eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Pittsburgh
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Tel: (412)963-7058

Laboratory Job ID: 180-96862-1
Client Project/Site: BRF_CCR_20191007_1A

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

Attn: Amanda Cover

Authorized for release by:
10/29/2019 5:22:58 PM

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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 6
Method Summary 7
Lab Chronicle 8
Client Sample Results 14
QC Sample Results 26
QC Association Summary 39
Chain of Custody 44
Receipt Checklists 47

Job ID: 180-96862-1

Laboratory: Eurofins TestAmerica, Pittsburgh

Narrative

Job Narrative
180-96862-1

Receipt
The samples were received on 10/8/2019 9:10 AM; the samples arrived in good condition, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 1.1º C, 1.1º C and 1.4º C.

GC Semi VOA
Method Lloyd Kahn: The reporting limit for Lloyd Kahn TOC analysis is a nominal value and does not reflect adjustments in sample mass processed on an individual basis.

Method Lloyd Kahn: The closing CCV and CCB fail QC. Reanalysis of the following samples was performed outside of the analytical holding time. Both sets of data were reported.
BRF-CCR-TW14-3.0/5.0-20191007 ~ TW14 (180-96862-2), BRF-CCR-TW14-6.5/8.5-20191007 ~ TW14 (180-96862-3), BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14 (180-96862-4), BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14 (180-96862-4[MS]), BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14 (180-96862-4[MSD]), BRF-CCR-DUP01-20191007 ~ - (180-96862-5), BRF-CCR-TW14-16.0/19.0-20191007 ~ TW14 (180-96862-6), (CCB 180-295134/14), (CCV 180-295134/13), (LCS 180-295134/4), (MB 180-295134/3) and (180-96862-C-4 DU)

Method Lloyd Kahn: The sample duplicate (DUP) precision for analytical batch 180-296354 was outside control limits. Sample non-homogeneity is suspected as the parent sample, matrix spike (MS), and matrix spike duplicate (MSD) samples all were within RPD requirements.

Metals
Method 7471B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 180-294875 and analytical batch 180-295107 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

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

Definitions/Glossary

Client: Environmental Standards Inc.
Project/Site: BRF_CCR_20191007_1A

Job ID: 180-96862-1

Qualifiers

HPLC/IC

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.
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.
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
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
F1	MS and/or MSD Recovery is outside acceptance limits.
F3	Duplicate RPD exceeds the control limit
H	Sample was prepped or analyzed beyond the specified holding time
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: BRF_CCR_20191007_1A

Job ID: 180-96862-1

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: BRF_CCR_20191007_1A

Job ID: 180-96862-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-96862-1	BRF-CCR-FB03-20191007 ~ TW14	Water	10/07/19 11:19	10/08/19 09:10	
180-96862-2	BRF-CCR-TW14-3.0/5.0-20191007 ~ TW14	Solid	10/07/19 12:10	10/08/19 09:10	
180-96862-3	BRF-CCR-TW14-6.5/8.5-20191007 ~ TW14	Solid	10/07/19 12:33	10/08/19 09:10	
180-96862-4	BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14	Solid	10/07/19 14:42	10/08/19 09:10	
180-96862-5	BRF-CCR-DUP01-20191007 ~ -	Solid	10/07/19 00:00	10/08/19 09:10	
180-96862-6	BRF-CCR-TW14-16.0/19.0-20191007 ~ TW14	Solid	10/07/19 15:16	10/08/19 09:10	
180-96862-7	BRF-CCR-EB01-20191007 ~ TW14	Water	10/07/19 15:31	10/08/19 09:10	

Method Summary

Client: Environmental Standards Inc.
Project/Site: BRF_CCR_20191007_1A

Job ID: 180-96862-1

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
EPA 9060A	Organic Carbon, Total (TOC)	SW846	TAL PIT
EPA-Lloyd Kahn	Organic Carbon, Total (TOC)	EPA	TAL PIT
1312	SPLP Extraction	SW846	TAL PIT
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL PIT
3010A	Preparation, Total 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
EPA 1312	SPLP Extraction	SW846	TAL PIT

Protocol References:

ASTM = ASTM International
EPA = US Environmental Protection Agency
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: BRF_CCR_20191007_1A

Job ID: 180-96862-1

Client Sample ID: BRF-CCR-FB03-20191007 ~ TW14

Lab Sample ID: 180-96862-1
Date Collected: 10/07/19 11:19
Matrix: Water
Date Received: 10/08/19 09:10

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			295429	10/19/19 07:07	MJH	TAL PIT
	Instrument ID:	CHICS2100B								
Total Recoverable	Prep	3005A			50 mL	50 mL	294325	10/09/19 15:40	MWW	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1	1.0 mL	1.0 mL	294829	10/13/19 23:37	WTR	TAL PIT
	Instrument ID:	M								
Total/NA	Prep	7470A			50 mL	50 mL	294820	10/14/19 14:21	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			294950	10/15/19 19:14	NAM	TAL PIT
	Instrument ID:	HGZ								
Total/NA	Analysis	EPA 9060A		1			294757	10/13/19 18:38	TAM	TAL PIT
	Instrument ID:	TOC1030								

Client Sample ID: BRF-CCR-TW14-3.0/5.0-20191007 ~ TW14

Lab Sample ID: 180-96862-2
Date Collected: 10/07/19 12:10
Matrix: Solid
Date Received: 10/08/19 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP East	Leach	EPA 1312			175.00 g	3500 mL	294981	10/15/19 12:30	MTT	TAL PIT
SPLP East	Prep	3010A			50 mL	50 mL	295213	10/17/19 11:26	KEM	TAL PIT
SPLP East	Analysis	EPA 6020A		1	1.0 mL	1.0 mL	295646	10/21/19 23:45	WTR	TAL PIT
	Instrument ID:	NEMO								
SPLP East	Leach	EPA 1312			175.00 g	3500 mL	294981	10/15/19 12:30	MTT	TAL PIT
SPLP East	Prep	7470A			50 mL	50 mL	295253	10/17/19 15:20	NAM	TAL PIT
SPLP East	Analysis	EPA 7470A		1			295427	10/18/19 19:07	NAM	TAL PIT
	Instrument ID:	HGZ								
Total/NA	Analysis	2540G		1			294487	10/10/19 15:03	PM	TAL PIT
	Instrument ID:	NOEQUIP								
Total/NA	Analysis	EPA 9045D		1	20.10 g	20 mL	295183	10/18/19 13:58	CMR	TAL PIT
	Instrument ID:	NOEQUIP								

Client Sample ID: BRF-CCR-TW14-3.0/5.0-20191007 ~ TW14

Lab Sample ID: 180-96862-2
Date Collected: 10/07/19 12:10
Matrix: Solid
Date Received: 10/08/19 09:10
Percent Solids: 84.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			10.1087 g	100 mL	295907	10/24/19 08:20	MTT	TAL PIT
Soluble	Analysis	EPA 9056A		1			296202	10/27/19 12:59	MJH	TAL PIT
	Instrument ID:	CHICS2100B								
Total/NA	Prep	3050B			0.95 g	100 mL	294788	10/14/19 10:36	KEM	TAL PIT
Total/NA	Analysis	EPA 6020A		1	1.0 mL	1.0 mL	295714	10/22/19 00:11	WTR	TAL PIT
	Instrument ID:	M								
Total/NA	Prep	7471B			0.69 g	100 mL	294875	10/15/19 09:58	MM1	TAL PIT
Total/NA	Analysis	EPA 7471B		1			295107	10/16/19 13:41	NAM	TAL PIT
	Instrument ID:	HGZ								
Total/NA	Analysis	EPA-Lloyd Kahn		1			295134	10/16/19 16:01	SAC	TAL PIT
	Instrument ID:	FLASHEA								

Lab Chronicle

Client: Environmental Standards Inc.
Project/Site: BRF_CCR_20191007_1A

Job ID: 180-96862-1

Client Sample ID: BRF-CCR-TW14-3.0/5.0-20191007 ~ TW14

Lab Sample ID: 180-96862-2
Date Collected: 10/07/19 12:10
Matrix: Solid
Date Received: 10/08/19 09:10
Percent Solids: 84.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA-Lloyd Kahn		1			296354	10/28/19 11:42	SAC	TAL PIT

Client Sample ID: BRF-CCR-TW14-6.5/8.5-20191007 ~ TW14

Lab Sample ID: 180-96862-3
Date Collected: 10/07/19 12:33
Matrix: Solid
Date Received: 10/08/19 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP East	Leach	EPA 1312			175.00 g	3500 mL	294981	10/15/19 12:30	MTT	TAL PIT
SPLP East	Prep	3010A			50 mL	50 mL	295213	10/17/19 11:26	KEM	TAL PIT
SPLP East	Analysis	EPA 6020A		1	1.0 mL	1.0 mL	295646	10/21/19 23:48	WTR	TAL PIT
	Instrument ID:	NEMO								
SPLP East	Leach	EPA 1312			175.00 g	3500 mL	294981	10/15/19 12:30	MTT	TAL PIT
SPLP East	Prep	7470A			50 mL	50 mL	295253	10/17/19 15:20	NAM	TAL PIT
SPLP East	Analysis	EPA 7470A		1			295427	10/18/19 19:08	NAM	TAL PIT
	Instrument ID:	HGZ								
Total/NA	Analysis	2540G		1			294487	10/10/19 15:03	PM	TAL PIT
	Instrument ID:	NOEQUIP								
Total/NA	Analysis	EPA 9045D		1	20.07 g	20 mL	295183	10/18/19 14:03	CMR	TAL PIT
	Instrument ID:	NOEQUIP								

Client Sample ID: BRF-CCR-TW14-6.5/8.5-20191007 ~ TW14

Lab Sample ID: 180-96862-3
Date Collected: 10/07/19 12:33
Matrix: Solid
Date Received: 10/08/19 09:10
Percent Solids: 84.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			10.0701 g	100 mL	295907	10/24/19 08:20	MTT	TAL PIT
Soluble	Analysis	EPA 9056A		1			296202	10/27/19 13:15	MJH	TAL PIT
	Instrument ID:	CHICS2100B								
Total/NA	Prep	3050B			0.95 g	100 mL	294788	10/14/19 10:36	KEM	TAL PIT
Total/NA	Analysis	EPA 6020A		1	1.0 mL	1.0 mL	295714	10/22/19 00:16	WTR	TAL PIT
	Instrument ID:	M								
Total/NA	Prep	7471B			0.60 g	100 mL	294875	10/15/19 09:58	MM1	TAL PIT
Total/NA	Analysis	EPA 7471B		1			295107	10/16/19 13:42	NAM	TAL PIT
	Instrument ID:	HGZ								
Total/NA	Analysis	EPA-Lloyd Kahn		1			295134	10/16/19 16:12	SAC	TAL PIT
	Instrument ID:	FLASHEA								
Total/NA	Analysis	EPA-Lloyd Kahn		1			296354	10/28/19 11:54	SAC	TAL PIT
	Instrument ID:	FLASHEA								

Lab Chronicle

Client: Environmental Standards Inc.
Project/Site: BRF_CCR_20191007_1A

Job ID: 180-96862-1

Client Sample ID: BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14

Lab Sample ID: 180-96862-4
Date Collected: 10/07/19 14:42
Matrix: Solid
Date Received: 10/08/19 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP East	Leach	EPA 1312			175.00 g	3500 mL	294981	10/15/19 12:30	MTT	TAL PIT
SPLP East	Prep	3010A			50 mL	50 mL	295213	10/17/19 11:26	KEM	TAL PIT
SPLP East	Analysis	EPA 6020A		1	1.0 mL	1.0 mL	295646	10/21/19 23:50	WTR	TAL PIT
	Instrument ID:	NEMO								
SPLP East	Leach	EPA 1312			175.00 g	3500 mL	294981	10/15/19 12:30	MTT	TAL PIT
SPLP East	Prep	7470A			50 mL	50 mL	295253	10/17/19 15:20	NAM	TAL PIT
SPLP East	Analysis	EPA 7470A		1			295427	10/18/19 19:09	NAM	TAL PIT
	Instrument ID:	HGZ								
Total/NA	Analysis	2540G		1			294487	10/10/19 15:03	PM	TAL PIT
	Instrument ID:	NOEQUIP								
Total/NA	Analysis	EPA 9045D		1	20.02 g	20 mL	295183	10/18/19 14:05	CMR	TAL PIT
	Instrument ID:	NOEQUIP								

