eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

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

Laboratory Job ID: 180-95807-1
Client Project/Site: WBF_BS_20190916_1A

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

Attn: Amanda Cover

Authorized for release by:
10/17/2019 2:25:19 PM

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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

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Job ID: 180-95807-1

Laboratory: Eurofins TestAmerica, Pittsburgh

Narrative

Job Narrative
180-95807-1

Receipt
The samples were received on 9/17/2019 8:30 AM; the samples arrived in good condition, properly preserved and on ice. The temperature of the cooler at receipt was 3.3º C.

GC Semi VOA
Methods 9056A: The continuing calibration verification (CCV) associated with batch 180-293618 recovered above the upper control limit for Fluoride. WBF-BS-BG10-1.5/3.5-20190916 (180-95807-1) associated with this CCV were non-detects or below the RL (J-value) for the affected analytes; therefore, the data have been reported.

Methods 9056A: Standard (CCVL 180-293733/69) was analyzed after midnight but is still within 48 hours of creation; therefore the standard is valid

Metals
Method 6020A: The low level continuing calibration verification (CCVL) associated with batch 180-294722 recovered above the upper control limit for Zinc The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

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_20190916_1A

Job ID: 180-95807-1

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance 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
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
B	Compound was found in the blank and sample.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

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_20190916_1A

Job ID: 180-95807-1

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

Sample Summary

Client: Environmental Standards Inc.
Project/Site: WBF_BS_20190916_1A

Job ID: 180-95807-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-95807-1	WBF-BS-BG10-1.5/3.5-20190916	Solid	09/16/19 14:53	09/17/19 08:30	
180-95807-2	WBF-BS-BG10-6.5/8.5-20190916	Solid	09/16/19 15:07	09/17/19 08:30	
180-95807-3	WBF-BS-BG10-10.5/12.5-20190916	Solid	09/16/19 15:18	09/17/19 08:30	
180-95807-4	WBF-BS-BG10-0.0/0.5-20190916	Solid	09/16/19 15:53	09/17/19 08:30	
180-95807-5	WBF-BS-FB08-20190916	Water	09/16/19 15:33	09/17/19 08:30	

Method Summary

Client: Environmental Standards Inc.
Project/Site: WBF_BS_20190916_1A

Job ID: 180-95807-1

Method	Method Description	Protocol	Laboratory
EPA 9056A	Anions, Ion Chromatography	SW846	TAL PIT
EPA 6020A	Metals (ICP/MS)	SW846	TAL PIT
EPA 7470A	Mercury (CVAA)	SW846	TAL PIT
EPA 7471B	Mercury (CVAA)	SW846	TAL PIT
2540G	SM 2540G	SM22	TAL PIT
EPA 9045D	pH	SW846	TAL PIT
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL PIT
3050B	Preparation, Metals	SW846	TAL PIT
7470A	Preparation, Mercury	SW846	TAL PIT
7471B	Preparation, Mercury	SW846	TAL PIT
DI Leach	Deionized Water Leaching Procedure	ASTM	TAL PIT

Protocol References:

ASTM = ASTM International

SM22 = Standard Methods For The Examination Of Water And Wastewater, 22nd Edition

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

Laboratory References:

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

Lab Chronicle

Client: Environmental Standards Inc.
Project/Site: WBF_BS_20190916_1A

Job ID: 180-95807-1

Client Sample ID: WBF-BS-BG10-1.5/3.5-20190916 — Lab Sample ID: 180-95807-1

Date Collected: 09/16/19 14:53 — **Matrix: Solid**
Date Received: 09/17/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			292911	09/27/19 09:09	PM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	EPA 9045D		1	20.2 g	20 mL	293263	10/01/19 12:04	MTW	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: WBF-BS-BG10-1.5/3.5-20190916 — Lab Sample ID: 180-95807-1

Date Collected: 09/16/19 14:53 — **Matrix: Solid**
Date Received: 09/17/19 08:30 — **Percent Solids: 91.6**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			10.17 g	100 mL	293660	10/03/19 14:30	CMR	TAL PIT
Soluble	Analysis	EPA 9056A		1			293618	10/03/19 22:58	CMR	TAL PIT
	Instrument ID: CHICS2000									
Total/NA	Prep	3050B			0.95 g	100 mL	292395	09/24/19 10:58	MWW	TAL PIT
Total/NA	Analysis	EPA 6020A		1	1.0 mL	1.0 mL	294929	10/15/19 00:20	WTR	TAL PIT
	Instrument ID: M									
Total/NA	Prep	7471B			0.60 g	100 mL	293644	10/03/19 12:15	MM1	TAL PIT
Total/NA	Analysis	EPA 7471B		1			293784	10/04/19 11:25	RJR	TAL PIT
	Instrument ID: HGY									

Client Sample ID: WBF-BS-BG10-6.5/8.5-20190916 — Lab Sample ID: 180-95807-2

Date Collected: 09/16/19 15:07 — **Matrix: Solid**
Date Received: 09/17/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			292911	09/27/19 09:09	PM	TAL PIT
	Instrument ID: NOEQUIP									
Total/NA	Analysis	EPA 9045D		1	20.1 g	20 mL	293263	10/01/19 12:05	MTW	TAL PIT
	Instrument ID: NOEQUIP									

Client Sample ID: WBF-BS-BG10-6.5/8.5-20190916 — Lab Sample ID: 180-95807-2

Date Collected: 09/16/19 15:07 — **Matrix: Solid**
Date Received: 09/17/19 08:30 — **Percent Solids: 85.1**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			10.15 g	100 mL	293660	10/03/19 14:30	CMR	TAL PIT
Soluble	Analysis	EPA 9056A		1			293733	10/04/19 13:40	CMR	TAL PIT
	Instrument ID: CHIC2100A									
Soluble	Leach	DI Leach			10.15 g	100 mL	293660	10/03/19 14:30	CMR	TAL PIT
Soluble	Analysis	EPA 9056A		1			293618	10/03/19 23:13	CMR	TAL PIT
	Instrument ID: CHICS2000									
Total/NA	Prep	3050B			1.05 g	100 mL	292395	09/24/19 10:58	MWW	TAL PIT
Total/NA	Analysis	EPA 6020A		1	1.0 mL	1.0 mL	294929	10/15/19 00:25	WTR	TAL PIT
	Instrument ID: M									

Lab Chronicle

Client: Environmental Standards Inc.
Project/Site: WBF_BS_20190916_1A

Job ID: 180-95807-1

Client Sample ID: WBF-BS-BG10-6.5/8.5-20190916 — Lab Sample ID: 180-95807-2

Date Collected: 09/16/19 15:07 — **Matrix: Solid**
Date Received: 09/17/19 08:30 — **Percent Solids: 85.1**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7471B			0.62 g	100 mL	293644	10/03/19 12:15	MM1	TAL PIT
Total/NA	Analysis	EPA 7471B		1			293784	10/04/19 11:09	RJR	TAL PIT
	Instrument ID:	HGY								

Client Sample ID: WBF-BS-BG10-10.5/12.5-20190916 — Lab Sample ID: 180-95807-3

Date Collected: 09/16/19 15:18 — **Matrix: Solid**
Date Received: 09/17/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			292911	09/27/19 09:09	PM	TAL PIT
	Instrument ID:	NOEQUIP								
Total/NA	Analysis	EPA 9045D		1	20.4 g	20 mL	293263	10/01/19 12:06	MTW	TAL PIT
	Instrument ID:	NOEQUIP								

