2019	0928	2	NA	☐	X	
5	WBF-BS-BG11-0.0/0.5-20190917	WBF-BG-11	0	0.5	BS	G	N	9/17/2019	1004	2	NA	☐	X	
6	WBF-BS-FB09-20190917	WBF-BG-11	--	--	AQ	G	FB	9/17/2019	0957	3	NA	☐		X
7	WBF-BS-EB03-20190917	WBF-BG-11	--	--	AQ	G	EB	9/17/2019	1012	3	NA	☐		X
8	WBF-BS-BG12-1.5/3.5-20190917	WBF-BG-12	1.5	3.5	BS	G	N	9/17/2019	1318	2	NA	☐	X	
9	WBF-BS-BG12-6.5/8.5-20190917	WBF-BG-12	6.5	8.5	BS	G	N	9/17/2019	1330	2	NA	☐	X	
10	WBF-BS-BG12-11.5/13.5-20190917	WBF-BG-12	11.5	13.5	BS	G	N	9/17/2019	1352	2	NA	☐	X	
11	WBF-BS-BG12-16.5/18.5-20190917	WBF-BG-12	16.5	18.5	BS	G	N	9/17/2019	1406	2	NA	☐	X	
12	WBF-BS-BG12-21.5/23.5-20190917	WBF-BG-12	21.5	23.5	BS	G	N	9/17/2019	1431	2	NA	☐	X	
13	WBF-BS-BG12-0.0/0.5-20190917	WBF-BG-12	0	0.5	BS	G	N	9/17/2019	1450	2	NA	☐	X	
14	WBF-BS-DUP03-20190917	--	--	--	BS	G	N FD	9/17/2019	--	2	NA		X	

JO 9/17/2019

Additional Comments/Special Instructions:

Additional volume collected should be used for laboratory duplicate analysis.

JO 9/17/2019

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Joe Ottolino / Stantec BS 10/2/19	9/17/2019	17:00	Craig Millhollin / Stantec	9/17/2019	17:00
JO 9/17/2019					

Sample Receipt Conditions: ☐ Yes ☐ No

SHIPPING METHOD:	SAMPLER NAME AND SIGNATURE
Fedex	Joe Ottolino JO

Dep: Wgt: 10.00 LBS SPECIAL: HANDLING: DV: 0.00 TOTAL: 0.00

Svcs: PRIORITY OVERNIGHT Master 1155 5314 4255 TRCK: 1155 5314 4277

Svcs: PRIORITY OVERNIGHT Master 1155 5314 4255 TRCK: 1155 5314 4314

Svcs: PRIORITY OVERNIGHT Master 1155 5314 4255 TRCK: 1155 5314 4325

TVA Environmental Investigations

Tennessee Valley Authority

COOLER No.:	2	of	3
COC No:	WBF_BS_20190917_1B		
1 of 1 Pages			
Task Desc:	WBF_BS		

Rev 1 BJ 10/2/19

10/25/2019

Chain-of-Custody / Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed and accurate

Required Ship to Lab:

Lab Name:	TestAmerica Pittsburgh
Lab Address:	301 Alpha Drive Pittsburgh, PA 15238

Lab Manager Contact Information

Lab PM:	Gail Lage
Phone/Fax:	615-301-5741/615-726-3404
Lab Email:	Gail.Lage@testamericainc.com

Required Project Information:

Site ID #:	Watts Bar Fossil Plant		
Project #:			
Site Address	933 Old Ferry Road		
City	Spring City	State, Zip: TN	37381
Site PM Name:	Roy Quinn		
Phone/Fax:	423-751-3753		
Site PM Email:	jrquinn@tva.gov		

Required Sampler Information

Sampler:	Joe Ottolino		
Sampling Company:	Stantec		
Address	601 Grassmere Park Suite 22		
City/State	Nashville/TN	Phone:	(615) 885-1144
Sampling Team Number:	1		
Send EDD/Hard Copy to:	tva_deliverables@envstd.com		