Client Sample ID: BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14

Lab Sample ID: 180-96862-4
Date Collected: 10/07/19 14:42
Matrix: Solid
Date Received: 10/08/19 09:10
Percent Solids: 86.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			10.3142 g	100 mL	295907	10/24/19 08:20	MTT	TAL PIT
Soluble	Analysis	EPA 9056A		1			296202	10/27/19 14:03	MJH	TAL PIT
	Instrument ID:	CHICS2100B								
Total/NA	Prep	3050B			1.00 g	100 mL	294788	10/14/19 10:36	KEM	TAL PIT
Total/NA	Analysis	EPA 6020A		1	1.0 mL	1.0 mL	295714	10/22/19 00:21	WTR	TAL PIT
	Instrument ID:	M								
Total/NA	Prep	7471B			0.68 g	100 mL	294875	10/15/19 09:58	MM1	TAL PIT
Total/NA	Analysis	EPA 7471B		1			295107	10/16/19 13:43	NAM	TAL PIT
	Instrument ID:	HGZ								
Total/NA	Analysis	EPA-Lloyd Kahn		1	20.65 mg	20.65 mg	295134	10/16/19 15:12	SAC	TAL PIT
	Instrument ID:	FLASHEA								
Total/NA	Analysis	EPA-Lloyd Kahn		1	10.75 mg	10.75 mg	296354	10/28/19 10:54	SAC	TAL PIT
	Instrument ID:	FLASHEA								

Client Sample ID: BRF-CCR-DUP01-20191007 ~ -

Lab Sample ID: 180-96862-5
Date Collected: 10/07/19 00:00
Matrix: Solid
Date Received: 10/08/19 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP East	Leach	EPA 1312			175.00 g	3500 mL	294981	10/15/19 12:30	MTT	TAL PIT
SPLP East	Prep	3010A			50 mL	50 mL	295213	10/17/19 11:26	KEM	TAL PIT
SPLP East	Analysis	EPA 6020A		1	1.0 mL	1.0 mL	295646	10/22/19 00:01	WTR	TAL PIT
	Instrument ID:	NEMO								
SPLP East	Leach	EPA 1312			175.00 g	3500 mL	294981	10/15/19 12:30	MTT	TAL PIT
SPLP East	Prep	7470A			50 mL	50 mL	295253	10/17/19 15:20	NAM	TAL PIT
SPLP East	Analysis	EPA 7470A		1			295427	10/18/19 19:12	NAM	TAL PIT
	Instrument ID:	HGZ								

Lab Chronicle

Client: Environmental Standards Inc.
Project/Site: BRF_CCR_20191007_1A

Job ID: 180-96862-1

Client Sample ID: BRF-CCR-DUP01-20191007 ~ -

Lab Sample ID: 180-96862-5
Date Collected: 10/07/19 00:00
Matrix: Solid
Date Received: 10/08/19 09:10

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			294487	10/10/19 15:03	PM	TAL PIT
Total/NA	Analysis	EPA 9045D		1	20.02 g	20 mL	295183	10/18/19 14:09	CMR	TAL PIT
	Instrument ID:	NOEQUIP								

Client Sample ID: BRF-CCR-DUP01-20191007 ~ -

Lab Sample ID: 180-96862-5
Date Collected: 10/07/19 00:00
Matrix: Solid
Date Received: 10/08/19 09:10
Percent Solids: 84.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			10.0747 g	100 mL	295907	10/24/19 08:20	MTT	TAL PIT
Soluble	Analysis	EPA 9056A		1			296202	10/27/19 14:50	MJH	TAL PIT
	Instrument ID:	CHICS2100B								
Total/NA	Prep	3050B			1.02 g	100 mL	294788	10/14/19 10:36	KEM	TAL PIT
Total/NA	Analysis	EPA 6020A		1	1.0 mL	1.0 mL	295714	10/22/19 00:46	WTR	TAL PIT
	Instrument ID:	M								
Total/NA	Prep	7471B			0.67 g	100 mL	294875	10/15/19 09:58	MM1	TAL PIT
Total/NA	Analysis	EPA 7471B		1			295107	10/16/19 13:45	NAM	TAL PIT
	Instrument ID:	HGZ								
Total/NA	Analysis	EPA-Lloyd Kahn		1			295134	10/16/19 16:23	SAC	TAL PIT
	Instrument ID:	FLASHEA								
Total/NA	Analysis	EPA-Lloyd Kahn		1			296354	10/28/19 12:06	SAC	TAL PIT
	Instrument ID:	FLASHEA								

Client Sample ID: BRF-CCR-TW14-16.0/19.0-20191007 ~ TW14

Lab Sample ID: 180-96862-6
Date Collected: 10/07/19 15:16
Matrix: Solid
Date Received: 10/08/19 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP East	Leach	EPA 1312			175.00 g	3500 mL	294981	10/15/19 12:30	MTT	TAL PIT
SPLP East	Prep	3010A			50 mL	50 mL	295213	10/17/19 11:26	KEM	TAL PIT
SPLP East	Analysis	EPA 6020A		1	1.0 mL	1.0 mL	295646	10/22/19 00:08	WTR	TAL PIT
	Instrument ID:	NEMO								
SPLP East	Leach	EPA 1312			175.00 g	3500 mL	294981	10/15/19 12:30	MTT	TAL PIT
SPLP East	Prep	3010A			50 mL	50 mL	295213	10/17/19 11:26	KEM	TAL PIT
SPLP East	Analysis	EPA 6020A		1			295821	10/22/19 14:08	RSK	TAL PIT
	Instrument ID:	NEMO								
SPLP East	Leach	EPA 1312			175.00 g	3500 mL	294981	10/15/19 12:30	MTT	TAL PIT
SPLP East	Prep	7470A			50 mL	50 mL	295253	10/17/19 15:20	NAM	TAL PIT
SPLP East	Analysis	EPA 7470A		1			295427	10/18/19 19:12	NAM	TAL PIT
	Instrument ID:	HGZ								
Total/NA	Analysis	2540G		1			294487	10/10/19 15:03	PM	TAL PIT
	Instrument ID:	NOEQUIP								
Total/NA	Analysis	EPA 9045D		1	20.09 g	20 mL	295183	10/18/19 14:12	CMR	TAL PIT
	Instrument ID:	NOEQUIP								

Lab Chronicle

Client: Environmental Standards Inc.
Project/Site: BRF_CCR_20191007_1A

Job ID: 180-96862-1

Client Sample ID: BRF-CCR-TW14-16.0/19.0-20191007 ~ TW14

Lab Sample ID: 180-96862-6
Date Collected: 10/07/19 15:16
Matrix: Solid
Date Received: 10/08/19 09:10
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			10.2559 g	100 mL	295907	10/24/19 08:20	MTT	TAL PIT
Soluble	Analysis	EPA 9056A		1			296202	10/27/19 15:06	MJH	TAL PIT
	Instrument ID:	CHICS2100B								
Total/NA	Prep	3050B			1.00 g	100 mL	294788	10/14/19 10:36	KEM	TAL PIT
Total/NA	Analysis	EPA 6020A		1	1.0 mL	1.0 mL	295714	10/22/19 01:01	WTR	TAL PIT
	Instrument ID:	M								
Total/NA	Prep	7471B			0.60 g	100 mL	294875	10/15/19 09:58	MM1	TAL PIT
Total/NA	Analysis	EPA 7471B		1			295107	10/16/19 13:46	NAM	TAL PIT
	Instrument ID:	HGZ								
Total/NA	Analysis	EPA-Lloyd Kahn		1			295134	10/16/19 16:35	SAC	TAL PIT
	Instrument ID:	FLASHEA								
Total/NA	Analysis	EPA-Lloyd Kahn		1			296354	10/28/19 12:19	SAC	TAL PIT
	Instrument ID:	FLASHEA								

Client Sample ID: BRF-CCR-EB01-20191007 ~ TW14

Lab Sample ID: 180-96862-7
Date Collected: 10/07/19 15:31
Matrix: Water
Date Received: 10/08/19 09:10

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			295429	10/19/19 07:22	MJH	TAL PIT
	Instrument ID:	CHICS2100B								
Total Recoverable	Prep	3005A			50 mL	50 mL	294325	10/09/19 15:40	MWW	TAL PIT
Total Recoverable	Analysis	EPA 6020A		1	1.0 mL	1.0 mL	294829	10/13/19 23:42	WTR	TAL PIT
	Instrument ID:	M								
Total/NA	Prep	7470A			50 mL	50 mL	294820	10/14/19 14:21	NAM	TAL PIT
Total/NA	Analysis	EPA 7470A		1			294950	10/15/19 19:18	NAM	TAL PIT
	Instrument ID:	HGZ								
Total/NA	Analysis	EPA 9060A		1			294757	10/13/19 19:11	TAM	TAL PIT
	Instrument ID:	TOC1030								

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

MTT = Michaela Trueman

Batch Type: Prep

KEM = Kimberly Mahoney
MM1 = Mary Beth Miller
MWW = Margaret Wanyoike
NAM = Nicole Marfisi

Batch Type: Analysis

CMR = Carl Reagle
MJH = Matthew Hartman
NAM = Nicole Marfisi
PM = Paloma Hoelzle
RSK = Robert Kurtz
SAC = Shawn Clemente
TAM = Tessa Mastalski
WTR = Bill Reinheimer

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: BRF_CCR_20191007_1A

Job ID: 180-96862-1

Client Sample ID: BRF-CCR-FB03-20191007 ~ TW14

Lab Sample ID: 180-96862-1

Date Collected: 10/07/19 11:19
Matrix: Water
Date Received: 10/08/19 09:10

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.00	0.320	mg/L			10/19/19 07:07	1
Fluoride	ND		0.100	0.0263	mg/L			10/19/19 07:07	1
Sulfate	ND		1.00	0.380	mg/L			10/19/19 07:07	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		10/09/19 15:40	10/13/19 23:37	1
Arsenic	ND		0.00100	0.000323	mg/L		10/09/19 15:40	10/13/19 23:37	1
Barium	ND		0.0100	0.00160	mg/L		10/09/19 15:40	10/13/19 23:37	1
Beryllium	**0.000685**	**J**	0.00100	0.000182	mg/L		10/09/19 15:40	10/13/19 23:37	1
Boron	ND		0.0800	0.0386	mg/L		10/09/19 15:40	10/13/19 23:37	1
Cadmium	ND		0.00100	0.000125	mg/L		10/09/19 15:40	10/13/19 23:37	1
Calcium	ND		0.500	0.127	mg/L		10/09/19 15:40	10/13/19 23:37	1
Chromium	ND		0.00200	0.00153	mg/L		10/09/19 15:40	10/13/19 23:37	1
Cobalt	ND		0.000500	0.0000750	mg/L		10/09/19 15:40	10/13/19 23:37	1
Copper	**0.000747**	**J**	0.00200	0.000627	mg/L		10/09/19 15:40	10/13/19 23:37	1
Iron	ND		0.0500	0.0195	mg/L		10/09/19 15:40	10/13/19 23:37	1
Lead	ND		0.00100	0.000128	mg/L		10/09/19 15:40	10/13/19 23:37	1
Lithium	ND		0.00500	0.00339	mg/L		10/09/19 15:40	10/13/19 23:37	1
Manganese	**0.00205**	**J B**	0.00500	0.00135	mg/L		10/09/19 15:40	10/13/19 23:37	1
Molybdenum	ND		0.00500	0.000610	mg/L		10/09/19 15:40	10/13/19 23:37	1
Nickel	**0.000439**	**J B**	0.00100	0.000336	mg/L		10/09/19 15:40	10/13/19 23:37	1
Selenium	ND		0.00500	0.00151	mg/L		10/09/19 15:40	10/13/19 23:37	1
Silver	ND		0.00100	0.000177	mg/L		10/09/19 15:40	10/13/19 23:37	1
Thallium	**0.000320**	**J**	0.00100	0.000148	mg/L		10/09/19 15:40	10/13/19 23:37	1
Vanadium	ND		0.00100	0.000991	mg/L		10/09/19 15:40	10/13/19 23:37	1
Zinc	ND		0.00500	0.00322	mg/L		10/09/19 15:40	10/13/19 23:37	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		10/14/19 14:21	10/15/19 19:14	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Quad	ND		1.00	0.508	mg/L			10/13/19 18:38	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: BRF_CCR_20191007_1A

Job ID: 180-96862-1

Client Sample ID: BRF-CCR-TW14-3.0/5.0-20191007 ~ TW14

Lab Sample ID: 180-96862-2
Date Collected: 10/07/19 12:10
Matrix: Solid
Date Received: 10/08/19 09:10
Percent Solids: 84.8