Client Sample ID: WBF-BS-BG10-10.5/12.5-20190916 — Lab Sample ID: 180-95807-3

Date Collected: 09/16/19 15:18 — **Matrix: Solid**
Date Received: 09/17/19 08:30 — **Percent Solids: 87.7**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			10.14 g	100 mL	293660	10/03/19 14:30	CMR	TAL PIT
Soluble	Analysis	EPA 9056A		1			293733	10/04/19 13:56	CMR	TAL PIT
	Instrument ID:	CHIC2100A								
Soluble	Leach	DI Leach			10.14 g	100 mL	293660	10/03/19 14:30	CMR	TAL PIT
Soluble	Analysis	EPA 9056A		1			293618	10/03/19 23:27	CMR	TAL PIT
	Instrument ID:	CHICS2000								
Total/NA	Prep	3050B			1.01 g	100 mL	292395	09/24/19 10:58	MWW	TAL PIT
Total/NA	Analysis	EPA 6020A		1	1.0 mL	1.0 mL	294929	10/15/19 00:29	WTR	TAL PIT
	Instrument ID:	M								
Total/NA	Prep	7471B			0.69 g	100 mL	293644	10/03/19 12:15	MM1	TAL PIT
Total/NA	Analysis	EPA 7471B		1			293784	10/04/19 11:10	RJR	TAL PIT
	Instrument ID:	HGY								

Client Sample ID: WBF-BS-BG10-0.0/0.5-20190916 — Lab Sample ID: 180-95807-4

Date Collected: 09/16/19 15:53 — **Matrix: Solid**
Date Received: 09/17/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			292911	09/27/19 09:09	PM	TAL PIT
	Instrument ID:	NOEQUIP								
Total/NA	Analysis	EPA 9045D		1	20.4 g	20 mL	293263	10/01/19 12:07	MTW	TAL PIT
	Instrument ID:	NOEQUIP								

Lab Chronicle

Client: Environmental Standards Inc.
Project/Site: WBF_BS_20190916_1A

Job ID: 180-95807-1

Client Sample ID: WBF-BS-BG10-0.0/0.5-20190916

Lab Sample ID: 180-95807-4
Date Collected: 09/16/19 15:53
Matrix: Solid
Date Received: 09/17/19 08:30
Percent Solids: 84.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			10.05 g	100 mL	293660	10/03/19 14:30	CMR	TAL PIT
Soluble	Analysis	EPA 9056A		1			293733	10/04/19 14:11	CMR	TAL PIT
	Instrument ID:	CHIC2100A								
Soluble	Leach	DI Leach			10.05 g	100 mL	293660	10/03/19 14:30	CMR	TAL PIT
Soluble	Analysis	EPA 9056A		1			293618	10/03/19 23:42	CMR	TAL PIT
	Instrument ID:	CHICS2000								
Total/NA	Prep	3050B			0.97 g	100 mL	292395	09/24/19 10:58	MWW	TAL PIT
Total/NA	Analysis	EPA 6020A		1	1.0 mL	1.0 mL	294929	10/15/19 00:34	WTR	TAL PIT
	Instrument ID:	M								
Total/NA	Prep	7471B			0.59 g	100 mL	293644	10/03/19 12:15	MM1	TAL PIT
Total/NA	Analysis	EPA 7471B		1			293784	10/04/19 11:11	RJR	TAL PIT
	Instrument ID:	HGY								

Client Sample ID: WBF-BS-FB08-20190916

Lab Sample ID: 180-95807-5
Date Collected: 09/16/19 15:33
Matrix: Water
Date Received: 09/17/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A		1			292687	09/26/19 19:59	MJH	TAL PIT
	Instrument ID:	CHIC2100A								
Total Recoverable	Prep	3005A			50 mL	50 mL	292480	09/24/19 14:20	NAM	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1	1.0 mL	1.0 mL	294722	10/12/19 06:13	WTR	TAL PIT
	Instrument ID:	M								
Total/NA	Prep	7470A			50 mL	50 mL	293286	10/01/19 08:45	RJR	TAL PIT
Total/NA	Analysis	EPA 7470A		1			293526	10/02/19 14:18	RJR	TAL PIT
	Instrument ID:	HGZ								

Laboratory References:

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

Analyst References:

Lab: TAL PIT

- Batch Type: Leach
  - CMR = Carl Reagle
- Batch Type: Prep
  - MM1 = Mary Beth Miller
  - MWW = Margaret Wanyoike
  - NAM = Nicole Marfisi
  - RJR = Ron Rosenbaum
- Batch Type: Analysis
  - CMR = Carl Reagle
  - MJH = Matthew Hartman
  - MTW = Michael Wesoloski
  - PM = Paloma Hoelzle
  - RJR = Ron Rosenbaum
  - WTR = Bill Reinheimer

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: WBF_BS_20190916_1A

Job ID: 180-95807-1

Client Sample ID: WBF-BS-BG10-1.5/3.5-20190916

Lab Sample ID: 180-95807-1

Date Collected: 09/16/19 14:53
Date Received: 09/17/19 08:30

Matrix: Solid
Percent Solids: 91.6

Method: EPA 9056A - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		10.7	4.17	mg/Kg	☼		10/03/19 22:58	1
Fluoride	**0.912**	**J**	1.07	0.730	mg/Kg	☼		10/03/19 22:58	1
Sulfate	**33.3**		10.7	7.29	mg/Kg	☼		10/03/19 22:58	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.230	0.0713	mg/Kg	☼	09/24/19 10:58	10/15/19 00:20	1
Arsenic	**3.28**		0.115	0.0299	mg/Kg	☼	09/24/19 10:58	10/15/19 00:20	1
Barium	**146**		1.15	0.147	mg/Kg	☼	09/24/19 10:58	10/15/19 00:20	1
Beryllium	**1.51**		0.115	0.00862	mg/Kg	☼	09/24/19 10:58	10/15/19 00:20	1
Boron	**2.33**	**J**	9.19	1.55	mg/Kg	☼	09/24/19 10:58	10/15/19 00:20	1
Cadmium	ND		0.115	0.0195	mg/Kg	☼	09/24/19 10:58	10/15/19 00:20	1
Calcium	**1220**		57.5	10.3	mg/Kg	☼	09/24/19 10:58	10/15/19 00:20	1
Chromium	**41.0**		0.230	0.0954	mg/Kg	☼	09/24/19 10:58	10/15/19 00:20	1
Cobalt	**14.3**		0.0575	0.00954	mg/Kg	☼	09/24/19 10:58	10/15/19 00:20	1
Copper	**27.6**		0.230	0.130	mg/Kg	☼	09/24/19 10:58	10/15/19 00:20	1
Lead	**5.13**		0.115	0.0402	mg/Kg	☼	09/24/19 10:58	10/15/19 00:20	1
Lithium	**27.9**	**B**	0.575	0.317	mg/Kg	☼	09/24/19 10:58	10/15/19 00:20	1
Molybdenum	ND		0.575	0.187	mg/Kg	☼	09/24/19 10:58	10/15/19 00:20	1
Nickel	**42.4**		0.115	0.0701	mg/Kg	☼	09/24/19 10:58	10/15/19 00:20	1
Selenium	**0.411**	**J**	0.575	0.140	mg/Kg	☼	09/24/19 10:58	10/15/19 00:20	1
Silver	ND		0.115	0.0310	mg/Kg	☼	09/24/19 10:58	10/15/19 00:20	1
Thallium	**0.199**		0.115	0.0287	mg/Kg	☼	09/24/19 10:58	10/15/19 00:20	1
Vanadium	**25.4**		0.115	0.0735	mg/Kg	☼	09/24/19 10:58	10/15/19 00:20	1
Zinc	**55.8**		0.575	0.384	mg/Kg	☼	09/24/19 10:58	10/15/19 00:20	1

Method: EPA 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0360	0.0156	mg/Kg	☼	10/03/19 12:15	10/04/19 11:25	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**8.4**		0.1	0.1	%			09/27/19 09:09	1
Percent Solids	**91.6**		0.1	0.1	%			09/27/19 09:09	1
pH	**5.4**	**HF**	0.1	0.1	SU			10/01/19 12:04	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: WBF_BS_20190916_1A