Analysis Turnaround Time

☐ CALENDAR DAYS ☑ WORKING DAYS

TAT if different from Below _____

☐ 24 Hours
☐ 3 Business Days
☐ 5 Business Days
☑ **10 Business Days**

ITEMS #	SAMPLE ID Samples IDs MUST BE UNIQUE	SAMPLE LOCATION	Sample Depth: Start Depth (Depth Unit)	Sample Depth: End Depth (Select Unit)	MATRIX CODE	G= GRAB C=COMP	SAMPLE TYPE	SAMPLE DATE	SAMPLE TIME	# OF CONTAINERS	Comments/ Lab Sample I.D.	MS/MSD	Analysis: BACKGROUNDSOIL_RAD	Analysis: BACKGROUNDSOIL_BLANKS_RAD	Preserve: None	Preserve: HNO3	Filtered: N	Filtered: N
1	WBF-BS-BG11-1.5/3.5-20190917	WBF-BG-11	1.5	3.5	BS	G	N	9/17/2019	0832	2	NA	☐	X					
2	WBF-BS-BG11-6.5/8.5-20190917	WBF-BG-11	6.5	8.5	BS	G	N	9/17/2019	0848	2	NA	☐	X					
3	WBF-BS-BG11-11.5/13.5-20190917	WBF-BG-11	11.5	13.5	BS	G	N	9/17/2019	0908	2	NA	X	X					
4	WBF-BS-BG11-16.5/18.5-20190917	WBF-BG-11	16.5	18.5	BS	G	N	9/17/2019	0928	2	NA	☐	X					
5	WBF-BS-BG11-0.0/0.5-20190917	WBF-BG-11	0	0.5	BS	G	N	9/17/2019	1004	2	NA	☐	X					
6	WBF-BS-FB09-20190917	WBF-BG-11	--	--	AQ	G	FB	9/17/2019	0957	3	NA	☐		X				
7	WBF-BS-EB03-20190917	WBF-BG-11	--	--	AQ	G	EB	9/17/2019	1012	3	NA	☐		X				
8	WBF-BS-BG12-1.5/3.5-20190917	WBF-BG-12	1.5	3.5	BS	G	N	9/17/2019	1318	2	NA	☐	X					
9	WBF-BS-BG12-6.5/8.5-20190917	WBF-BG-12	6.5	8.5	BS	G	N	9/17/2019	1330	2	NA	☐	X					
10	WBF-BS-BG12-11.5/13.5-20190917	WBF-BG-12	11.5	13.5	BS	G	N	9/17/2019	1352	2	NA	☐	X					
11	WBF-BS-BG12-16.5/18.5-20190917	WBF-BG-12	16.5	18.5	BS	G	N	9/17/2019	1406	2	NA	☐	X					
12	WBF-BS-BG12-21.5/23.5-20190917	WBF-BG-12	21.5	23.5	BS	G	N	9/17/2019	1431	2	NA	☐	X					
13	WBF-BS-BG12-0.0/0.5-20190917	WBF-BG-12	0	0.5	BS	G	N	9/17/2019	1450	2	NA	☐	X					
14	WBF-BS-DUP03-20190917	--	--	--	BS	G	~~N~~ FD	9/17/2019	--	2	NA		X					

JO 9/17/2019

Additional Comments/Special Instructions:

Additional volume collected should be used for laboratory duplicate analysis.