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		11.7	4.53	mg/Kg	☼		10/27/19 12:59	1
Fluoride	**6.67**		1.17	0.793	mg/Kg	☼		10/27/19 12:59	1
Sulfate	**1160**		11.7	7.92	mg/Kg	☼		10/27/19 12:59	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**1.89**		0.248	0.0770	mg/Kg	☼	10/14/19 10:36	10/22/19 00:11	1
Arsenic	**111**		0.124	0.0323	mg/Kg	☼	10/14/19 10:36	10/22/19 00:11	1
Barium	**332**		1.24	0.159	mg/Kg	☼	10/14/19 10:36	10/22/19 00:11	1
Beryllium	**5.61**		0.124	0.00931	mg/Kg	☼	10/14/19 10:36	10/22/19 00:11	1
Boron	**34.9**		9.93	1.68	mg/Kg	☼	10/14/19 10:36	10/22/19 00:11	1
Cadmium	**0.630**		0.124	0.0211	mg/Kg	☼	10/14/19 10:36	10/22/19 00:11	1
Calcium	**5050**		62.1	11.1	mg/Kg	☼	10/14/19 10:36	10/22/19 00:11	1
Chromium	**40.1**		0.248	0.103	mg/Kg	☼	10/14/19 10:36	10/22/19 00:11	1
Cobalt	**17.9**		0.0621	0.0103	mg/Kg	☼	10/14/19 10:36	10/22/19 00:11	1
Copper	**61.8**		0.248	0.140	mg/Kg	☼	10/14/19 10:36	10/22/19 00:11	1
Iron	**17500**		6.21	3.05	mg/Kg	☼	10/14/19 10:36	10/22/19 00:11	1
Lead	**35.9**		0.124	0.0435	mg/Kg	☼	10/14/19 10:36	10/22/19 00:11	1
Lithium	**31.4**		0.621	0.343	mg/Kg	☼	10/14/19 10:36	10/22/19 00:11	1
Manganese	**76.6**		0.621	0.284	mg/Kg	☼	10/14/19 10:36	10/22/19 00:11	1
Molybdenum	**3.14**		0.621	0.202	mg/Kg	☼	10/14/19 10:36	10/22/19 00:11	1
Nickel	**34.4**	**B**	0.124	0.0757	mg/Kg	☼	10/14/19 10:36	10/22/19 00:11	1
Selenium	**12.8**		0.621	0.151	mg/Kg	☼	10/14/19 10:36	10/22/19 00:11	1
Silver	**0.155**		0.124	0.0335	mg/Kg	☼	10/14/19 10:36	10/22/19 00:11	1
Thallium	**2.74**		0.124	0.0310	mg/Kg	☼	10/14/19 10:36	10/22/19 00:11	1
Vanadium	**93.7**		0.124	0.0795	mg/Kg	☼	10/14/19 10:36	10/22/19 00:11	1
Zinc	**61.7**		0.621	0.415	mg/Kg	☼	10/14/19 10:36	10/22/19 00:11	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**4.23**		2.00	0.378	ug/L		10/17/19 11:26	10/21/19 23:45	1
Arsenic	**52.9**		1.00	0.323	ug/L		10/17/19 11:26	10/21/19 23:45	1
Barium	**9.26**	**J**	10.0	1.60	ug/L		10/17/19 11:26	10/21/19 23:45	1
Beryllium	ND		1.00	0.182	ug/L		10/17/19 11:26	10/21/19 23:45	1
Boron	**156**		80.0	38.6	ug/L		10/17/19 11:26	10/21/19 23:45	1
Cadmium	ND		1.00	0.125	ug/L		10/17/19 11:26	10/21/19 23:45	1
Calcium	**29100**		500	127	ug/L		10/17/19 11:26	10/21/19 23:45	1
Chromium	**2.96**		2.00	1.53	ug/L		10/17/19 11:26	10/21/19 23:45	1
Cobalt	ND		0.500	0.0750	ug/L		10/17/19 11:26	10/21/19 23:45	1
Copper	**1.14**	**J**	2.00	0.627	ug/L		10/17/19 11:26	10/21/19 23:45	1
Iron	**19.7**	**J**	50.0	19.5	ug/L		10/17/19 11:26	10/21/19 23:45	1
Lead	**0.128**	**J B**	1.00	0.128	ug/L		10/17/19 11:26	10/21/19 23:45	1
Lithium	**5.02**		5.00	3.39	ug/L		10/17/19 11:26	10/21/19 23:45	1
Manganese	ND		5.00	1.35	ug/L		10/17/19 11:26	10/21/19 23:45	1
Molybdenum	**18.2**		5.00	0.610	ug/L		10/17/19 11:26	10/21/19 23:45	1
Nickel	ND		1.00	0.336	ug/L		10/17/19 11:26	10/21/19 23:45	1
Selenium	**41.7**		5.00	1.51	ug/L		10/17/19 11:26	10/21/19 23:45	1
Silver	ND		1.00	0.177	ug/L		10/17/19 11:26	10/21/19 23:45	1
Thallium	ND		1.00	0.148	ug/L		10/17/19 11:26	10/21/19 23:45	1
Vanadium	**24.1**		1.00	0.991	ug/L		10/17/19 11:26	10/21/19 23:45	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: BRF_CCR_20191007_1A

Job ID: 180-96862-1

Client Sample ID: BRF-CCR-TW14-3.0/5.0-20191007 ~ TW14

Lab Sample ID: 180-96862-2
Date Collected: 10/07/19 12:10
Matrix: Solid
Date Received: 10/08/19 09:10
Percent Solids: 84.8

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Zinc	ND		5.00	3.22	ug/L		10/17/19 11:26	10/21/19 23:45	1

Method: EPA 7470A - Mercury (CVAA) - SPLP East

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.200	0.101	ug/L		10/17/19 15:20	10/18/19 19:07	1

Method: EPA 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.196**		0.0338	0.0147	mg/Kg	☼	10/15/19 09:58	10/16/19 13:41	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	**56700**	**^**	1180	880	mg/Kg	☼		10/16/19 16:01	1
Total Organic Carbon - Duplicates	**65800**	**H**	1180	880	mg/Kg	☼		10/28/19 11:42	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**15.2**		0.1	0.1	%			10/10/19 15:03	1
Percent Solids	**84.8**		0.1	0.1	%			10/10/19 15:03	1
pH	**7.5**	**HF**	0.1	0.1	SU			10/18/19 13:58	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: BRF_CCR_20191007_1A

Job ID: 180-96862-1

Client Sample ID: BRF-CCR-TW14-6.5/8.5-20191007 ~ TW14

Lab Sample ID: 180-96862-3
Date Collected: 10/07/19 12:33
Matrix: Solid
Date Received: 10/08/19 09:10
Percent Solids: 84.8

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		11.7	4.55	mg/Kg	☼		10/27/19 13:15	1
Fluoride	2.90		1.17	0.797	mg/Kg	☼		10/27/19 13:15	1
Sulfate	1790		11.7	7.96	mg/Kg	☼		10/27/19 13:15	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	2.16		0.248	0.0770	mg/Kg	☼	10/14/19 10:36	10/22/19 00:16	1
Arsenic	111		0.124	0.0323	mg/Kg	☼	10/14/19 10:36	10/22/19 00:16	1
Barium	281		1.24	0.159	mg/Kg	☼	10/14/19 10:36	10/22/19 00:16	1
Beryllium	6.01		0.124	0.00931	mg/Kg	☼	10/14/19 10:36	10/22/19 00:16	1
Boron	39.7		9.94	1.68	mg/Kg	☼	10/14/19 10:36	10/22/19 00:16	1
Cadmium	0.413		0.124	0.0211	mg/Kg	☼	10/14/19 10:36	10/22/19 00:16	1
Calcium	3570		62.1	11.1	mg/Kg	☼	10/14/19 10:36	10/22/19 00:16	1
Chromium	40.1		0.248	0.103	mg/Kg	☼	10/14/19 10:36	10/22/19 00:16	1
Cobalt	18.4		0.0621	0.0103	mg/Kg	☼	10/14/19 10:36	10/22/19 00:16	1
Copper	61.5		0.248	0.140	mg/Kg	☼	10/14/19 10:36	10/22/19 00:16	1
Iron	14000		6.21	3.06	mg/Kg	☼	10/14/19 10:36	10/22/19 00:16	1
Lead	36.6		0.124	0.0435	mg/Kg	☼	10/14/19 10:36	10/22/19 00:16	1
Lithium	28.9		0.621	0.343	mg/Kg	☼	10/14/19 10:36	10/22/19 00:16	1
Manganese	47.0		0.621	0.284	mg/Kg	☼	10/14/19 10:36	10/22/19 00:16	1
Molybdenum	5.91		0.621	0.202	mg/Kg	☼	10/14/19 10:36	10/22/19 00:16	1
Nickel	33.8	B	0.124	0.0758	mg/Kg	☼	10/14/19 10:36	10/22/19 00:16	1
Selenium	22.1		0.621	0.152	mg/Kg	☼	10/14/19 10:36	10/22/19 00:16	1
Silver	0.147		0.124	0.0335	mg/Kg	☼	10/14/19 10:36	10/22/19 00:16	1
Thallium	2.78		0.124	0.0310	mg/Kg	☼	10/14/19 10:36	10/22/19 00:16	1
Vanadium	99.5		0.124	0.0795	mg/Kg	☼	10/14/19 10:36	10/22/19 00:16	1
Zinc	53.2		0.621	0.415	mg/Kg	☼	10/14/19 10:36	10/22/19 00:16	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	11.4		2.00	0.378	ug/L		10/17/19 11:26	10/21/19 23:48	1
Arsenic	43.4		1.00	0.323	ug/L		10/17/19 11:26	10/21/19 23:48	1
Barium	45.1		10.0	1.60	ug/L		10/17/19 11:26	10/21/19 23:48	1
Beryllium	ND		1.00	0.182	ug/L		10/17/19 11:26	10/21/19 23:48	1
Boron	180		80.0	38.6	ug/L		10/17/19 11:26	10/21/19 23:48	1
Cadmium	ND		1.00	0.125	ug/L		10/17/19 11:26	10/21/19 23:48	1
Calcium	58700		500	127	ug/L		10/17/19 11:26	10/21/19 23:48	1
Chromium	2.90		2.00	1.53	ug/L		10/17/19 11:26	10/21/19 23:48	1
Cobalt	ND		0.500	0.0750	ug/L		10/17/19 11:26	10/21/19 23:48	1
Copper	1.17	J	2.00	0.627	ug/L		10/17/19 11:26	10/21/19 23:48	1
Iron	22.9	J	50.0	19.5	ug/L		10/17/19 11:26	10/21/19 23:48	1
Lead	0.208	J B	1.00	0.128	ug/L		10/17/19 11:26	10/21/19 23:48	1
Lithium	10.4		5.00	3.39	ug/L		10/17/19 11:26	10/21/19 23:48	1
Manganese	ND		5.00	1.35	ug/L		10/17/19 11:26	10/21/19 23:48	1
Molybdenum	18.7		5.00	0.610	ug/L		10/17/19 11:26	10/21/19 23:48	1
Nickel	1.12		1.00	0.336	ug/L		10/17/19 11:26	10/21/19 23:48	1
Selenium	166		5.00	1.51	ug/L		10/17/19 11:26	10/21/19 23:48	1
Silver	ND		1.00	0.177	ug/L		10/17/19 11:26	10/21/19 23:48	1
Thallium	ND		1.00	0.148	ug/L		10/17/19 11:26	10/21/19 23:48	1
Vanadium	186		1.00	0.991	ug/L		10/17/19 11:26	10/21/19 23:48	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: BRF_CCR_20191007_1A

Job ID: 180-96862-1

Client Sample ID: BRF-CCR-TW14-6.5/8.5-20191007 ~ TW14

Lab Sample ID: 180-96862-3

Date Collected: 10/07/19 12:33
Date Received: 10/08/19 09:10

Matrix: Solid
Percent Solids: 84.8

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Zinc	3.60	J	5.00	3.22	ug/L		10/17/19 11:26	10/21/19 23:48	1

Method: EPA 7470A - Mercury (CVAA) - SPLP East

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.200	0.101	ug/L		10/17/19 15:20	10/18/19 19:08	1

Method: EPA 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.167		0.0389	0.0169	mg/Kg	☼	10/15/19 09:58	10/16/19 13:42	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	41900	^	1180	880	mg/Kg	☼		10/16/19 16:12	1
Total Organic Carbon - Duplicates	67400	H	1180	880	mg/Kg	☼		10/28/19 11:54	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	15.2		0.1	0.1	%			10/10/19 15:03	1
Percent Solids	84.8		0.1	0.1	%			10/10/19 15:03	1
pH	7.5	HF	0.1	0.1	SU			10/18/19 14:03	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: BRF_CCR_20191007_1A