Job ID: 180-95807-1

Client Sample ID: WBF-BS-BG10-6.5/8.5-20190916

Date Collected: 09/16/19 15:07
Date Received: 09/17/19 08:30

Lab Sample ID: 180-95807-2

Matrix: Solid
Percent Solids: 85.1

Method: EPA 9056A - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5.56	J	11.6	4.49	mg/Kg	☼		10/03/19 23:13	1
Fluoride	2.14		1.16	0.788	mg/Kg	☼		10/04/19 13:40	1
Sulfate	12.9		11.6	7.86	mg/Kg	☼		10/03/19 23:13	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.224	0.0694	mg/Kg	☼	09/24/19 10:58	10/15/19 00:25	1
Arsenic	3.27		0.112	0.0291	mg/Kg	☼	09/24/19 10:58	10/15/19 00:25	1
Barium	355		1.12	0.143	mg/Kg	☼	09/24/19 10:58	10/15/19 00:25	1
Beryllium	1.39		0.112	0.00840	mg/Kg	☼	09/24/19 10:58	10/15/19 00:25	1
Boron	2.11	J	8.96	1.51	mg/Kg	☼	09/24/19 10:58	10/15/19 00:25	1
Cadmium	ND		0.112	0.0190	mg/Kg	☼	09/24/19 10:58	10/15/19 00:25	1
Calcium	1660		56.0	10.0	mg/Kg	☼	09/24/19 10:58	10/15/19 00:25	1
Chromium	43.1		0.224	0.0929	mg/Kg	☼	09/24/19 10:58	10/15/19 00:25	1
Cobalt	39.1		0.0560	0.00929	mg/Kg	☼	09/24/19 10:58	10/15/19 00:25	1
Copper	16.2		0.224	0.127	mg/Kg	☼	09/24/19 10:58	10/15/19 00:25	1
Lead	3.79		0.112	0.0392	mg/Kg	☼	09/24/19 10:58	10/15/19 00:25	1
Lithium	23.5	B	0.560	0.309	mg/Kg	☼	09/24/19 10:58	10/15/19 00:25	1
Molybdenum	ND		0.560	0.182	mg/Kg	☼	09/24/19 10:58	10/15/19 00:25	1
Nickel	49.4		0.112	0.0683	mg/Kg	☼	09/24/19 10:58	10/15/19 00:25	1
Selenium	0.487	J	0.560	0.137	mg/Kg	☼	09/24/19 10:58	10/15/19 00:25	1
Silver	ND		0.112	0.0302	mg/Kg	☼	09/24/19 10:58	10/15/19 00:25	1
Thallium	0.223		0.112	0.0280	mg/Kg	☼	09/24/19 10:58	10/15/19 00:25	1
Vanadium	27.1		0.112	0.0717	mg/Kg	☼	09/24/19 10:58	10/15/19 00:25	1
Zinc	66.9		0.560	0.374	mg/Kg	☼	09/24/19 10:58	10/15/19 00:25	1

Method: EPA 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0375	0.0163	mg/Kg	☼	10/03/19 12:15	10/04/19 11:09	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	14.9		0.1	0.1	%			09/27/19 09:09	1
Percent Solids	85.1		0.1	0.1	%			09/27/19 09:09	1
pH	6.0	HF	0.1	0.1	SU			10/01/19 12:05	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: WBF_BS_20190916_1A

Job ID: 180-95807-1

Client Sample ID: WBF-BS-BG10-10.5/12.5-20190916

Lab Sample ID: 180-95807-3

Date Collected: 09/16/19 15:18
Date Received: 09/17/19 08:30

Matrix: Solid
Percent Solids: 87.7

Method: EPA 9056A - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4.51	J	11.2	4.36	mg/Kg	☼		10/03/19 23:27	1
Fluoride	3.90		1.12	0.765	mg/Kg	☼		10/04/19 13:56	1
Sulfate	21.2		11.2	7.63	mg/Kg	☼		10/03/19 23:27	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.226	0.0700	mg/Kg	☼	09/24/19 10:58	10/15/19 00:29	1
Arsenic	2.17		0.113	0.0293	mg/Kg	☼	09/24/19 10:58	10/15/19 00:29	1
Barium	285		1.13	0.144	mg/Kg	☼	09/24/19 10:58	10/15/19 00:29	1
Beryllium	1.26		0.113	0.00847	mg/Kg	☼	09/24/19 10:58	10/15/19 00:29	1
Boron	2.72	J	9.03	1.52	mg/Kg	☼	09/24/19 10:58	10/15/19 00:29	1
Cadmium	ND		0.113	0.0192	mg/Kg	☼	09/24/19 10:58	10/15/19 00:29	1
Calcium	2920		56.4	10.1	mg/Kg	☼	09/24/19 10:58	10/15/19 00:29	1
Chromium	43.7		0.226	0.0937	mg/Kg	☼	09/24/19 10:58	10/15/19 00:29	1
Cobalt	19.8		0.0564	0.00937	mg/Kg	☼	09/24/19 10:58	10/15/19 00:29	1
Copper	22.1		0.226	0.128	mg/Kg	☼	09/24/19 10:58	10/15/19 00:29	1
Lead	3.43		0.113	0.0395	mg/Kg	☼	09/24/19 10:58	10/15/19 00:29	1
Lithium	27.7	B	0.564	0.312	mg/Kg	☼	09/24/19 10:58	10/15/19 00:29	1
Molybdenum	ND		0.564	0.184	mg/Kg	☼	09/24/19 10:58	10/15/19 00:29	1
Nickel	49.8		0.113	0.0689	mg/Kg	☼	09/24/19 10:58	10/15/19 00:29	1
Selenium	ND		0.564	0.138	mg/Kg	☼	09/24/19 10:58	10/15/19 00:29	1
Silver	ND		0.113	0.0305	mg/Kg	☼	09/24/19 10:58	10/15/19 00:29	1
Thallium	0.227		0.113	0.0282	mg/Kg	☼	09/24/19 10:58	10/15/19 00:29	1
Vanadium	23.6		0.113	0.0722	mg/Kg	☼	09/24/19 10:58	10/15/19 00:29	1
Zinc	72.1		0.564	0.377	mg/Kg	☼	09/24/19 10:58	10/15/19 00:29	1

Method: EPA 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0327	0.0142	mg/Kg	☼	10/03/19 12:15	10/04/19 11:10	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	12.3		0.1	0.1	%			09/27/19 09:09	1
Percent Solids	87.7		0.1	0.1	%			09/27/19 09:09	1
pH	6.9	HF	0.1	0.1	SU			10/01/19 12:06	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: WBF_BS_20190916_1A