JO 9/17/2019

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Joe Ottolino / Stantec BJ 10/2/19	9/17/2019	17:00	Craig Millhollin / Stantec	9/17/2019	17:00
JO 9/17/2019					

Sample Receipt Conditions

Temperature in °C	Sample on Ice?	Sample Intact?	Trip Blank?
☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No

SHIPPING METHOD:	SAMPLER NAME AND SIGNATURE
Fedex JO	Joe Ottolino 9/17/2019

Form TVA 30067A

TVA Environmental Investigations

Tennessee Valley Authority

COOLER No.:	3	of	3
COC No:	WBF_BS_20190917_1B		
1 of 1 Pages			
Task Desc:	WBF_BS		

Rec'd by 10/2/19

Chain-of-Custody / Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed and accurate

Required Ship to Lab:		Required Project Information:		Required Sampler Information	
Lab Name:	TestAmerica Pittsburgh	Site ID #:	Watts Bar Fossil Plant	Sampler:	Joe Ottolino
Lab Address:	301 Alpha Drive Pittsburgh, PA 15238	Project #:		Sampling Company:	Stantec
		Site Address	933 Old Ferry Road	Address	601 Grassmere Park Suite 22
		City	Spring City, State, Zip: TN 37381	City/State	Nashville/TN, Phone: (615) 885-1144
Lab Manager Contact Information		Site PM Name:	Roy Quinn		
Lab PM:	Gail Lage	Phone/Fax:	423-751-3753	Sampling Team Number:	1
Phone/Fax:	615-301-5741/615-726-3404	Site PM Email:	jrquinn@tva.gov	Send EDD/Hard Copy to:	tva_deliverables@enystd.com
Lab Email:	Gail.Lage@testamericainc.com				

Analysis Turnaround Time
☐ CALENDAR DAYS ☑ WORKING DAYS
TAT if different from Below _____
☐ 24 Hours
☐ 3 Business Days
☐ 5 Business Days
☑ 10 Business Days

ITEMS #	SAMPLE ID Samples IDs MUST BE UNIQUE	SAMPLE LOCATION	Sample Depth: Depth Unit Start Depth	Sample Depth: Select Unit End Depth	MATRIX CODE	G= GRAB C=COMP	SAMPLE TYPE	SAMPLE DATE	SAMPLE TIME	# OF CONTAINERS	Comments/ Lab Sample I.D.	MS/MSD	Analysis: BACKGROUNDSOIL_RAD (Filtered N, Preserve None)	Analysis: BACKGROUNDSOIL_BLANKS_RAD (Filtered N, Preserve HNO3)
1	WBF-BS-BG11-1.5/3.5-20190917	WBF-BG-11	1.5	3.5	BS	G	N	9/17/2019	0832	2	NA	☐	X	
2	WBF-BS-BG11-6.5/8.5-20190917	WBF-BG-11	6.5	8.5	BS	G	N	9/17/2019	0848	2	NA	☐	X	
3	WBF-BS-BG11-11.5/13.5-20190917	WBF-BG-11	11.5	13.5	BS	G	N	9/17/2019	0908	2	NA	X	X	
4	WBF-BS-BG11-16.5/18.5-20190917	WBF-BG-11	16.5	18.5	BS	G	N	9/17/2019	0928	2	NA	☐	X	
5	WBF-BS-BG11-0.0/0.5-20190917	WBF-BG-11	0	0.5	BS	G	N	9/17/2019	1004	2	NA	☐	X	
6	WBF-BS-FB09-20190917	WBF-BG-11	--	--	AQ	G	FB	9/17/2019	0957	3	NA	☐		X
7	WBF-BS-EB03-20190917	WBF-BG-11	--	--	AQ	G	EB	9/17/2019	1012	3	NA	☐		X
8	WBF-BS-BG12-1.5/3.5-20190917	WBF-BG-12	1.5	3.5	BS	G	N	9/17/2019	1318	2	NA	☐	X	
9	WBF-BS-BG12-6.5/8.5-20190917	WBF-BG-12	6.5	8.5	BS	G	N	9/17/2019	1330	2	NA	☐	X	
10	WBF-BS-BG12-11.5/13.5-20190917	WBF-BG-12	11.5	13.5	BS	G	N	9/17/2019	1352	2	NA	☐	X	
11	WBF-BS-BG12-16.5/18.5-20190917	WBF-BG-12	16.5	18.5	BS	G	N	9/17/2019	1406	2	NA	☐	X	
12	WBF-BS-BG12-21.5/23.5-20190917	WBF-BG-12	21.5	23.5	BS	G	N	9/17/2019	1431	2	NA	☐	X	
13	WBF-BS-BG12-0.0/0.5-20190917	WBF-BG-12	0	0.5	BS	G	N	9/17/2019	1450	2	NA	☐	X	
14	WBF-BS-DUP03-20190917	--	--	--	BS	G	~~N~~ FD	9/17/2019	--	2	NA		X	