Job ID: 180-96862-1

Client Sample ID: BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14

Lab Sample ID: 180-96862-4
Date Collected: 10/07/19 14:42
Matrix: Solid
Date Received: 10/08/19 09:10
Percent Solids: 86.4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		11.2	4.35	mg/Kg	☼		10/27/19 14:03	1
Fluoride	**10.2**	**F1**	1.12	0.763	mg/Kg	☼		10/27/19 14:03	1
Sulfate	**1820**		11.2	7.62	mg/Kg	☼		10/27/19 14:03	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**1.22**	**F1**	0.231	0.0717	mg/Kg	☼	10/14/19 10:36	10/22/19 00:21	1
Arsenic	**53.2**		0.116	0.0301	mg/Kg	☼	10/14/19 10:36	10/22/19 00:21	1
Barium	**107**		1.16	0.148	mg/Kg	☼	10/14/19 10:36	10/22/19 00:21	1
Beryllium	**3.24**		0.116	0.00868	mg/Kg	☼	10/14/19 10:36	10/22/19 00:21	1
Boron	**33.2**		9.26	1.56	mg/Kg	☼	10/14/19 10:36	10/22/19 00:21	1
Cadmium	**0.186**		0.116	0.0197	mg/Kg	☼	10/14/19 10:36	10/22/19 00:21	1
Calcium	**1420**	**F1**	57.8	10.4	mg/Kg	☼	10/14/19 10:36	10/22/19 00:21	1
Chromium	**28.4**		0.231	0.0960	mg/Kg	☼	10/14/19 10:36	10/22/19 00:21	1
Cobalt	**12.2**		0.0578	0.00960	mg/Kg	☼	10/14/19 10:36	10/22/19 00:21	1
Copper	**34.3**		0.231	0.131	mg/Kg	☼	10/14/19 10:36	10/22/19 00:21	1
Iron	**7400**		5.78	2.85	mg/Kg	☼	10/14/19 10:36	10/22/19 00:21	1
Lead	**22.9**		0.116	0.0405	mg/Kg	☼	10/14/19 10:36	10/22/19 00:21	1
Lithium	**17.9**		0.578	0.319	mg/Kg	☼	10/14/19 10:36	10/22/19 00:21	1
Manganese	**31.7**	**F1**	0.578	0.265	mg/Kg	☼	10/14/19 10:36	10/22/19 00:21	1
Molybdenum	**5.26**		0.578	0.189	mg/Kg	☼	10/14/19 10:36	10/22/19 00:21	1
Nickel	**20.7**	**B**	0.116	0.0706	mg/Kg	☼	10/14/19 10:36	10/22/19 00:21	1
Selenium	**16.3**		0.578	0.141	mg/Kg	☼	10/14/19 10:36	10/22/19 00:21	1
Silver	**0.0813**	**J**	0.116	0.0312	mg/Kg	☼	10/14/19 10:36	10/22/19 00:21	1
Thallium	**1.46**		0.116	0.0289	mg/Kg	☼	10/14/19 10:36	10/22/19 00:21	1
Vanadium	**54.8**		0.116	0.0740	mg/Kg	☼	10/14/19 10:36	10/22/19 00:21	1
Zinc	**27.6**		0.578	0.386	mg/Kg	☼	10/14/19 10:36	10/22/19 00:21	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**6.93**		2.00	0.378	ug/L		10/17/19 11:26	10/21/19 23:50	1
Arsenic	**19.9**		1.00	0.323	ug/L		10/17/19 11:26	10/21/19 23:50	1
Barium	**23.6**		10.0	1.60	ug/L		10/17/19 11:26	10/21/19 23:50	1
Beryllium	ND		1.00	0.182	ug/L		10/17/19 11:26	10/21/19 23:50	1
Boron	**290**		80.0	38.6	ug/L		10/17/19 11:26	10/21/19 23:50	1
Cadmium	**0.125**	**J**	1.00	0.125	ug/L		10/17/19 11:26	10/21/19 23:50	1
Calcium	**27300**		500	127	ug/L		10/17/19 11:26	10/21/19 23:50	1
Chromium	**3.79**		2.00	1.53	ug/L		10/17/19 11:26	10/21/19 23:50	1
Cobalt	ND		0.500	0.0750	ug/L		10/17/19 11:26	10/21/19 23:50	1
Copper	**1.33**	**J**	2.00	0.627	ug/L		10/17/19 11:26	10/21/19 23:50	1
Iron	**80.3**		50.0	19.5	ug/L		10/17/19 11:26	10/21/19 23:50	1
Lead	**0.305**	**J B**	1.00	0.128	ug/L		10/17/19 11:26	10/21/19 23:50	1
Lithium	**24.8**		5.00	3.39	ug/L		10/17/19 11:26	10/21/19 23:50	1
Manganese	ND		5.00	1.35	ug/L		10/17/19 11:26	10/21/19 23:50	1
Molybdenum	**63.2**		5.00	0.610	ug/L		10/17/19 11:26	10/21/19 23:50	1
Nickel	**0.409**	**J**	1.00	0.336	ug/L		10/17/19 11:26	10/21/19 23:50	1
Selenium	**132**		5.00	1.51	ug/L		10/17/19 11:26	10/21/19 23:50	1
Silver	ND		1.00	0.177	ug/L		10/17/19 11:26	10/21/19 23:50	1
Thallium	ND		1.00	0.148	ug/L		10/17/19 11:26	10/21/19 23:50	1
Vanadium	**56.6**		1.00	0.991	ug/L		10/17/19 11:26	10/21/19 23:50	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: BRF_CCR_20191007_1A

Job ID: 180-96862-1

Client Sample ID: BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14

Lab Sample ID: 180-96862-4

Date Collected: 10/07/19 14:42
Date Received: 10/08/19 09:10

Matrix: Solid
Percent Solids: 86.4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Zinc	5.64		5.00	3.22	ug/L		10/17/19 11:26	10/21/19 23:50	1

Method: EPA 7470A - Mercury (CVAA) - SPLP East

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.200	0.101	ug/L		10/17/19 15:20	10/18/19 19:09	1

Method: EPA 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0379	F1	0.0337	0.0146	mg/Kg	☼	10/15/19 09:58	10/16/19 13:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	39500	F1 ^	1160	863	mg/Kg	☼		10/16/19 15:12	1
Total Organic Carbon - Duplicates	48600	H	1160	863	mg/Kg	☼		10/28/19 10:54	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	13.6		0.1	0.1	%			10/10/19 15:03	1
Percent Solids	86.4		0.1	0.1	%			10/10/19 15:03	1
pH	7.7	HF	0.1	0.1	SU			10/18/19 14:05	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: BRF_CCR_20191007_1A

Job ID: 180-96862-1

Client Sample ID: BRF-CCR-DUP01-20191007 ~ -

Date Collected: 10/07/19 00:00
Date Received: 10/08/19 09:10

Lab Sample ID: 180-96862-5

Matrix: Solid
Percent Solids: 84.4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		11.8	4.56	mg/Kg	☼		10/27/19 14:50	1
Fluoride	4.89		1.18	0.800	mg/Kg	☼		10/27/19 14:50	1
Sulfate	996		11.8	7.99	mg/Kg	☼		10/27/19 14:50	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	1.20		0.232	0.0720	mg/Kg	☼	10/14/19 10:36	10/22/19 00:46	1
Arsenic	51.2		0.116	0.0302	mg/Kg	☼	10/14/19 10:36	10/22/19 00:46	1
Barium	111		1.16	0.149	mg/Kg	☼	10/14/19 10:36	10/22/19 00:46	1
Beryllium	3.18		0.116	0.00871	mg/Kg	☼	10/14/19 10:36	10/22/19 00:46	1
Boron	46.8		9.29	1.57	mg/Kg	☼	10/14/19 10:36	10/22/19 00:46	1
Cadmium	0.183		0.116	0.0198	mg/Kg	☼	10/14/19 10:36	10/22/19 00:46	1
Calcium	1100		58.1	10.4	mg/Kg	☼	10/14/19 10:36	10/22/19 00:46	1
Chromium	30.0		0.232	0.0964	mg/Kg	☼	10/14/19 10:36	10/22/19 00:46	1
Cobalt	11.8		0.0581	0.00964	mg/Kg	☼	10/14/19 10:36	10/22/19 00:46	1
Copper	39.9		0.232	0.131	mg/Kg	☼	10/14/19 10:36	10/22/19 00:46	1
Iron	7150		5.81	2.86	mg/Kg	☼	10/14/19 10:36	10/22/19 00:46	1
Lead	24.5		0.116	0.0407	mg/Kg	☼	10/14/19 10:36	10/22/19 00:46	1
Lithium	15.7		0.581	0.321	mg/Kg	☼	10/14/19 10:36	10/22/19 00:46	1
Manganese	19.8		0.581	0.266	mg/Kg	☼	10/14/19 10:36	10/22/19 00:46	1
Molybdenum	21.2		0.581	0.189	mg/Kg	☼	10/14/19 10:36	10/22/19 00:46	1
Nickel	21.9	B	0.116	0.0709	mg/Kg	☼	10/14/19 10:36	10/22/19 00:46	1
Selenium	18.3		0.581	0.142	mg/Kg	☼	10/14/19 10:36	10/22/19 00:46	1
Silver	0.100	J	0.116	0.0314	mg/Kg	☼	10/14/19 10:36	10/22/19 00:46	1
Thallium	1.70		0.116	0.0290	mg/Kg	☼	10/14/19 10:36	10/22/19 00:46	1
Vanadium	59.1		0.116	0.0744	mg/Kg	☼	10/14/19 10:36	10/22/19 00:46	1
Zinc	23.5		0.581	0.388	mg/Kg	☼	10/14/19 10:36	10/22/19 00:46	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	3.84		2.00	0.378	ug/L		10/17/19 11:26	10/22/19 00:01	1
Arsenic	2.55		1.00	0.323	ug/L		10/17/19 11:26	10/22/19 00:01	1
Barium	15.1		10.0	1.60	ug/L		10/17/19 11:26	10/22/19 00:01	1
Beryllium	0.353	J B	1.00	0.182	ug/L		10/17/19 11:26	10/22/19 00:01	1
Boron	612		80.0	38.6	ug/L		10/17/19 11:26	10/22/19 00:01	1
Cadmium	0.383	J	1.00	0.125	ug/L		10/17/19 11:26	10/22/19 00:01	1
Calcium	11800		500	127	ug/L		10/17/19 11:26	10/22/19 00:01	1
Chromium	5.10		2.00	1.53	ug/L		10/17/19 11:26	10/22/19 00:01	1
Cobalt	0.259	J	0.500	0.0750	ug/L		10/17/19 11:26	10/22/19 00:01	1
Copper	2.25		2.00	0.627	ug/L		10/17/19 11:26	10/22/19 00:01	1
Iron	334		50.0	19.5	ug/L		10/17/19 11:26	10/22/19 00:01	1
Lead	0.858	J B	1.00	0.128	ug/L		10/17/19 11:26	10/22/19 00:01	1
Lithium	21.5		5.00	3.39	ug/L		10/17/19 11:26	10/22/19 00:01	1
Manganese	2.02	J	5.00	1.35	ug/L		10/17/19 11:26	10/22/19 00:01	1
Molybdenum	500		5.00	0.610	ug/L		10/17/19 11:26	10/22/19 00:01	1
Nickel	0.925	J	1.00	0.336	ug/L		10/17/19 11:26	10/22/19 00:01	1
Selenium	26.0		5.00	1.51	ug/L		10/17/19 11:26	10/22/19 00:01	1
Silver	0.188	J	1.00	0.177	ug/L		10/17/19 11:26	10/22/19 00:01	1
Thallium	0.322	J	1.00	0.148	ug/L		10/17/19 11:26	10/22/19 00:01	1
Vanadium	14.8		1.00	0.991	ug/L		10/17/19 11:26	10/22/19 00:01	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: BRF_CCR_20191007_1A

Job ID: 180-96862-1

Client Sample ID: BRF-CCR-DUP01-20191007 ~ -

Lab Sample ID: 180-96862-5
Date Collected: 10/07/19 00:00
Matrix: Solid
Date Received: 10/08/19 09:10
Percent Solids: 84.4

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Zinc	7.16		5.00	3.22	ug/L		10/17/19 11:26	10/22/19 00:01	1

Method: EPA 7470A - Mercury (CVAA) - SPLP East

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.200	0.101	ug/L		10/17/19 15:20	10/18/19 19:12	1

Method: EPA 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.177		0.0350	0.0152	mg/Kg	☼	10/15/19 09:58	10/16/19 13:45	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	37900	^	1190	884	mg/Kg	☼		10/16/19 16:23	1
Total Organic Carbon - Duplicates	47800	H	1190	884	mg/Kg	☼		10/28/19 12:06	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	15.6		0.1	0.1	%			10/10/19 15:03	1
Percent Solids	84.4		0.1	0.1	%			10/10/19 15:03	1
pH	7.7	HF	0.1	0.1	SU			10/18/19 14:09	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: BRF_CCR_20191007_1A

Job ID: 180-96862-1

Client Sample ID: BRF-CCR-TW14-16.0/19.0-20191007 ~ TW14

Lab Sample ID: 180-96862-6
Date Collected: 10/07/19 15:16
Matrix: Solid
Date Received: 10/08/19 09:10
Percent Solids: 84.6