Job ID: 180-95807-1

Client Sample ID: WBF-BS-BG10-0.0/0.5-20190916

Lab Sample ID: 180-95807-4

Date Collected: 09/16/19 15:53
Date Received: 09/17/19 08:30

Matrix: Solid
Percent Solids: 84.6

Method: EPA 9056A - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5.37	J	11.8	4.56	mg/Kg	☼		10/03/19 23:42	1
Fluoride	4.01		1.18	0.800	mg/Kg	☼		10/04/19 14:11	1
Sulfate	16.8		11.8	7.98	mg/Kg	☼		10/03/19 23:42	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.139	J	0.244	0.0755	mg/Kg	☼	09/24/19 10:58	10/15/19 00:34	1
Arsenic	4.05		0.122	0.0317	mg/Kg	☼	09/24/19 10:58	10/15/19 00:34	1
Barium	61.7		1.22	0.156	mg/Kg	☼	09/24/19 10:58	10/15/19 00:34	1
Beryllium	0.763		0.122	0.00914	mg/Kg	☼	09/24/19 10:58	10/15/19 00:34	1
Boron	2.55	J	9.75	1.64	mg/Kg	☼	09/24/19 10:58	10/15/19 00:34	1
Cadmium	0.0553	J	0.122	0.0207	mg/Kg	☼	09/24/19 10:58	10/15/19 00:34	1
Calcium	33900		60.9	10.9	mg/Kg	☼	09/24/19 10:58	10/15/19 00:34	1
Chromium	17.5		0.244	0.101	mg/Kg	☼	09/24/19 10:58	10/15/19 00:34	1
Cobalt	7.06		0.0609	0.0101	mg/Kg	☼	09/24/19 10:58	10/15/19 00:34	1
Copper	10.9		0.244	0.138	mg/Kg	☼	09/24/19 10:58	10/15/19 00:34	1
Lead	11.9		0.122	0.0426	mg/Kg	☼	09/24/19 10:58	10/15/19 00:34	1
Lithium	9.89	B	0.609	0.336	mg/Kg	☼	09/24/19 10:58	10/15/19 00:34	1
Molybdenum	0.697		0.609	0.199	mg/Kg	☼	09/24/19 10:58	10/15/19 00:34	1
Nickel	11.5		0.122	0.0743	mg/Kg	☼	09/24/19 10:58	10/15/19 00:34	1
Selenium	0.485	J	0.609	0.149	mg/Kg	☼	09/24/19 10:58	10/15/19 00:34	1
Silver	ND		0.122	0.0329	mg/Kg	☼	09/24/19 10:58	10/15/19 00:34	1
Thallium	0.208		0.122	0.0305	mg/Kg	☼	09/24/19 10:58	10/15/19 00:34	1
Vanadium	27.4		0.122	0.0780	mg/Kg	☼	09/24/19 10:58	10/15/19 00:34	1
Zinc	36.8		0.609	0.407	mg/Kg	☼	09/24/19 10:58	10/15/19 00:34	1

Method: EPA 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0324	J	0.0397	0.0172	mg/Kg	☼	10/03/19 12:15	10/04/19 11:11	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	15.4		0.1	0.1	%			09/27/19 09:09	1
Percent Solids	84.6		0.1	0.1	%			09/27/19 09:09	1
pH	7.6	HF	0.1	0.1	SU			10/01/19 12:07	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: WBF_BS_20190916_1A

Job ID: 180-95807-1

Client Sample ID: WBF-BS-FB08-20190916

Lab Sample ID: 180-95807-5

Date Collected: 09/16/19 15:33
Matrix: Water
Date Received: 09/17/19 08:30

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.00	0.715	mg/L			09/26/19 19:59	1
Fluoride	ND		0.100	0.0263	mg/L			09/26/19 19:59	1
Sulfate	**0.648**	**J**	1.00	0.380	mg/L			09/26/19 19:59	1

Method: EPA 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200	0.000378	mg/L		09/24/19 14:20	10/12/19 06:13	1
Arsenic	**0.000325**	**J**	0.00100	0.000323	mg/L		09/24/19 14:20	10/12/19 06:13	1
Barium	ND		0.0100	0.00160	mg/L		09/24/19 14:20	10/12/19 06:13	1
Beryllium	ND		0.00100	0.000182	mg/L		09/24/19 14:20	10/12/19 06:13	1
Boron	ND		0.0800	0.0386	mg/L		09/24/19 14:20	10/12/19 06:13	1
Cadmium	ND		0.00100	0.000125	mg/L		09/24/19 14:20	10/12/19 06:13	1
Calcium	ND		0.500	0.127	mg/L		09/24/19 14:20	10/12/19 06:13	1
Chromium	ND		0.00200	0.00153	mg/L		09/24/19 14:20	10/12/19 06:13	1
Cobalt	ND		0.000500	0.0000750	mg/L		09/24/19 14:20	10/12/19 06:13	1
Copper	ND		0.00200	0.000627	mg/L		09/24/19 14:20	10/12/19 06:13	1
Lead	ND		0.00100	0.000128	mg/L		09/24/19 14:20	10/12/19 06:13	1
Lithium	ND		0.00500	0.00339	mg/L		09/24/19 14:20	10/12/19 06:13	1
Molybdenum	**0.000733**	**J**	0.00500	0.000610	mg/L		09/24/19 14:20	10/12/19 06:13	1
Nickel	ND		0.00100	0.000336	mg/L		09/24/19 14:20	10/12/19 06:13	1
Selenium	ND		0.00500	0.00151	mg/L		09/24/19 14:20	10/12/19 06:13	1
Silver	ND		0.00100	0.000177	mg/L		09/24/19 14:20	10/12/19 06:13	1
Thallium	**0.00105**	**B**	0.00100	0.000148	mg/L		09/24/19 14:20	10/12/19 06:13	1
Vanadium	ND		0.00100	0.000991	mg/L		09/24/19 14:20	10/12/19 06:13	1
Zinc	ND		0.00500	0.00322	mg/L		09/24/19 14:20	10/12/19 06:13	1

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200	0.000101	mg/L		10/01/19 08:45	10/02/19 14:18	1

QC Sample Results

Client: Environmental Standards Inc.
Project/Site: WBF_BS_20190916_1A

Job ID: 180-95807-1

Method: EPA 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 180-292687/46
Matrix: Water
Analysis Batch: 292687

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.00	0.715	mg/L			09/26/19 16:20	1
Fluoride	ND		0.100	0.0263	mg/L			09/26/19 16:20	1
Sulfate	ND		1.00	0.380	mg/L			09/26/19 16:20	1

Lab Sample ID: LCS 180-292687/45
Matrix: Water
Analysis Batch: 292687

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	25.0	23.99		mg/L		96	80 - 120
Fluoride	1.25	1.180		mg/L		94	80 - 120
Sulfate	25.0	23.68		mg/L		95	80 - 120

Lab Sample ID: 180-95907-D-1 MS
Matrix: Water
Analysis Batch: 292687

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	6.73		25.0	31.32		mg/L		98	80 - 120
Fluoride	0.0836	J	1.25	1.369		mg/L		103	80 - 120
Sulfate	1.87		25.0	26.77		mg/L		100	80 - 120

Lab Sample ID: 180-95907-D-1 MSD
Matrix: Water
Analysis Batch: 292687

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	6.73		25.0	31.45		mg/L		99	80 - 120	0	15
Fluoride	0.0836	J	1.25	1.338		mg/L		100	80 - 120	2	15
Sulfate	1.87		25.0	26.24		mg/L		97	80 - 120	2	15

Lab Sample ID: LB1 180-293660/1-A
Matrix: Solid
Analysis Batch: 293618

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	LB1 Result	LB1 Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		10.0	3.88	mg/Kg			10/03/19 22:28	1
Fluoride	ND		1.00	0.680	mg/Kg			10/03/19 22:28	1
Sulfate	ND		10.0	6.79	mg/Kg			10/03/19 22:28	1

Lab Sample ID: LCS 180-293660/2-A
Matrix: Solid
Analysis Batch: 293618

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	272.4		mg/Kg		109	80 - 120
Fluoride	12.5	14.04		mg/Kg		112	80 - 120
Sulfate	250	251.5		mg/Kg		101	80 - 120

Method: EPA 9056A - Anions, Ion Chromatography (Continued)

Lab Sample ID: 180-95855-A-3-E MS
Matrix: Solid
Analysis Batch: 293618

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	5.02	J	312	318.8		mg/Kg	☼	101	80 - 120		
Fluoride	ND	F1	15.6	ND	F1	mg/Kg	☼	0	80 - 120		
Sulfate	74.1		312	358.6		mg/Kg	☼	91	80 - 120		