JO 9/17/2019

Additional Comments/Special Instructions:

Additional volume collected should be used for laboratory duplicate analysis.

JO 9/17/2019

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Joe Ottolino / Stantec 10/2/19 BJ	9/17/2019	17:00	Craig Millhollin / Stantec	9/17/2019	17:00
JO 9/17/2019					

SHIPPING METHOD:	SAMPLER NAME AND SIGNATURE
Fedex JO	Joe Ottolino 9/17/2019

Sample Receipt Conditions

Temperature in °C	Sample on Ice?	Sample Intact?	Trip Blank?
☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No

Form TVA 30067A

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information (Sub Contract Lab)

Client Contact:	Shipping/Receiving
Company:	TestAmerica Laboratories, Inc.
Address:	13715 Rider Trail North, ,
City:	Earth City
State, Zip:	MO, 63045
Phone:	314-298-8566(Tel) 314-298-8757(Fax)
Email:	
Project Name:	WBF_BS_20190917_1B
Site:	

Sampler:	
Phone:	
Due Date Requested:	9/30/2019
TAT Requested (days):	
PO #:	
WO #:	
Project #:	18020303
SSOW#:	

Lab PM:	Rumble, Jennifer L
E-Mail:	jennifer.rumble@testamericainc.com
Carrier Tracking No(s):	
State of Origin:	Tennessee
Accreditations Required (See note):	

COC No:	180-373904.1
Page:	Page 1 of 2
Job #:	180-95857-1

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	901.1_Ra/Dry_Grind Radium-226/228	901.1_Ra/Fill_Geo_21 Radium-226/228	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
WBF-BS-BG11-1.5/3.5-20190917 ~ WBF-BG-11 (180-95857-1)	9/17/19	08:32 Eastern		Solid			X		2	TVA - Batch alone. Quarantine zone soil. Contact PM if insufficient volume for Tuna
WBF-BS-BG11-6.5/8.5-20190917 ~ WBF-BG-11 (180-95857-2)	9/17/19	08:48 Eastern		Solid			X		2	TVA - Batch alone. Quarantine zone soil. Contact PM if insufficient volume for Tuna
WBF-BS-BG11-11.5/13.5-20190917 ~ WBF-BG-11 (180-95857-3	9/17/19	09:08 Eastern		Solid			X		2	TVA - Batch alone. Quarantine zone soil. Contact PM if insufficient volume for Tuna
WBF-BS-BG11-11.5/13.5-20190917 ~ WBF-BG-11 (180-95857-3	9/17/19	09:08 Eastern	DU	Solid			X		1	TVA - Batch alone. Quarantine zone soil. Contact PM if insufficient volume for Tuna
WBF-BS-BG11-16.5/18.5-20190917 ~ WBF-BG-11 (180-95857-4	9/17/19	09:28 Eastern		Solid			X		2	TVA - Batch alone. Quarantine zone soil. Contact PM if insufficient volume for Tuna
WBF-BS-BG11-0.0/0.5-20190917 ~ WBF-BG-11 (180-95857-5)	9/17/19	10:04 Eastern		Solid			X		2	TVA - Batch alone. Quarantine zone soil. Contact PM if insufficient volume for Tuna
WBF-BS-FB09-20190917 ~ WBF-BG-11 (180-95857-6)	9/17/19	09:57 Eastern		Water				X	3	TVA - Batch alone
WBF-BS-EB03-20190917 ~ WBF-BG-11 (180-95857-7)	9/17/19	10:12 Eastern		Water				X	3	TVA - Batch alone
WBF-BS-BG12-1.5/3.5-20190917 ~ WBF-BG-12 (180-95857-8)	9/17/19	13:18 Eastern		Solid			X		2	TVA - Batch alone. Quarantine zone soil. Contact PM if insufficient volume for Tuna