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		11.5	4.47	mg/Kg	☼		10/27/19 15:06	1
Fluoride	**3.99**		1.15	0.783	mg/Kg	☼		10/27/19 15:06	1
Sulfate	**1080**		11.5	7.82	mg/Kg	☼		10/27/19 15:06	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.976**		0.236	0.0733	mg/Kg	☼	10/14/19 10:36	10/22/19 01:01	1
Arsenic	**51.4**		0.118	0.0307	mg/Kg	☼	10/14/19 10:36	10/22/19 01:01	1
Barium	**111**		1.18	0.151	mg/Kg	☼	10/14/19 10:36	10/22/19 01:01	1
Beryllium	**3.13**		0.118	0.00886	mg/Kg	☼	10/14/19 10:36	10/22/19 01:01	1
Boron	**45.2**		9.45	1.60	mg/Kg	☼	10/14/19 10:36	10/22/19 01:01	1
Cadmium	**0.192**		0.118	0.0201	mg/Kg	☼	10/14/19 10:36	10/22/19 01:01	1
Calcium	**1190**		59.1	10.6	mg/Kg	☼	10/14/19 10:36	10/22/19 01:01	1
Chromium	**29.2**		0.236	0.0981	mg/Kg	☼	10/14/19 10:36	10/22/19 01:01	1
Cobalt	**11.4**		0.0591	0.00981	mg/Kg	☼	10/14/19 10:36	10/22/19 01:01	1
Copper	**39.1**		0.236	0.134	mg/Kg	☼	10/14/19 10:36	10/22/19 01:01	1
Iron	**6880**		5.91	2.91	mg/Kg	☼	10/14/19 10:36	10/22/19 01:01	1
Lead	**23.4**		0.118	0.0414	mg/Kg	☼	10/14/19 10:36	10/22/19 01:01	1
Lithium	**15.8**		0.591	0.326	mg/Kg	☼	10/14/19 10:36	10/22/19 01:01	1
Manganese	**19.3**		0.591	0.271	mg/Kg	☼	10/14/19 10:36	10/22/19 01:01	1
Molybdenum	**20.6**		0.591	0.193	mg/Kg	☼	10/14/19 10:36	10/22/19 01:01	1
Nickel	**21.3**	**B**	0.118	0.0721	mg/Kg	☼	10/14/19 10:36	10/22/19 01:01	1
Selenium	**18.5**		0.591	0.144	mg/Kg	☼	10/14/19 10:36	10/22/19 01:01	1
Silver	**0.0952**	**J**	0.118	0.0319	mg/Kg	☼	10/14/19 10:36	10/22/19 01:01	1
Thallium	**1.56**		0.118	0.0295	mg/Kg	☼	10/14/19 10:36	10/22/19 01:01	1
Vanadium	**56.6**		0.118	0.0756	mg/Kg	☼	10/14/19 10:36	10/22/19 01:01	1
Zinc	**22.8**		0.591	0.395	mg/Kg	☼	10/14/19 10:36	10/22/19 01:01	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**3.75**		2.00	0.378	ug/L		10/17/19 11:26	10/22/19 00:08	1
Arsenic	**9.17**		1.00	0.323	ug/L		10/17/19 11:26	10/22/19 00:08	1
Barium	**77.3**		10.0	1.60	ug/L		10/17/19 11:26	10/22/19 00:08	1
Beryllium	ND		1.00	0.182	ug/L		10/17/19 11:26	10/22/19 14:08	1
Boron	**449**		80.0	38.6	ug/L		10/17/19 11:26	10/22/19 14:08	1
Cadmium	**0.341**	**J**	1.00	0.125	ug/L		10/17/19 11:26	10/22/19 00:08	1
Calcium	**22600**		500	127	ug/L		10/17/19 11:26	10/22/19 00:08	1
Chromium	ND		2.00	1.53	ug/L		10/17/19 11:26	10/22/19 00:08	1
Cobalt	ND		0.500	0.0750	ug/L		10/17/19 11:26	10/22/19 00:08	1
Copper	**1.60**	**J**	2.00	0.627	ug/L		10/17/19 11:26	10/22/19 00:08	1
Iron	**204**		50.0	19.5	ug/L		10/17/19 11:26	10/22/19 00:08	1
Lead	**0.178**	**J B**	1.00	0.128	ug/L		10/17/19 11:26	10/22/19 00:08	1
Lithium	**23.0**		5.00	3.39	ug/L		10/17/19 11:26	10/22/19 14:08	1
Manganese	**2.34**	**J**	5.00	1.35	ug/L		10/17/19 11:26	10/22/19 00:08	1
Molybdenum	**472**		5.00	0.610	ug/L		10/17/19 11:26	10/22/19 00:08	1
Nickel	**0.609**	**J**	1.00	0.336	ug/L		10/17/19 11:26	10/22/19 00:08	1
Selenium	**55.4**		5.00	1.51	ug/L		10/17/19 11:26	10/22/19 00:08	1
Silver	ND		1.00	0.177	ug/L		10/17/19 11:26	10/22/19 00:08	1
Thallium	**0.229**	**J**	1.00	0.148	ug/L		10/17/19 11:26	10/22/19 00:08	1
Vanadium	**31.4**		1.00	0.991	ug/L		10/17/19 11:26	10/22/19 00:08	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: BRF_CCR_20191007_1A

Job ID: 180-96862-1

Client Sample ID: BRF-CCR-TW14-16.0/19.0-20191007 ~ TW14

Lab Sample ID: 180-96862-6
Date Collected: 10/07/19 15:16
Matrix: Solid
Date Received: 10/08/19 09:10
Percent Solids: 84.6

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Zinc	4.54	J	5.00	3.22	ug/L		10/17/19 11:26	10/22/19 00:08	1

Method: EPA 7470A - Mercury (CVAA) - SPLP East

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.200	0.101	ug/L		10/17/19 15:20	10/18/19 19:12	1

Method: EPA 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.175		0.0390	0.0169	mg/Kg	☼	10/15/19 09:58	10/16/19 13:46	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	49000	^	1180	881	mg/Kg	☼		10/16/19 16:35	1
Total Organic Carbon - Duplicates	59700	H	1180	881	mg/Kg	☼		10/28/19 12:19	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	15.4		0.1	0.1	%			10/10/19 15:03	1
Percent Solids	84.6		0.1	0.1	%			10/10/19 15:03	1
pH	7.7	HF	0.1	0.1	SU			10/18/19 14:12	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: BRF_CCR_20191007_1A

Job ID: 180-96862-1

Client Sample ID: BRF-CCR-EB01-20191007 ~ TW14

Lab Sample ID: 180-96862-7

Date Collected: 10/07/19 15:31
Matrix: Water
Date Received: 10/08/19 09:10

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.00	0.320	mg/L			10/19/19 07:22	1
Fluoride	ND		0.100	0.0263	mg/L			10/19/19 07:22	1
Sulfate	**0.380**	**J**	1.00	0.380	mg/L			10/19/19 07:22	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		10/09/19 15:40	10/13/19 23:42	1
Arsenic	**0.000327**	**J**	0.00100	0.000323	mg/L		10/09/19 15:40	10/13/19 23:42	1
Barium	ND		0.0100	0.00160	mg/L		10/09/19 15:40	10/13/19 23:42	1
Beryllium	**0.000714**	**J**	0.00100	0.000182	mg/L		10/09/19 15:40	10/13/19 23:42	1
Boron	ND		0.0800	0.0386	mg/L		10/09/19 15:40	10/13/19 23:42	1
Cadmium	ND		0.00100	0.000125	mg/L		10/09/19 15:40	10/13/19 23:42	1
Calcium	ND		0.500	0.127	mg/L		10/09/19 15:40	10/13/19 23:42	1
Chromium	ND		0.00200	0.00153	mg/L		10/09/19 15:40	10/13/19 23:42	1
Cobalt	ND		0.000500	0.0000750	mg/L		10/09/19 15:40	10/13/19 23:42	1
Copper	**0.000776**	**J**	0.00200	0.000627	mg/L		10/09/19 15:40	10/13/19 23:42	1
Iron	**0.0525**		0.0500	0.0195	mg/L		10/09/19 15:40	10/13/19 23:42	1
Lead	ND		0.00100	0.000128	mg/L		10/09/19 15:40	10/13/19 23:42	1
Lithium	ND		0.00500	0.00339	mg/L		10/09/19 15:40	10/13/19 23:42	1
Manganese	**0.00246**	**J B**	0.00500	0.00135	mg/L		10/09/19 15:40	10/13/19 23:42	1
Molybdenum	ND		0.00500	0.000610	mg/L		10/09/19 15:40	10/13/19 23:42	1
Nickel	**0.000798**	**J B**	0.00100	0.000336	mg/L		10/09/19 15:40	10/13/19 23:42	1
Selenium	ND		0.00500	0.00151	mg/L		10/09/19 15:40	10/13/19 23:42	1
Silver	ND		0.00100	0.000177	mg/L		10/09/19 15:40	10/13/19 23:42	1
Thallium	**0.000163**	**J**	0.00100	0.000148	mg/L		10/09/19 15:40	10/13/19 23:42	1
Vanadium	**0.00101**		0.00100	0.000991	mg/L		10/09/19 15:40	10/13/19 23:42	1
Zinc	ND		0.00500	0.00322	mg/L		10/09/19 15:40	10/13/19 23:42	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		10/14/19 14:21	10/15/19 19:18	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Quad	ND		1.00	0.508	mg/L			10/13/19 19:11	1

Method: EPA 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 180-295429/6
Matrix: Water
Analysis Batch: 295429

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	0.320	mg/L			10/19/19 06:13	1
Fluoride	ND		0.100	0.0263	mg/L			10/19/19 06:13	1
Sulfate	ND		1.00	0.380	mg/L			10/19/19 06:13	1

Lab Sample ID: LCS 180-295429/5
Matrix: Water
Analysis Batch: 295429

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	23.66		mg/L		95	80 - 120
Fluoride	1.25	1.146		mg/L		92	80 - 120
Sulfate	25.0	23.47		mg/L		94	80 - 120

Lab Sample ID: 180-96975-A-1 MS
Matrix: Water
Analysis Batch: 295429

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	2.95		25.0	26.63		mg/L		95	80 - 120
Fluoride	0.0517	J	1.25	1.255		mg/L		96	80 - 120
Sulfate	10.1		25.0	33.25		mg/L		93	80 - 120

Lab Sample ID: 180-96975-A-1 MSD
Matrix: Water
Analysis Batch: 295429

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	2.95		25.0	27.26		mg/L		97	80 - 120	2	15
Fluoride	0.0517	J	1.25	1.289		mg/L		99	80 - 120	3	15
Sulfate	10.1		25.0	33.92		mg/L		95	80 - 120	2	15

Lab Sample ID: LB1 180-295907/1-A
Matrix: Solid
Analysis Batch: 296202

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			10/27/19 11:24	1
Fluoride	ND		1.00	0.680	mg/Kg			10/27/19 11:24	1
Sulfate	ND		10.0	6.79	mg/Kg			10/27/19 11:24	1

Lab Sample ID: LCS 180-295907/2-A
Matrix: Solid
Analysis Batch: 296202

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250	232.5		mg/Kg		93	80 - 120
Fluoride	12.5	11.67		mg/Kg		93	80 - 120
Sulfate	250	233.7		mg/Kg		93	80 - 120

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

Lab Sample ID: 180-96862-4 MS — **Client Sample ID: BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 296202

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	ND		289	265.0		mg/Kg	☼	92	80 - 120
Fluoride	10.2	F1	14.4	19.28	F1	mg/Kg	☼	63	80 - 120
Sulfate	1820		289	1887	4	mg/Kg	☼	23	80 - 120

Lab Sample ID: 180-96862-4 MSD — **Client Sample ID: BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 296202

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	ND		286	260.8		mg/Kg	☼	91	80 - 120	2	15
Fluoride	10.2	F1	14.3	18.82	F1	mg/Kg	☼	60	80 - 120	2	15
Sulfate	1820		286	2184	4	mg/Kg	☼	127	80 - 120	15	15

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

Lab Sample ID: MB 180-294788/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 295714 — **Prep Batch: 294788**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.200	0.0620	mg/Kg		10/14/19 10:36	10/22/19 00:01	1
Arsenic	ND		0.100	0.0260	mg/Kg		10/14/19 10:36	10/22/19 00:01	1
Barium	ND		1.00	0.128	mg/Kg		10/14/19 10:36	10/22/19 00:01	1
Beryllium	ND		0.100	0.00750	mg/Kg		10/14/19 10:36	10/22/19 00:01	1
Boron	ND		8.00	1.35	mg/Kg		10/14/19 10:36	10/22/19 00:01	1
Cadmium	ND		0.100	0.0170	mg/Kg		10/14/19 10:36	10/22/19 00:01	1
Calcium	ND		50.0	8.95	mg/Kg		10/14/19 10:36	10/22/19 00:01	1
Chromium	ND		0.200	0.0830	mg/Kg		10/14/19 10:36	10/22/19 00:01	1
Cobalt	ND		0.0500	0.00830	mg/Kg		10/14/19 10:36	10/22/19 00:01	1
Copper	ND		0.200	0.113	mg/Kg		10/14/19 10:36	10/22/19 00:01	1
Iron	ND		5.00	2.46	mg/Kg		10/14/19 10:36	10/22/19 00:01	1
Lead	ND		0.100	0.0350	mg/Kg		10/14/19 10:36	10/22/19 00:01	1
Lithium	ND		0.500	0.276	mg/Kg		10/14/19 10:36	10/22/19 00:01	1
Manganese	ND		0.500	0.229	mg/Kg		10/14/19 10:36	10/22/19 00:01	1
Molybdenum	ND		0.500	0.163	mg/Kg		10/14/19 10:36	10/22/19 00:01	1
Nickel	0.08070	J	0.100	0.0610	mg/Kg		10/14/19 10:36	10/22/19 00:01	1
Selenium	ND		0.500	0.122	mg/Kg		10/14/19 10:36	10/22/19 00:01	1
Silver	ND		0.100	0.0270	mg/Kg		10/14/19 10:36	10/22/19 00:01	1
Thallium	ND		0.100	0.0250	mg/Kg		10/14/19 10:36	10/22/19 00:01	1
Vanadium	ND		0.100	0.0640	mg/Kg		10/14/19 10:36	10/22/19 00:01	1
Zinc	ND		0.500	0.334	mg/Kg		10/14/19 10:36	10/22/19 00:01	1