Lab Sample ID: 180-95855-A-3-F MSD
Matrix: Solid
Analysis Batch: 293618

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	5.02	J	317	333.4		mg/Kg	☼	104	80 - 120	4	15
Fluoride	ND	F1	15.9	ND	F1	mg/Kg	☼	0	80 - 120	NC	15
Sulfate	74.1		317	373.0		mg/Kg	☼	94	80 - 120	4	15

Lab Sample ID: LB1 180-293660/1-A
Matrix: Solid
Analysis Batch: 293733

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	LB1 Result	LB1 Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		10.0	3.88	mg/Kg			10/04/19 13:10	1
Fluoride	ND		1.00	0.680	mg/Kg			10/04/19 13:10	1
Sulfate	ND		10.0	6.79	mg/Kg			10/04/19 13:10	1

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

Lab Sample ID: MB 180-292395/1-A
Matrix: Solid
Analysis Batch: 294929

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 292395

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.200	0.0620	mg/Kg		09/24/19 10:58	10/14/19 22:18	1
Arsenic	ND		0.100	0.0260	mg/Kg		09/24/19 10:58	10/14/19 22:18	1
Barium	ND		1.00	0.128	mg/Kg		09/24/19 10:58	10/14/19 22:18	1
Beryllium	ND		0.100	0.00750	mg/Kg		09/24/19 10:58	10/14/19 22:18	1
Boron	ND		8.00	1.35	mg/Kg		09/24/19 10:58	10/14/19 22:18	1
Cadmium	ND		0.100	0.0170	mg/Kg		09/24/19 10:58	10/14/19 22:18	1
Calcium	ND		50.0	8.95	mg/Kg		09/24/19 10:58	10/14/19 22:18	1
Chromium	ND		0.200	0.0830	mg/Kg		09/24/19 10:58	10/14/19 22:18	1
Cobalt	ND		0.0500	0.00830	mg/Kg		09/24/19 10:58	10/14/19 22:18	1
Copper	ND		0.200	0.113	mg/Kg		09/24/19 10:58	10/14/19 22:18	1
Lead	ND		0.100	0.0350	mg/Kg		09/24/19 10:58	10/14/19 22:18	1
Lithium	0.3498	J	0.500	0.276	mg/Kg		09/24/19 10:58	10/14/19 22:18	1
Nickel	ND		0.100	0.0610	mg/Kg		09/24/19 10:58	10/14/19 22:18	1
Selenium	ND		0.500	0.122	mg/Kg		09/24/19 10:58	10/14/19 22:18	1
Silver	ND		0.100	0.0270	mg/Kg		09/24/19 10:58	10/14/19 22:18	1
Thallium	ND		0.100	0.0250	mg/Kg		09/24/19 10:58	10/14/19 22:18	1
Vanadium	ND		0.100	0.0640	mg/Kg		09/24/19 10:58	10/14/19 22:18	1
Zinc	ND		0.500	0.334	mg/Kg		09/24/19 10:58	10/14/19 22:18	1

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

Lab Sample ID: LCS 180-292395/2-A
Matrix: Solid
Analysis Batch: 294929

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 292395

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	25.0	26.68		mg/Kg		107	80 - 120
Arsenic	100	99.24		mg/Kg		99	80 - 120
Barium	100	98.73		mg/Kg		99	80 - 120
Beryllium	50.0	52.80		mg/Kg		106	80 - 120
Boron	125	114.3		mg/Kg		91	80 - 120
Cadmium	50.0	53.26		mg/Kg		107	80 - 120
Calcium	2500	2468		mg/Kg		99	80 - 120
Chromium	50.0	51.08		mg/Kg		102	80 - 120
Cobalt	50.0	50.31		mg/Kg		101	80 - 120
Copper	50.0	51.81		mg/Kg		104	80 - 120
Lead	50.0	50.49		mg/Kg		101	80 - 120
Lithium	50.0	47.72		mg/Kg		95	80 - 120
Nickel	50.0	52.19		mg/Kg		104	80 - 120
Selenium	100	95.10		mg/Kg		95	80 - 120
Silver	25.0	25.33		mg/Kg		101	80 - 120
Thallium	100	97.31		mg/Kg		97	80 - 120
Vanadium	50.0	48.82		mg/Kg		98	80 - 120
Zinc	25.0	25.13		mg/Kg		101	80 - 120

Lab Sample ID: 180-95736-B-1-B MS
Matrix: Solid
Analysis Batch: 294929

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 292395

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.190	J F1	29.7	18.34	F1	mg/Kg	☼	61	75 - 125
Arsenic	7.92		119	112.1		mg/Kg	☼	88	75 - 125
Barium	168	F1	119	285.2		mg/Kg	☼	99	75 - 125
Beryllium	1.82		59.4	61.75		mg/Kg	☼	101	75 - 125
Boron	5.72	J	149	148.3		mg/Kg	☼	96	75 - 125
Cadmium	0.221		59.4	61.22		mg/Kg	☼	103	75 - 125
Calcium	4920	F1 F2	2970	8065		mg/Kg	☼	106	75 - 125
Chromium	20.9		59.4	78.09		mg/Kg	☼	96	75 - 125
Cobalt	15.5		59.4	69.23		mg/Kg	☼	90	75 - 125
Copper	17.9		59.4	73.59		mg/Kg	☼	94	75 - 125
Lead	20.6		59.4	77.84		mg/Kg	☼	96	75 - 125
Lithium	18.8	B	59.4	73.66		mg/Kg	☼	92	75 - 125
Molybdenum	1.30		59.4	58.22		mg/Kg	☼	96	75 - 125
Nickel	25.3		59.4	82.09		mg/Kg	☼	96	75 - 125
Selenium	0.775		119	100.4		mg/Kg	☼	84	75 - 125
Silver	ND		29.7	28.82		mg/Kg	☼	97	75 - 125
Thallium	0.238		119	110.6		mg/Kg	☼	93	75 - 125
Vanadium	26.1		59.4	80.46		mg/Kg	☼	92	75 - 125
Zinc	68.4		29.7	101.9		mg/Kg	☼	113	75 - 125

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

Lab Sample ID: 180-95736-B-1-C MSD
Matrix: Solid
Analysis Batch: 294929

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 292395

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	0.190	J F1	29.1	19.34	F1	mg/Kg	☼	66	75 - 125	5	20
Arsenic	7.92		116	113.2		mg/Kg	☼	90	75 - 125	1	20
Barium	168	F1	116	250.6	F1	mg/Kg	☼	71	75 - 125	13	20
Beryllium	1.82		58.2	59.42		mg/Kg	☼	99	75 - 125	4	20
Boron	5.72	J	146	151.3		mg/Kg	☼	100	75 - 125	2	20
Cadmium	0.221		58.2	60.23		mg/Kg	☼	103	75 - 125	2	20
Calcium	4920	F1 F2	2910	36250	F1 F2	mg/Kg	☼	1076	75 - 125	127	20
Chromium	20.9		58.2	74.93		mg/Kg	☼	93	75 - 125	4	20
Cobalt	15.5		58.2	66.31		mg/Kg	☼	87	75 - 125	4	20
Copper	17.9		58.2	70.77		mg/Kg	☼	91	75 - 125	4	20
Lead	20.6		58.2	73.41		mg/Kg	☼	91	75 - 125	6	20
Lithium	18.8	B	58.2	86.85		mg/Kg	☼	117	75 - 125	16	20
Molybdenum	1.30		58.2	58.01		mg/Kg	☼	97	75 - 125	0	20
Nickel	25.3		58.2	78.12		mg/Kg	☼	91	75 - 125	5	20
Selenium	0.775		116	101.8		mg/Kg	☼	87	75 - 125	1	20
Silver	ND		29.1	28.30		mg/Kg	☼	97	75 - 125	2	20
Thallium	0.238		116	109.6		mg/Kg	☼	94	75 - 125	1	20
Vanadium	26.1		58.2	79.56		mg/Kg	☼	92	75 - 125	1	20
Zinc	68.4		29.1	90.13		mg/Kg	☼	75	75 - 125	12	20