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification
Unconfirmed

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Special Instructions/QC Requirements:

Empty Kit Relinquished by: | Date: | Time: | Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	9/19/19 1700	TAIS	Michael Hleem	9-20-19 0915	TAIS
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive RIDC Park
Pittsburgh, PA 15238
Phone: 412-963-7058 Fax: 412-963-2468

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Rumble, Jennifer L	Carrier Tracking No(s):	COC No: 180-373904.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: jennifer.rumble@testamericainc.com	State of Origin: Tennessee	Page: Page 2 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 180-95857-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 9/30/2019			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: WBF_BS_20190917_1B	Project #: 18020303			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	901.1_Ra/Dry_Grind Radium-226/228	901.1_Ra/Fill_Geo_21 Radium-226/228	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
WBF-BS-BG12-6.5/8.5-20190917 ~ WBF-BG-12 (180-95857-9)	9/17/19	13:30 Eastern		Solid			X		2	TVA - Batch alone. Quarantine zone soil. Contact PM if insufficient volume for Tuna
WBF-BS-BG12-11.5/13.5-20190917 ~ WBF-BG-12 (180-95857-1	9/17/19	13:52 Eastern		Solid			X		2	TVA - Batch alone. Quarantine zone soil. Contact PM if insufficient volume for Tuna
WBF-BS-BG12-16.5/18.5-20190917 ~ WBF-BG-12 (180-95857-1	9/17/19	14:06 Eastern		Solid			X		2	TVA - Batch alone. Quarantine zone soil. Contact PM if insufficient volume for Tuna
WBF-BS-BG12-21.5/23.5-20190917 ~ WBF-BG-12 (180-95857-1	9/17/19	14:31 Eastern		Solid			X		2	TVA - Batch alone. Quarantine zone soil. Contact PM if insufficient volume for Tuna
WBF-BS-BG12-0.0/0.5-20190917 ~ WBF-BG-12 (180-95857-13)	9/17/19	14:50 Eastern		Solid			X		2	TVA - Batch alone. Quarantine zone soil. Contact PM if insufficient volume for Tuna
WBF-BS-DUP03-20190917 ~ NA (180-95857-14)	9/17/19	Eastern		Solid			X		2	TVA - Batch alone. Quarantine zone soil. Contact PM if insufficient volume for Tuna

180-95857-01 Chain of Custody

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. I

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:		Method of Shipment:	
Relinquished by:	Date/Time: 9/19/19 1700	Company TAFT	Received by:	Date/Time: 9-20-19 09:15	Company TASTL
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:		

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: Environmental Standards Inc.

Job Number: 180-95857-1

Login Number: 95857
List Number: 1
Creator: Say, Thomas C

List Source: Eurofins TestAmerica, Pittsburgh

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 (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").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Environmental Standards Inc.

Job Number: 180-95857-1

Login Number: 95857
List Number: 2
Creator: Hellm, Michael

List Source: Eurofins TestAmerica, St. Louis
List Creation: 09/20/19 12:05 PM

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.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	20.0
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?	N/A	
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	

Login Sample Receipt Checklist

Client: Environmental Standards Inc.

Job Number: 180-95857-1

Login Number: 95857
List Number: 3
Creator: Hellm, Michael

List Source: Eurofins TestAmerica, St. Louis
List Creation: 09/20/19 12:26 PM

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.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	20.0
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?	N/A	
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	