Lab Sample ID: LCS 180-294788/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 295714 — **Prep Batch: 294788**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	25.0	26.37		mg/Kg		105	80 - 120
Arsenic	100	100.5		mg/Kg		101	80 - 120

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

Lab Sample ID: LCS 180-294788/2-A
Matrix: Solid
Analysis Batch: 295714

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 294788

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Barium	100	98.65		mg/Kg		99	80 - 120
Beryllium	50.0	51.99		mg/Kg		104	80 - 120
Boron	125	117.2		mg/Kg		94	80 - 120
Cadmium	50.0	52.51		mg/Kg		105	80 - 120
Calcium	2500	2437		mg/Kg		97	80 - 120
Chromium	50.0	52.35		mg/Kg		105	80 - 120
Cobalt	50.0	51.64		mg/Kg		103	80 - 120
Copper	50.0	51.29		mg/Kg		103	80 - 120
Iron	500	506.5		mg/Kg		101	80 - 120
Lead	50.0	51.20		mg/Kg		102	80 - 120
Lithium	50.0	45.43		mg/Kg		91	80 - 120
Manganese	50.0	46.52		mg/Kg		93	80 - 120
Molybdenum	50.0	52.52		mg/Kg		105	80 - 120
Nickel	50.0	50.91		mg/Kg		102	80 - 120
Selenium	100	101.9		mg/Kg		102	80 - 120
Silver	25.0	25.64		mg/Kg		103	80 - 120
Thallium	100	96.62		mg/Kg		97	80 - 120
Vanadium	50.0	49.62		mg/Kg		99	80 - 120
Zinc	25.0	26.14		mg/Kg		105	80 - 120

Lab Sample ID: 180-96862-4 MS
Matrix: Solid
Analysis Batch: 295714

Client Sample ID: BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14
Prep Type: Total/NA
Prep Batch: 294788

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	1.22	F1	30.1	22.73	F1	mg/Kg	☼	71	75 - 125
Arsenic	53.2		121	153.4		mg/Kg	☼	83	75 - 125
Barium	107		121	235.7		mg/Kg	☼	107	75 - 125
Beryllium	3.24		60.3	62.56		mg/Kg	☼	98	75 - 125
Boron	33.2		151	162.2		mg/Kg	☼	86	75 - 125
Cadmium	0.186		60.3	57.60		mg/Kg	☼	95	75 - 125
Calcium	1420	F1	3010	3490	F1	mg/Kg	☼	69	75 - 125
Chromium	28.4		60.3	80.63		mg/Kg	☼	87	75 - 125
Cobalt	12.2		60.3	64.55		mg/Kg	☼	87	75 - 125
Copper	34.3		60.3	91.77		mg/Kg	☼	95	75 - 125
Iron	7400		603	8042	4	mg/Kg	☼	106	75 - 125
Lead	22.9		60.3	80.57		mg/Kg	☼	96	75 - 125
Lithium	17.9		60.3	74.64		mg/Kg	☼	94	75 - 125
Manganese	31.7	F1	60.3	76.21	F1	mg/Kg	☼	74	75 - 125
Molybdenum	5.26		60.3	59.38		mg/Kg	☼	90	75 - 125
Nickel	20.7	B	60.3	75.22		mg/Kg	☼	90	75 - 125
Selenium	16.3		121	113.5		mg/Kg	☼	81	75 - 125
Silver	0.0813	J	30.1	27.32		mg/Kg	☼	90	75 - 125
Thallium	1.46		121	101.2		mg/Kg	☼	83	75 - 125
Vanadium	54.8		60.3	109.6		mg/Kg	☼	91	75 - 125
Zinc	27.6		30.1	56.78		mg/Kg	☼	97	75 - 125

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

Lab Sample ID: 180-96862-4 MSD — **Client Sample ID: BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 295714 — **Prep Batch: 294788**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	1.22	F1	30.1	24.20		mg/Kg	☼	76	75 - 125	6	20
Arsenic	53.2		121	149.9		mg/Kg	☼	80	75 - 125	2	20
Barium	107		121	234.5		mg/Kg	☼	106	75 - 125	1	20
Beryllium	3.24		60.3	65.32		mg/Kg	☼	103	75 - 125	4	20
Boron	33.2		151	168.2		mg/Kg	☼	90	75 - 125	4	20
Cadmium	0.186		60.3	57.56		mg/Kg	☼	95	75 - 125	0	20
Calcium	1420	F1	3010	4262		mg/Kg	☼	94	75 - 125	20	20
Chromium	28.4		60.3	80.92		mg/Kg	☼	87	75 - 125	0	20
Cobalt	12.2		60.3	64.18		mg/Kg	☼	86	75 - 125	1	20
Copper	34.3		60.3	91.50		mg/Kg	☼	95	75 - 125	0	20
Iron	7400		603	9369	4	mg/Kg	☼	326	75 - 125	15	20
Lead	22.9		60.3	83.37		mg/Kg	☼	100	75 - 125	3	20
Lithium	17.9		60.3	78.74		mg/Kg	☼	101	75 - 125	5	20
Manganese	31.7	F1	60.3	85.62		mg/Kg	☼	90	75 - 125	12	20
Molybdenum	5.26		60.3	58.52		mg/Kg	☼	88	75 - 125	1	20
Nickel	20.7	B	60.3	75.95		mg/Kg	☼	92	75 - 125	1	20
Selenium	16.3		121	113.7		mg/Kg	☼	81	75 - 125	0	20
Silver	0.0813	J	30.1	27.09		mg/Kg	☼	90	75 - 125	1	20
Thallium	1.46		121	105.0		mg/Kg	☼	86	75 - 125	4	20
Vanadium	54.8		60.3	110.4		mg/Kg	☼	92	75 - 125	1	20
Zinc	27.6		30.1	59.28		mg/Kg	☼	105	75 - 125	4	20

Lab Sample ID: MB 180-295213/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 295646 — **Prep Batch: 295213**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.00	0.378	ug/L		10/17/19 11:26	10/21/19 23:18	1
Arsenic	ND		1.00	0.323	ug/L		10/17/19 11:26	10/21/19 23:18	1
Barium	ND		10.0	1.60	ug/L		10/17/19 11:26	10/21/19 23:18	1
Beryllium	0.1870	J	1.00	0.182	ug/L		10/17/19 11:26	10/21/19 23:18	1
Boron	ND		80.0	38.6	ug/L		10/17/19 11:26	10/21/19 23:18	1
Cadmium	ND		1.00	0.125	ug/L		10/17/19 11:26	10/21/19 23:18	1
Calcium	ND		500	127	ug/L		10/17/19 11:26	10/21/19 23:18	1
Chromium	ND		2.00	1.53	ug/L		10/17/19 11:26	10/21/19 23:18	1
Cobalt	ND		0.500	0.0750	ug/L		10/17/19 11:26	10/21/19 23:18	1
Copper	ND		2.00	0.627	ug/L		10/17/19 11:26	10/21/19 23:18	1
Iron	ND		50.0	19.5	ug/L		10/17/19 11:26	10/21/19 23:18	1
Lead	0.1570	J	1.00	0.128	ug/L		10/17/19 11:26	10/21/19 23:18	1
Lithium	ND		5.00	3.39	ug/L		10/17/19 11:26	10/21/19 23:18	1
Manganese	ND		5.00	1.35	ug/L		10/17/19 11:26	10/21/19 23:18	1
Molybdenum	ND		5.00	0.610	ug/L		10/17/19 11:26	10/21/19 23:18	1
Nickel	ND		1.00	0.336	ug/L		10/17/19 11:26	10/21/19 23:18	1
Selenium	ND		5.00	1.51	ug/L		10/17/19 11:26	10/21/19 23:18	1
Silver	ND		1.00	0.177	ug/L		10/17/19 11:26	10/21/19 23:18	1
Thallium	ND		1.00	0.148	ug/L		10/17/19 11:26	10/21/19 23:18	1
Vanadium	ND		1.00	0.991	ug/L		10/17/19 11:26	10/21/19 23:18	1
Zinc	ND		5.00	3.22	ug/L		10/17/19 11:26	10/21/19 23:18	1

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

Lab Sample ID: LCS 180-295213/2-A
Matrix: Solid
Analysis Batch: 295646

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 295213

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	250	268.2		ug/L		107	80 - 120
Arsenic	1000	931.4		ug/L		93	80 - 120
Barium	1000	1030		ug/L		103	80 - 120
Beryllium	500	515.1		ug/L		103	80 - 120
Boron	1250	1217		ug/L		97	80 - 120
Cadmium	500	522.0		ug/L		104	80 - 120
Calcium	25000	24400		ug/L		98	80 - 120
Chromium	500	502.9		ug/L		101	80 - 120
Cobalt	500	472.7		ug/L		95	80 - 120
Copper	500	471.1		ug/L		94	80 - 120
Iron	5000	4746		ug/L		95	80 - 120
Lead	500	501.8		ug/L		100	80 - 120
Lithium	500	450.5		ug/L		90	80 - 120
Manganese	500	485.5		ug/L		97	80 - 120
Molybdenum	500	511.7		ug/L		102	80 - 120
Nickel	500	478.5		ug/L		96	80 - 120
Selenium	1000	980.4		ug/L		98	80 - 120
Silver	250	246.6		ug/L		99	80 - 120
Thallium	1000	1043		ug/L		104	80 - 120
Vanadium	500	496.8		ug/L		99	80 - 120
Zinc	250	232.0		ug/L		93	80 - 120

Lab Sample ID: MB 180-294325/1-A
Matrix: Water
Analysis Batch: 294829

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 294325

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200	0.000378	mg/L		10/09/19 15:40	10/13/19 21:44	1
Arsenic	ND		0.00100	0.000323	mg/L		10/09/19 15:40	10/13/19 21:44	1
Barium	ND		0.0100	0.00160	mg/L		10/09/19 15:40	10/13/19 21:44	1
Beryllium	ND		0.00100	0.000182	mg/L		10/09/19 15:40	10/13/19 21:44	1
Boron	ND		0.0800	0.0386	mg/L		10/09/19 15:40	10/13/19 21:44	1
Cadmium	ND		0.00100	0.000125	mg/L		10/09/19 15:40	10/13/19 21:44	1
Calcium	0.2567	J	0.500	0.127	mg/L		10/09/19 15:40	10/13/19 21:44	1
Chromium	ND		0.00200	0.00153	mg/L		10/09/19 15:40	10/13/19 21:44	1
Cobalt	ND		0.000500	0.0000750	mg/L		10/09/19 15:40	10/13/19 21:44	1
Copper	ND		0.00200	0.000627	mg/L		10/09/19 15:40	10/13/19 21:44	1
Iron	ND		0.0500	0.0195	mg/L		10/09/19 15:40	10/13/19 21:44	1
Lead	ND		0.00100	0.000128	mg/L		10/09/19 15:40	10/13/19 21:44	1
Lithium	ND		0.00500	0.00339	mg/L		10/09/19 15:40	10/13/19 21:44	1
Manganese	0.001753	J	0.00500	0.00135	mg/L		10/09/19 15:40	10/13/19 21:44	1
Molybdenum	ND		0.00500	0.000610	mg/L		10/09/19 15:40	10/13/19 21:44	1
Nickel	0.0006580	J	0.00100	0.000336	mg/L		10/09/19 15:40	10/13/19 21:44	1
Selenium	ND		0.00500	0.00151	mg/L		10/09/19 15:40	10/13/19 21:44	1
Silver	ND		0.00100	0.000177	mg/L		10/09/19 15:40	10/13/19 21:44	1
Thallium	ND		0.00100	0.000148	mg/L		10/09/19 15:40	10/13/19 21:44	1
Vanadium	ND		0.00100	0.000991	mg/L		10/09/19 15:40	10/13/19 21:44	1
Zinc	ND		0.00500	0.00322	mg/L		10/09/19 15:40	10/13/19 21:44	1