Lab Sample ID: MB 180-292480/1-A
Matrix: Water
Analysis Batch: 294722

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 292480

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200	0.000378	mg/L		09/24/19 14:20	10/12/19 06:04	1
Arsenic	ND		0.00100	0.000323	mg/L		09/24/19 14:20	10/12/19 06:04	1
Barium	ND		0.0100	0.00160	mg/L		09/24/19 14:20	10/12/19 06:04	1
Beryllium	ND		0.00100	0.000182	mg/L		09/24/19 14:20	10/12/19 06:04	1
Boron	ND		0.0800	0.0386	mg/L		09/24/19 14:20	10/12/19 06:04	1
Cadmium	ND		0.00100	0.000125	mg/L		09/24/19 14:20	10/12/19 06:04	1
Calcium	ND		0.500	0.127	mg/L		09/24/19 14:20	10/12/19 06:04	1
Chromium	ND		0.00200	0.00153	mg/L		09/24/19 14:20	10/12/19 06:04	1
Cobalt	ND		0.000500	0.0000750	mg/L		09/24/19 14:20	10/12/19 06:04	1
Copper	ND		0.00200	0.000627	mg/L		09/24/19 14:20	10/12/19 06:04	1
Lead	ND		0.00100	0.000128	mg/L		09/24/19 14:20	10/12/19 06:04	1
Lithium	ND		0.00500	0.00339	mg/L		09/24/19 14:20	10/12/19 06:04	1
Molybdenum	ND		0.00500	0.000610	mg/L		09/24/19 14:20	10/12/19 06:04	1
Nickel	ND		0.00100	0.000336	mg/L		09/24/19 14:20	10/12/19 06:04	1
Selenium	ND		0.00500	0.00151	mg/L		09/24/19 14:20	10/12/19 06:04	1
Silver	ND		0.00100	0.000177	mg/L		09/24/19 14:20	10/12/19 06:04	1
Thallium	0.0004930	J	0.00100	0.000148	mg/L		09/24/19 14:20	10/12/19 06:04	1
Vanadium	ND		0.00100	0.000991	mg/L		09/24/19 14:20	10/12/19 06:04	1
Zinc	0.004835	J	0.00500	0.00322	mg/L		09/24/19 14:20	10/12/19 06:04	1

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

Lab Sample ID: LCS 180-292480/2-A
Matrix: Water
Analysis Batch: 294722

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 292480

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.250	0.2777		mg/L		111	80 - 120
Arsenic	1.00	0.9679		mg/L		97	80 - 120
Barium	1.00	0.9819		mg/L		98	80 - 120
Beryllium	0.500	0.4920		mg/L		98	80 - 120
Boron	1.25	1.314		mg/L		105	80 - 120
Cadmium	0.500	0.5513		mg/L		110	80 - 120
Calcium	25.0	25.06		mg/L		100	80 - 120
Chromium	0.500	0.4660		mg/L		93	80 - 120
Cobalt	0.500	0.4697		mg/L		94	80 - 120
Copper	0.500	0.4887		mg/L		98	80 - 120
Lead	0.500	0.5272		mg/L		105	80 - 120
Lithium	0.500	0.5002		mg/L		100	80 - 120
Molybdenum	0.500	0.5312		mg/L		106	80 - 120
Nickel	0.500	0.4757		mg/L		95	80 - 120
Selenium	1.00	0.9261		mg/L		93	80 - 120
Silver	0.250	0.2573		mg/L		103	80 - 120
Thallium	1.00	1.056		mg/L		106	80 - 120
Vanadium	0.500	0.4398		mg/L		88	80 - 120
Zinc	0.250	0.2594		mg/L		104	80 - 120

Lab Sample ID: 180-95454-D-9-B MS
Matrix: Water
Analysis Batch: 294722

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 292480

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	ND		0.250	0.2745		mg/L		110	75 - 125
Arsenic	ND		1.00	0.9774		mg/L		98	75 - 125
Barium	0.0429		1.00	0.9907		mg/L		95	75 - 125
Beryllium	ND		0.500	0.4884		mg/L		98	75 - 125
Boron	0.204		1.25	1.512		mg/L		105	75 - 125
Cadmium	0.000417	J	0.500	0.5506		mg/L		110	75 - 125
Calcium	217		25.0	241.8	4	mg/L		100	75 - 125
Chromium	1.14		0.500	1.670		mg/L		107	75 - 125
Cobalt	0.000587		0.500	0.4804		mg/L		96	75 - 125
Copper	0.00161	J	0.500	0.5020		mg/L		100	75 - 125
Lead	ND		0.500	0.5201		mg/L		104	75 - 125
Lithium	ND		0.500	0.4820		mg/L		96	75 - 125
Molybdenum	0.00419	J	0.500	0.5373		mg/L		107	75 - 125
Nickel	0.00431		0.500	0.4874		mg/L		97	75 - 125
Selenium	ND		1.00	0.9152		mg/L		92	75 - 125
Silver	ND		0.250	0.2537		mg/L		101	75 - 125
Thallium	ND		1.00	1.037		mg/L		104	75 - 125
Vanadium	ND		0.500	0.4529		mg/L		91	75 - 125
Zinc	0.00553	B	0.250	0.2745		mg/L		108	75 - 125

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

Lab Sample ID: 180-95454-D-9-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 294722 — **Prep Batch: 292480**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	ND		0.250	0.2764		mg/L		111	75 - 125	1	20
Arsenic	ND		1.00	1.002		mg/L		100	75 - 125	2	20
Barium	0.0429		1.00	0.9868		mg/L		94	75 - 125	0	20
Beryllium	ND		0.500	0.5204		mg/L		104	75 - 125	6	20
Boron	0.204		1.25	1.624		mg/L		114	75 - 125	7	20
Cadmium	0.000417	J	0.500	0.5534		mg/L		111	75 - 125	1	20
Calcium	217		25.0	245.0	4	mg/L		113	75 - 125	1	20
Chromium	1.14		0.500	1.611		mg/L		95	75 - 125	4	20
Cobalt	0.000587		0.500	0.4981		mg/L		100	75 - 125	4	20
Copper	0.00161	J	0.500	0.5111		mg/L		102	75 - 125	2	20
Lead	ND		0.500	0.5237		mg/L		105	75 - 125	1	20
Lithium	ND		0.500	0.5166		mg/L		103	75 - 125	7	20
Molybdenum	0.00419	J	0.500	0.5394		mg/L		107	75 - 125	0	20
Nickel	0.00431		0.500	0.5086		mg/L		101	75 - 125	4	20
Selenium	ND		1.00	0.9528		mg/L		95	75 - 125	4	20
Silver	ND		0.250	0.2588		mg/L		104	75 - 125	2	20
Thallium	ND		1.00	1.046		mg/L		105	75 - 125	1	20
Vanadium	ND		0.500	0.4713		mg/L		94	75 - 125	4	20
Zinc	0.00553	B	0.250	0.2794		mg/L		110	75 - 125	2	20

Method: EPA 7470A - Mercury (CVAA)

Lab Sample ID: MB 180-293286/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 293526 — **Prep Batch: 293286**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0001240	J	0.000200	0.000101	mg/L		10/01/19 08:45	10/02/19 13:56	1

Lab Sample ID: LCS 180-293286/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 293526 — **Prep Batch: 293286**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00250	0.002578		mg/L		103	80 - 120

Lab Sample ID: 180-95686-B-33-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 293526 — **Prep Batch: 293286**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		0.00100	0.001074		mg/L		107	75 - 125

Lab Sample ID: 180-95686-B-33-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 293526 — **Prep Batch: 293286**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		0.00100	0.001004		mg/L		100	75 - 125	7	20

QC Sample Results

Client: Environmental Standards Inc.
Project/Site: WBF_BS_20190916_1A

Job ID: 180-95807-1

Method: EPA 7471B - Mercury (CVAA)

Lab Sample ID: MB 180-293644/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 293784 — **Prep Batch: 293644**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0330	0.0143	mg/Kg		10/03/19 12:15	10/04/19 10:55	1

Lab Sample ID: LCS 180-293644/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 293784 — **Prep Batch: 293644**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.417	0.4127		mg/Kg		99	80 - 120

Lab Sample ID: 180-95812-B-7-G MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 293784 — **Prep Batch: 293644**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.0864		0.205	0.2846		mg/Kg	☼	97	80 - 120

Lab Sample ID: 180-95812-B-7-H MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 293784 — **Prep Batch: 293644**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.0864		0.190	0.2766		mg/Kg	☼	100	80 - 120	3	20

Method: 2540G - SM 2540G

Lab Sample ID: 460-191612-B-8 DU — **Client Sample ID: Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 292911

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	91.6		92.0		%		0.4	10
Percent Solids	8.4		8.0		%		5	10

Method: EPA 9045D - pH

Lab Sample ID: LCS 180-293263/1 — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 293263

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		100	99 - 101

Lab Sample ID: 180-95855-A-3 DU — **Client Sample ID: Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 293263

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	5.2		5.3		SU		0.9	2

QC Association Summary

Client: Environmental Standards Inc.
Project/Site: WBF_BS_20190916_1A

Job ID: 180-95807-1

HPLC/IC

Analysis Batch: 292687

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-95807-5	WBF-BS-FB08-20190916	Total/NA	Water	EPA 9056A	
MB 180-292687/46	Method Blank	Total/NA	Water	EPA 9056A	
LCS 180-292687/45	Lab Control Sample	Total/NA	Water	EPA 9056A	
180-95907-D-1 MS	Matrix Spike	Total/NA	Water	EPA 9056A	
180-95907-D-1 MSD	Matrix Spike Duplicate	Total/NA	Water	EPA 9056A	

Analysis Batch: 293618

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-95807-1	WBF-BS-BG10-1.5/3.5-20190916	Soluble	Solid	EPA 9056A	293660
180-95807-2	WBF-BS-BG10-6.5/8.5-20190916	Soluble	Solid	EPA 9056A	293660
180-95807-3	WBF-BS-BG10-10.5/12.5-20190916	Soluble	Solid	EPA 9056A	293660
180-95807-4	WBF-BS-BG10-0.0/0.5-20190916	Soluble	Solid	EPA 9056A	293660
LB1 180-293660/1-A	Method Blank	Soluble	Solid	EPA 9056A	293660
LCS 180-293660/2-A	Lab Control Sample	Soluble	Solid	EPA 9056A	293660
180-95855-A-3-E MS	Matrix Spike	Soluble	Solid	EPA 9056A	293660
180-95855-A-3-F MSD	Matrix Spike Duplicate	Soluble	Solid	EPA 9056A	293660

Leach Batch: 293660

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-95807-1	WBF-BS-BG10-1.5/3.5-20190916	Soluble	Solid	DI Leach	
180-95807-2	WBF-BS-BG10-6.5/8.5-20190916	Soluble	Solid	DI Leach	
180-95807-3	WBF-BS-BG10-10.5/12.5-20190916	Soluble	Solid	DI Leach	
180-95807-4	WBF-BS-BG10-0.0/0.5-20190916	Soluble	Solid	DI Leach	
LB1 180-293660/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 180-293660/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
180-95855-A-3-E MS	Matrix Spike	Soluble	Solid	DI Leach	
180-95855-A-3-F MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 293733

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-95807-2	WBF-BS-BG10-6.5/8.5-20190916	Soluble	Solid	EPA 9056A	293660
180-95807-3	WBF-BS-BG10-10.5/12.5-20190916	Soluble	Solid	EPA 9056A	293660
180-95807-4	WBF-BS-BG10-0.0/0.5-20190916	Soluble	Solid	EPA 9056A	293660
LB1 180-293660/1-A	Method Blank	Soluble	Solid	EPA 9056A	293660

Metals

Prep Batch: 292395

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-95807-1	WBF-BS-BG10-1.5/3.5-20190916	Total/NA	Solid	3050B	
180-95807-2	WBF-BS-BG10-6.5/8.5-20190916	Total/NA	Solid	3050B	
180-95807-3	WBF-BS-BG10-10.5/12.5-20190916	Total/NA	Solid	3050B	
180-95807-4	WBF-BS-BG10-0.0/0.5-20190916	Total/NA	Solid	3050B	
MB 180-292395/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 180-292395/2-A	Lab Control Sample	Total/NA	Solid	3050B	
180-95736-B-1-B MS	Matrix Spike	Total/NA	Solid	3050B	
180-95736-B-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	3050B	

Prep Batch: 292480

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-95807-5	WBF-BS-FB08-20190916	Total Recoverable	Water	3005A	

Metals (Continued)

Prep Batch: 292480 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 180-292480/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-292480/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
180-95454-D-9-B MS	Matrix Spike	Total Recoverable	Water	3005A	
180-95454-D-9-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	3005A	

Prep Batch: 293286

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-95807-5	WBF-BS-FB08-20190916	Total/NA	Water	7470A	
MB 180-293286/1-A	Method Blank	Total/NA	Water	7470A	
LCS 180-293286/2-A	Lab Control Sample	Total/NA	Water	7470A	
180-95686-B-33-C MS	Matrix Spike	Total/NA	Water	7470A	
180-95686-B-33-D MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	

Analysis Batch: 293526

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-95807-5	WBF-BS-FB08-20190916	Total/NA	Water	EPA 7470A	293286
MB 180-293286/1-A	Method Blank	Total/NA	Water	EPA 7470A	293286
LCS 180-293286/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	293286
180-95686-B-33-C MS	Matrix Spike	Total/NA	Water	EPA 7470A	293286
180-95686-B-33-D MSD	Matrix Spike Duplicate	Total/NA	Water	EPA 7470A	293286

Prep Batch: 293644

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-95807-1	WBF-BS-BG10-1.5/3.5-20190916	Total/NA	Solid	7471B	
180-95807-2	WBF-BS-BG10-6.5/8.5-20190916	Total/NA	Solid	7471B	
180-95807-3	WBF-BS-BG10-10.5/12.5-20190916	Total/NA	Solid	7471B	
180-95807-4	WBF-BS-BG10-0.0/0.5-20190916	Total/NA	Solid	7471B	
MB 180-293644/1-A	Method Blank	Total/NA	Solid	7471B	
LCS 180-293644/2-A	Lab Control Sample	Total/NA	Solid	7471B	
180-95812-B-7-G MS	Matrix Spike	Total/NA	Solid	7471B	
180-95812-B-7-H MSD	Matrix Spike Duplicate	Total/NA	Solid	7471B	

Analysis Batch: 293784

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-95807-1	WBF-BS-BG10-1.5/3.5-20190916	Total/NA	Solid	EPA 7471B	293644
180-95807-2	WBF-BS-BG10-6.5/8.5-20190916	Total/NA	Solid	EPA 7471B	293644
180-95807-3	WBF-BS-BG10-10.5/12.5-20190916	Total/NA	Solid	EPA 7471B	293644
180-95807-4	WBF-BS-BG10-0.0/0.5-20190916	Total/NA	Solid	EPA 7471B	293644
MB 180-293644/1-A	Method Blank	Total/NA	Solid	EPA 7471B	293644
LCS 180-293644/2-A	Lab Control Sample	Total/NA	Solid	EPA 7471B	293644
180-95812-B-7-G MS	Matrix Spike	Total/NA	Solid	EPA 7471B	293644
180-95812-B-7-H MSD	Matrix Spike Duplicate	Total/NA	Solid	EPA 7471B	293644