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

Lab Sample ID: LCS 180-294325/2-A
Matrix: Water
Analysis Batch: 294829

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 294325

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.250	0.2666		mg/L		107	80 - 120
Arsenic	1.00	0.9750		mg/L		98	80 - 120
Barium	1.00	0.9570		mg/L		96	80 - 120
Beryllium	0.500	0.5319		mg/L		106	80 - 120
Boron	1.25	1.144		mg/L		92	80 - 120
Cadmium	0.500	0.5218		mg/L		104	80 - 120
Calcium	25.0	23.53		mg/L		94	80 - 120
Chromium	0.500	0.4873		mg/L		97	80 - 120
Cobalt	0.500	0.4824		mg/L		96	80 - 120
Copper	0.500	0.4955		mg/L		99	80 - 120
Iron	5.00	4.634		mg/L		93	80 - 120
Lead	0.500	0.5146		mg/L		103	80 - 120
Lithium	0.500	0.4663		mg/L		93	80 - 120
Manganese	0.500	0.4837		mg/L		97	80 - 120
Molybdenum	0.500	0.5180		mg/L		104	80 - 120
Nickel	0.500	0.4957		mg/L		99	80 - 120
Selenium	1.00	0.9414		mg/L		94	80 - 120
Silver	0.250	0.2476		mg/L		99	80 - 120
Thallium	1.00	0.9556		mg/L		96	80 - 120
Vanadium	0.500	0.4639		mg/L		93	80 - 120
Zinc	0.250	0.2454		mg/L		98	80 - 120

Lab Sample ID: 180-96789-B-1-A MS
Matrix: Water
Analysis Batch: 294829

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 294325

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	ND		0.250	0.2623		mg/L		105	75 - 125
Arsenic	0.000561	J	1.00	0.9700		mg/L		97	75 - 125
Barium	0.0303		1.00	0.9708		mg/L		94	75 - 125
Beryllium	0.000424	J	0.500	0.4814		mg/L		96	75 - 125
Boron	9.68		1.25	9.383	4	mg/L		-23	75 - 125
Cadmium	ND		0.500	0.5156		mg/L		103	75 - 125
Calcium	592	B	25.0	616.2	4	mg/L		96	75 - 125
Chromium	ND		0.500	0.4829		mg/L		97	75 - 125
Cobalt	0.000310	J	0.500	0.4743		mg/L		95	75 - 125
Copper	0.00324		0.500	0.4859		mg/L		97	75 - 125
Iron	0.262		5.00	4.949		mg/L		94	75 - 125
Lead	0.000270	J	0.500	0.4825		mg/L		96	75 - 125
Lithium	0.0236		0.500	0.4371		mg/L		83	75 - 125
Manganese	0.128	B	0.500	0.6058		mg/L		96	75 - 125
Molybdenum	0.121		0.500	0.6341		mg/L		103	75 - 125
Nickel	0.000512	J B	0.500	0.4845		mg/L		97	75 - 125
Selenium	ND		1.00	0.9448		mg/L		94	75 - 125
Silver	ND		0.250	0.2426		mg/L		97	75 - 125
Thallium	ND		1.00	0.9116		mg/L		91	75 - 125
Vanadium	0.00253		0.500	0.4709		mg/L		94	75 - 125
Zinc	0.00490	J	0.250	0.2435		mg/L		95	75 - 125

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

Lab Sample ID: 180-96789-B-1-B MSD
Matrix: Water
Analysis Batch: 294829

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 294325

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	ND		0.250	0.2687		mg/L		107	75 - 125	2	20
Arsenic	0.000561	J	1.00	0.9722		mg/L		97	75 - 125	0	20
Barium	0.0303		1.00	0.9778		mg/L		95	75 - 125	1	20
Beryllium	0.000424	J	0.500	0.5078		mg/L		101	75 - 125	5	20
Boron	9.68		1.25	9.858	4	mg/L		15	75 - 125	5	20
Cadmium	ND		0.500	0.5137		mg/L		103	75 - 125	0	20
Calcium	592	B	25.0	618.1	4	mg/L		103	75 - 125	0	20
Chromium	ND		0.500	0.4906		mg/L		98	75 - 125	2	20
Cobalt	0.000310	J	0.500	0.4765		mg/L		95	75 - 125	0	20
Copper	0.00324		0.500	0.4867		mg/L		97	75 - 125	0	20
Iron	0.262		5.00	4.921		mg/L		93	75 - 125	1	20
Lead	0.000270	J	0.500	0.4838		mg/L		97	75 - 125	0	20
Lithium	0.0236		0.500	0.4674		mg/L		89	75 - 125	7	20
Manganese	0.128	B	0.500	0.6094		mg/L		96	75 - 125	1	20
Molybdenum	0.121		0.500	0.6450		mg/L		105	75 - 125	2	20
Nickel	0.000512	J B	0.500	0.4816		mg/L		96	75 - 125	1	20
Selenium	ND		1.00	0.9346		mg/L		93	75 - 125	1	20
Silver	ND		0.250	0.2441		mg/L		98	75 - 125	1	20
Thallium	ND		1.00	0.9196		mg/L		92	75 - 125	1	20
Vanadium	0.00253		0.500	0.4734		mg/L		94	75 - 125	1	20
Zinc	0.00490	J	0.250	0.2477		mg/L		97	75 - 125	2	20

Lab Sample ID: LB 180-294981/1-C
Matrix: Solid
Analysis Batch: 295646

Client Sample ID: Method Blank
Prep Type: SPLP East
Prep Batch: 295213

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.00	0.378	ug/L		10/17/19 11:26	10/21/19 23:13	1
Arsenic	ND		1.00	0.323	ug/L		10/17/19 11:26	10/21/19 23:13	1
Barium	ND		10.0	1.60	ug/L		10/17/19 11:26	10/21/19 23:13	1
Beryllium	ND		1.00	0.182	ug/L		10/17/19 11:26	10/21/19 23:13	1
Boron	ND		80.0	38.6	ug/L		10/17/19 11:26	10/21/19 23:13	1
Cadmium	ND		1.00	0.125	ug/L		10/17/19 11:26	10/21/19 23:13	1
Calcium	ND		500	127	ug/L		10/17/19 11:26	10/21/19 23:13	1
Chromium	ND		2.00	1.53	ug/L		10/17/19 11:26	10/21/19 23:13	1
Cobalt	ND		0.500	0.0750	ug/L		10/17/19 11:26	10/21/19 23:13	1
Copper	ND		2.00	0.627	ug/L		10/17/19 11:26	10/21/19 23:13	1
Iron	ND		50.0	19.5	ug/L		10/17/19 11:26	10/21/19 23:13	1
Lead	ND		1.00	0.128	ug/L		10/17/19 11:26	10/21/19 23:13	1
Lithium	ND		5.00	3.39	ug/L		10/17/19 11:26	10/21/19 23:13	1
Manganese	ND		5.00	1.35	ug/L		10/17/19 11:26	10/21/19 23:13	1
Molybdenum	ND		5.00	0.610	ug/L		10/17/19 11:26	10/21/19 23:13	1
Nickel	ND		1.00	0.336	ug/L		10/17/19 11:26	10/21/19 23:13	1
Selenium	ND		5.00	1.51	ug/L		10/17/19 11:26	10/21/19 23:13	1
Silver	ND		1.00	0.177	ug/L		10/17/19 11:26	10/21/19 23:13	1
Thallium	ND		1.00	0.148	ug/L		10/17/19 11:26	10/21/19 23:13	1
Vanadium	ND		1.00	0.991	ug/L		10/17/19 11:26	10/21/19 23:13	1
Zinc	ND		5.00	3.22	ug/L		10/17/19 11:26	10/21/19 23:13	1

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

Lab Sample ID: 180-96862-4 MS **Client Sample ID: BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14**
Matrix: Solid **Prep Type: SPLP East**
Analysis Batch: 295646 **Prep Batch: 295213**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	6.93		250	279.0		ug/L		109	75 - 125
Arsenic	19.9		1000	907.7		ug/L		89	75 - 125
Barium	23.6		1000	1089		ug/L		106	75 - 125
Beryllium	ND		500	517.5		ug/L		103	75 - 125
Boron	290		1250	1473		ug/L		95	75 - 125
Cadmium	0.125	J	500	533.7		ug/L		107	75 - 125
Calcium	27300		25000	53200		ug/L		104	75 - 125
Chromium	3.79		500	523.8		ug/L		104	75 - 125
Cobalt	ND		500	454.0		ug/L		91	75 - 125
Copper	1.33	J	500	456.2		ug/L		91	75 - 125
Iron	80.3		5000	4834		ug/L		95	75 - 125
Lead	0.305	J B	500	499.4		ug/L		100	75 - 125
Lithium	24.8		500	516.4		ug/L		98	75 - 125
Manganese	ND		500	497.6		ug/L		100	75 - 125
Molybdenum	63.2		500	576.7		ug/L		103	75 - 125
Nickel	0.409	J	500	449.4		ug/L		90	75 - 125
Selenium	132		1000	1102		ug/L		97	75 - 125
Silver	ND		250	243.7		ug/L		97	75 - 125
Thallium	ND		1000	1042		ug/L		104	75 - 125
Vanadium	56.6		500	566.8		ug/L		102	75 - 125
Zinc	5.64		250	227.9		ug/L		89	75 - 125

Lab Sample ID: 180-96862-4 MSD **Client Sample ID: BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14**
Matrix: Solid **Prep Type: SPLP East**
Analysis Batch: 295646 **Prep Batch: 295213**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	6.93		250	280.4		ug/L		109	75 - 125	1	20
Arsenic	19.9		1000	921.6		ug/L		90	75 - 125	2	20
Barium	23.6		1000	1094		ug/L		107	75 - 125	0	20
Beryllium	ND		500	498.3		ug/L		100	75 - 125	4	20
Boron	290		1250	1421		ug/L		90	75 - 125	4	20
Cadmium	0.125	J	500	531.2		ug/L		106	75 - 125	0	20
Calcium	27300		25000	52810		ug/L		102	75 - 125	1	20
Chromium	3.79		500	535.0		ug/L		106	75 - 125	2	20
Cobalt	ND		500	450.3		ug/L		90	75 - 125	1	20
Copper	1.33	J	500	457.9		ug/L		91	75 - 125	0	20
Iron	80.3		5000	4893		ug/L		96	75 - 125	1	20
Lead	0.305	J B	500	518.6		ug/L		104	75 - 125	4	20
Lithium	24.8		500	496.1		ug/L		94	75 - 125	4	20
Manganese	ND		500	507.0		ug/L		101	75 - 125	2	20
Molybdenum	63.2		500	576.2		ug/L		103	75 - 125	0	20
Nickel	0.409	J	500	452.1		ug/L		90	75 - 125	1	20
Selenium	132		1000	1127		ug/L		100	75 - 125	2	20
Silver	ND		250	246.5		ug/L		99	75 - 125	1	20
Thallium	ND		1000	1079		ug/L		108	75 - 125	3	20
Vanadium	56.6		500	574.6		ug/L		104	75 - 125	1	20
Zinc	5.64		250	229.6		ug/L		90	75 - 125	1	20

QC Sample Results

Client: Environmental Standards Inc.
Project/Site: BRF_CCR_20191007_1A

Job ID: 180-96862-1

Method: EPA 7470A - Mercury (CVAA)

Lab Sample ID: MB 180-294820/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 294950 — **Prep Batch: 294820**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200	0.000101	mg/L		10/14/19 14:21	10/15/19 19:12	1

Lab Sample ID: LCS 180-294820/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 294950 — **Prep Batch: 294820**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00250	0.002403		mg/L		96	80 - 120

Lab Sample ID: 180-97072-E-4-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 294950 — **Prep Batch: 294820**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		0.00100	0.0009670		mg/L		97	75 - 125

Lab Sample ID: 180-97072-E-4-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 294950 — **Prep Batch: 294820**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		0.00100	0.0009890		mg/L		99	75 - 125	2	20

Lab Sample ID: MB 180-295253/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 295427 — **Prep Batch: 295253**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.200	0.101	ug/L		10/17/19 15:20	10/18/19 18:55	1

Lab Sample ID: LCS 180-295253/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 295427 — **Prep Batch: 295253**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	2.50	2.399		ug/L		96	80 - 120

Lab Sample ID: LB 180-294981/1-D — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: SPLP East**
Analysis Batch: 295427 — **Prep Batch: 295253**

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.200	0.101	ug/L		10/17/19 15:20	10/18/19 18:57	1

Lab Sample ID: 180-96862-4 MS — **Client Sample ID: BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14**
Matrix: Solid — **Prep Type: SPLP East**
Analysis Batch: 295427 — **Prep Batch: 295253**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		1.00	0.9880		ug/L		99	75 - 125

QC Sample Results

Client: Environmental Standards Inc.
Project/Site: BRF_CCR_20191007_1A

Job ID: 180-96862-1

Method: EPA 7470A - Mercury (CVAA)

Lab Sample ID: 180-96862-4 MSD — **Client Sample ID: BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14**
Matrix: Solid — **Prep Type: SPLP East**
Analysis Batch: 295427 — **Prep Batch: 295253**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		1.00	0.9950		ug/L		100	75 - 125	1	20

Method: EPA 7471B - Mercury (CVAA)

Lab Sample ID: MB 180-294875/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 295107 — **Prep Batch: 294875**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0330	0.0143	mg/Kg		10/15/19 09:58	10/16/19 13:27	1