Analysis Batch: 294722

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-95807-5	WBF-BS-FB08-20190916	Total Recoverable	Water	EPA 6020A	292480
MB 180-292480/1-A	Method Blank	Total Recoverable	Water	EPA 6020A	292480
LCS 180-292480/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020A	292480
180-95454-D-9-B MS	Matrix Spike	Total Recoverable	Water	EPA 6020A	292480
180-95454-D-9-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	EPA 6020A	292480

QC Association Summary

Client: Environmental Standards Inc.
Project/Site: WBF_BS_20190916_1A

Job ID: 180-95807-1

Metals

Analysis Batch: 294929

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-95807-1	WBF-BS-BG10-1.5/3.5-20190916	Total/NA	Solid	EPA 6020A	292395
180-95807-2	WBF-BS-BG10-6.5/8.5-20190916	Total/NA	Solid	EPA 6020A	292395
180-95807-3	WBF-BS-BG10-10.5/12.5-20190916	Total/NA	Solid	EPA 6020A	292395
180-95807-4	WBF-BS-BG10-0.0/0.5-20190916	Total/NA	Solid	EPA 6020A	292395
MB 180-292395/1-A	Method Blank	Total/NA	Solid	EPA 6020A	292395
LCS 180-292395/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	292395
180-95736-B-1-B MS	Matrix Spike	Total/NA	Solid	EPA 6020A	292395
180-95736-B-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	EPA 6020A	292395

General Chemistry

Analysis Batch: 292911

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-95807-1	WBF-BS-BG10-1.5/3.5-20190916	Total/NA	Solid	2540G	
180-95807-2	WBF-BS-BG10-6.5/8.5-20190916	Total/NA	Solid	2540G	
180-95807-3	WBF-BS-BG10-10.5/12.5-20190916	Total/NA	Solid	2540G	
180-95807-4	WBF-BS-BG10-0.0/0.5-20190916	Total/NA	Solid	2540G	
460-191612-B-8 DU	Duplicate	Total/NA	Solid	2540G	

Analysis Batch: 293263

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-95807-1	WBF-BS-BG10-1.5/3.5-20190916	Total/NA	Solid	EPA 9045D	
180-95807-2	WBF-BS-BG10-6.5/8.5-20190916	Total/NA	Solid	EPA 9045D	
180-95807-3	WBF-BS-BG10-10.5/12.5-20190916	Total/NA	Solid	EPA 9045D	
180-95807-4	WBF-BS-BG10-0.0/0.5-20190916	Total/NA	Solid	EPA 9045D	
LCS 180-293263/1	Lab Control Sample	Total/NA	Solid	EPA 9045D	
180-95855-A-3 DU	Duplicate	Total/NA	Solid	EPA 9045D	

TVA Environmental Investigations

JO 20190916

Tennessee Valley Authority

COOLER No.:	1	of	1
COC No:	WBF_BS_20190916_1A		
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 #:	175668050	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@envystd.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 (Filtered N, Preserve None)	Analysis: BACKGROUNDSOIL_BLANKS (Filtered N, Preserve see comments)	Analysis: BACKGROUNDSOIL_pH (Filtered N, Preserve None)
1	WBF-BS-BG10-1.5/3.5-20190916	WBF-BG-10	1.5	3.5	BS	G	N	9/16/2019	1453	2	NA	☐	X		X
2	WBF-BS-BG10-6.5/8.5-20190916	WBF-BG-10	6.5	8.5	BS	G	N	9/16/2019	1507	2	NA	☐	X		X
3	WBF-BS-BG10-10.5/12.5-20190916	WBF-BG-10	10.5	12.5	BS	G	N	9/16/2019	1518	2	NA	☐	X		X
4	WBF-BS-BG10-0.0/0.5-20190916	WBF-BG-10	0.0	0.5	BS	G	N	9/16/2019	1553	2	NA	☐	X		X
5	WBF-BS-FB08-20190916	WBF-BG-10	--	--	AQ	G	FB	9/16/2019	1533	2	NA	☐		X	

JO 9/16/2019

Additional Comments/Special Instructions:

Additional volume collected should be used for MS/MSDs.

BACKGROUNDSOIL_BLANKS: Anions unpreserved; Metals preserved w/ HNO3 to pH<2

JO 9/16/2019

RELINQISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Joe Ottolino / Stantec	9/16/2019	1645	Chris Synder / Stantec	9/16/2019	1645
			Deleilia Watson TAA HT	9/17/19	130
JO	9/16/2019				

SHIPPING METHOD:	SAMPLER NAME AND SIGNATURE
Fedex	Joe Ottolino
JO	9/16/2019

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	Sample on Ice?	Sample Intact?	Trip Blank?

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 4336

180-95807 Chain of Custody

Form TVA 30067A

eurofins | Environment Testing TestAmerica

Custody Seal

DATE 9-16-19

SIGNATURE

eurofins | Environment Testing TestAmerica

TVA Environmental Investigations

Tennessee Valley Authority

JO 420190916

COOLER No.:	1	of	1
COC No:	WBF_BS_20190916_1A		
1 of 1 Pages			
Task Desc:	WBF_BS		

Rev 9/24/19 BD

10/17/2019

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:		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 #:	175668050	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:	rquinn@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

BJ 9/24/19

ITEMS #	SAMPLE ID Samples IDs MUST BE UNIQUE	SAMPLE LOCATION	Sample Depth: Depth Unit	Sample 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	Analysis: BACKGROUNDSOIL_BLANKS	Analysis: BACKGROUNDSOIL_pH	Filtered	Preserve
1	WBF-BS-BG10-1 5/3.5-20190916	WBF-BG-10	1.5	3.5	BS	G	N	9/16/2019	1453	2	NA	☐	X		X	N	None
2	WBF-BS-BG10-6.5/8.5-20190916	WBF-BG-10	6.5	8.5	BS	G	N	9/16/2019	1507	2	NA	☐	X		X	N	see comments
3	WBF-BS-BG10-10.5/12.5-20190916	WBF-BG-10	10.5	12.5	BS	G	N	9/16/2019	1518	2	NA	☐	X		X	N	None
4	WBF-BS-BG10-0.0/0.5-20190916	WBF-BG-10	0.0	0.5	BS	G	N	9/16/2019	1553	2	NA	☐	X		X		
5	WBF-BS-FB08-20190916	WBF-BG-10	--	--	AQ	G	FB	9/16/2019	1533	2	NA	☐		X			

JO 9/16/2019

Additional Comments/Special Instructions:

Additional volume collected should be used for MS/MSDs.

BACKGROUNDSOIL_BLANKS: Anions unpreserved; Metals preserved w/ HNO3 to pH<2

JO 9/16/2019

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Joe Ottolino / Stantec	9/16/2019	1645	Chris Synder / Stantec	9/16/2019	1645
			Debbie Watson	9/17/19	
JO	9/16/2019		JAA HLT	1130	

SHIPPING METHOD:	SAMPLER NAME AND SIGNATURE
Fedex	Joe Ottolino
JO	9/16/2019

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	Sample on Ice?	Sample Intact?	Trip Blank?

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

Svc: PRIORITY OVERNIGHT Master 1155 5314 4255
TRCK: 1155 5314 4936

180-95807 Chain of Custody

Form TVA 30067A

Login Sample Receipt Checklist

Client: Environmental Standards Inc.

Job Number: 180-95807-1

Login Number: 95807
List Number: 1
Creator: Watson, Debbie

List Source: Eurofins TestAmerica, Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
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	