Lab Sample ID: LCS 180-294875/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 295107 — **Prep Batch: 294875**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.417	0.4045		mg/Kg		97	80 - 120

Lab Sample ID: 180-96862-4 MS — **Client Sample ID: BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 295107 — **Prep Batch: 294875**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.0379	F1	0.181	0.3379	F1	mg/Kg	☼	166	80 - 120

Lab Sample ID: 180-96862-4 MSD — **Client Sample ID: BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 295107 — **Prep Batch: 294875**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.0379	F1	0.190	0.3721	F1	mg/Kg	☼	176	80 - 120	10	20

Method: 2540G - SM 2540G

Lab Sample ID: 180-96862-4 DU — **Client Sample ID: BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 294487

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	13.6		13.4		%		0.9	10
Percent Solids	86.4		86.6		%		0.1	10

Method: EPA 9045D - pH

Lab Sample ID: LCS 180-295183/1 — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 295183

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.1		SU		101	99 - 101

Method: EPA 9045D - pH (Continued)

Lab Sample ID: 180-96787-B-8 DU — **Client Sample ID: Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 295183

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	8.0			8.1		SU				0.7	2

Lab Sample ID: 180-96862-4 DU — **Client Sample ID: BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 295183

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.7	HF		7.8	HF	SU				0.6	2

Method: EPA 9060A - Organic Carbon, Total (TOC)

Lab Sample ID: MB 180-294757/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 294757

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Quad	ND		1.00	0.508	mg/L			10/13/19 12:52	1

Lab Sample ID: LCS 180-294757/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 294757

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Organic Carbon - Quad			20.0	18.57		mg/L		93	85 - 115		

Lab Sample ID: LCSD 180-294757/5 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 294757

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon - Quad			20.0	18.70		mg/L		94	85 - 115	1	20

Method: EPA-Lloyd Kahn - Organic Carbon, Total (TOC)

Lab Sample ID: MB 180-295134/3 — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 295134

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	ND	^	1000	746	mg/Kg			10/16/19 14:31	1

Lab Sample ID: LCS 180-295134/4 — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 295134

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Organic Carbon - Duplicates			37800	32190	^	mg/Kg		85	75 - 125		

Method: EPA-Lloyd Kahn - Organic Carbon, Total (TOC) (Continued)

Lab Sample ID: 180-96862-4 MS — **Client Sample ID: BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 295134

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Organic Carbon - Duplicates	39500	F1 ^	21200	67590	F1 ^	mg/Kg	☼	133	75 - 125		

Lab Sample ID: 180-96862-4 MSD — **Client Sample ID: BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 295134

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon - Duplicates	39500	F1 ^	21700	70900	F1 ^	mg/Kg	☼	145	75 - 125	5	20

Lab Sample ID: 180-96862-4 DU — **Client Sample ID: BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 295134

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Organic Carbon - Duplicates	39500	F1 ^		54220	F3 ^	mg/Kg	☼			32	20

Lab Sample ID: MB 180-296354/3 — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 296354

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	ND		1000	746	mg/Kg			10/28/19 10:04	1

Lab Sample ID: LCS 180-296354/4 — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 296354

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Organic Carbon - Duplicates			37800	32430		mg/Kg		86	75 - 125		

Lab Sample ID: 180-96862-4 MS — **Client Sample ID: BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 296354

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Organic Carbon - Duplicates	48600	H	45400	105100	H	mg/Kg	☼	124	75 - 125		

Lab Sample ID: 180-96862-4 MSD — **Client Sample ID: BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 296354

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon - Duplicates	48600	H	50200	102700	H	mg/Kg	☼	108	75 - 125	2	20

Method: EPA-Lloyd Kahn - Organic Carbon, Total (TOC) (Continued)

Lab Sample ID: 180-96862-4 DU
Matrix: Solid
Analysis Batch: 296354

Client Sample ID: BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Organic Carbon - Duplicates	48600	H		50880	H	mg/Kg	☼			4	20

QC Association Summary

Client: Environmental Standards Inc.
Project/Site: BRF_CCR_20191007_1A

Job ID: 180-96862-1

HPLC/IC

Analysis Batch: 295429

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96862-1	BRF-CCR-FB03-20191007 ~ TW14	Total/NA	Water	EPA 9056A	
180-96862-7	BRF-CCR-EB01-20191007 ~ TW14	Total/NA	Water	EPA 9056A	
MB 180-295429/6	Method Blank	Total/NA	Water	EPA 9056A	
LCS 180-295429/5	Lab Control Sample	Total/NA	Water	EPA 9056A	
180-96975-A-1 MS	Matrix Spike	Total/NA	Water	EPA 9056A	
180-96975-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	EPA 9056A	

Leach Batch: 295907

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96862-2	BRF-CCR-TW14-3.0/5.0-20191007 ~ TW14	Soluble	Solid	DI Leach	
180-96862-3	BRF-CCR-TW14-6.5/8.5-20191007 ~ TW14	Soluble	Solid	DI Leach	
180-96862-4	BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14	Soluble	Solid	DI Leach	
180-96862-5	BRF-CCR-DUP01-20191007 ~ -	Soluble	Solid	DI Leach	
180-96862-6	BRF-CCR-TW14-16.0/19.0-20191007 ~ TW14	Soluble	Solid	DI Leach	
LB1 180-295907/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 180-295907/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
180-96862-4 MS	BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14	Soluble	Solid	DI Leach	
180-96862-4 MSD	BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14	Soluble	Solid	DI Leach	

Analysis Batch: 296202

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96862-2	BRF-CCR-TW14-3.0/5.0-20191007 ~ TW14	Soluble	Solid	EPA 9056A	295907
180-96862-3	BRF-CCR-TW14-6.5/8.5-20191007 ~ TW14	Soluble	Solid	EPA 9056A	295907
180-96862-4	BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14	Soluble	Solid	EPA 9056A	295907
180-96862-5	BRF-CCR-DUP01-20191007 ~ -	Soluble	Solid	EPA 9056A	295907
180-96862-6	BRF-CCR-TW14-16.0/19.0-20191007 ~ TW14	Soluble	Solid	EPA 9056A	295907
LB1 180-295907/1-A	Method Blank	Soluble	Solid	EPA 9056A	295907
LCS 180-295907/2-A	Lab Control Sample	Soluble	Solid	EPA 9056A	295907
180-96862-4 MS	BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14	Soluble	Solid	EPA 9056A	295907
180-96862-4 MSD	BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14	Soluble	Solid	EPA 9056A	295907

Metals

Prep Batch: 294325

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96862-1	BRF-CCR-FB03-20191007 ~ TW14	Total Recoverable	Water	3005A	
180-96862-7	BRF-CCR-EB01-20191007 ~ TW14	Total Recoverable	Water	3005A	
MB 180-294325/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-294325/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
180-96789-B-1-A MS	Matrix Spike	Dissolved	Water	3005A	
180-96789-B-1-B MSD	Matrix Spike Duplicate	Dissolved	Water	3005A	

Prep Batch: 294788

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96862-2	BRF-CCR-TW14-3.0/5.0-20191007 ~ TW14	Total/NA	Solid	3050B	
180-96862-3	BRF-CCR-TW14-6.5/8.5-20191007 ~ TW14	Total/NA	Solid	3050B	
180-96862-4	BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14	Total/NA	Solid	3050B	
180-96862-5	BRF-CCR-DUP01-20191007 ~ -	Total/NA	Solid	3050B	
180-96862-6	BRF-CCR-TW14-16.0/19.0-20191007 ~ TW14	Total/NA	Solid	3050B	
MB 180-294788/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 180-294788/2-A	Lab Control Sample	Total/NA	Solid	3050B	

Metals (Continued)

Prep Batch: 294788 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96862-4 MS	BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14	Total/NA	Solid	3050B	
180-96862-4 MSD	BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14	Total/NA	Solid	3050B	

Prep Batch: 294820

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96862-1	BRF-CCR-FB03-20191007 ~ TW14	Total/NA	Water	7470A	
180-96862-7	BRF-CCR-EB01-20191007 ~ TW14	Total/NA	Water	7470A	
MB 180-294820/1-A	Method Blank	Total/NA	Water	7470A	
LCS 180-294820/2-A	Lab Control Sample	Total/NA	Water	7470A	
180-97072-E-4-B MS	Matrix Spike	Total/NA	Water	7470A	
180-97072-E-4-C MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	

Analysis Batch: 294829

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96862-1	BRF-CCR-FB03-20191007 ~ TW14	Total Recoverable	Water	EPA 6020A	294325
180-96862-7	BRF-CCR-EB01-20191007 ~ TW14	Total Recoverable	Water	EPA 6020A	294325
MB 180-294325/1-A	Method Blank	Total Recoverable	Water	EPA 6020A	294325
LCS 180-294325/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020A	294325
180-96789-B-1-A MS	Matrix Spike	Dissolved	Water	EPA 6020A	294325
180-96789-B-1-B MSD	Matrix Spike Duplicate	Dissolved	Water	EPA 6020A	294325

Prep Batch: 294875

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96862-2	BRF-CCR-TW14-3.0/5.0-20191007 ~ TW14	Total/NA	Solid	7471B	
180-96862-3	BRF-CCR-TW14-6.5/8.5-20191007 ~ TW14	Total/NA	Solid	7471B	
180-96862-4	BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14	Total/NA	Solid	7471B	
180-96862-5	BRF-CCR-DUP01-20191007 ~ -	Total/NA	Solid	7471B	
180-96862-6	BRF-CCR-TW14-16.0/19.0-20191007 ~ TW14	Total/NA	Solid	7471B	
MB 180-294875/1-A	Method Blank	Total/NA	Solid	7471B	
LCS 180-294875/2-A	Lab Control Sample	Total/NA	Solid	7471B	
180-96862-4 MS	BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14	Total/NA	Solid	7471B	
180-96862-4 MSD	BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14	Total/NA	Solid	7471B	

Analysis Batch: 294950

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96862-1	BRF-CCR-FB03-20191007 ~ TW14	Total/NA	Water	EPA 7470A	294820
180-96862-7	BRF-CCR-EB01-20191007 ~ TW14	Total/NA	Water	EPA 7470A	294820
MB 180-294820/1-A	Method Blank	Total/NA	Water	EPA 7470A	294820
LCS 180-294820/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	294820
180-97072-E-4-B MS	Matrix Spike	Total/NA	Water	EPA 7470A	294820
180-97072-E-4-C MSD	Matrix Spike Duplicate	Total/NA	Water	EPA 7470A	294820

Leach Batch: 294981

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96862-2	BRF-CCR-TW14-3.0/5.0-20191007 ~ TW14	SPLP East	Solid	EPA 1312	
180-96862-3	BRF-CCR-TW14-6.5/8.5-20191007 ~ TW14	SPLP East	Solid	EPA 1312	
180-96862-4	BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14	SPLP East	Solid	EPA 1312	
180-96862-5	BRF-CCR-DUP01-20191007 ~ -	SPLP East	Solid	EPA 1312	
180-96862-6	BRF-CCR-TW14-16.0/19.0-20191007 ~ TW14	SPLP East	Solid	EPA 1312	
LB 180-294981/1-C	Method Blank	SPLP East	Solid	EPA 1312	
LB 180-294981/1-D	Method Blank	SPLP East	Solid	EPA 1312	

Metals (Continued)

Leach Batch: 294981 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96862-4 MS	BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14	SPLP East	Solid	EPA 1312	
180-96862-4 MSD	BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14	SPLP East	Solid	EPA 1312	

Analysis Batch: 295107

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96862-2	BRF-CCR-TW14-3.0/5.0-20191007 ~ TW14	Total/NA	Solid	EPA 7471B	294875
180-96862-3	BRF-CCR-TW14-6.5/8.5-20191007 ~ TW14	Total/NA	Solid	EPA 7471B	294875
180-96862-4	BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14	Total/NA	Solid	EPA 7471B	294875
180-96862-5	BRF-CCR-DUP01-20191007 ~ -	Total/NA	Solid	EPA 7471B	294875
180-96862-6	BRF-CCR-TW14-16.0/19.0-20191007 ~ TW14	Total/NA	Solid	EPA 7471B	294875
MB 180-294875/1-A	Method Blank	Total/NA	Solid	EPA 7471B	294875
LCS 180-294875/2-A	Lab Control Sample	Total/NA	Solid	EPA 7471B	294875
180-96862-4 MS	BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14	Total/NA	Solid	EPA 7471B	294875
180-96862-4 MSD	BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14	Total/NA	Solid	EPA 7471B	294875

Prep Batch: 295213

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96862-2	BRF-CCR-TW14-3.0/5.0-20191007 ~ TW14	SPLP East	Solid	3010A	294981
180-96862-3	BRF-CCR-TW14-6.5/8.5-20191007 ~ TW14	SPLP East	Solid	3010A	294981
180-96862-4	BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14	SPLP East	Solid	3010A	294981
180-96862-5	BRF-CCR-DUP01-20191007 ~ -	SPLP East	Solid	3010A	294981
180-96862-6	BRF-CCR-TW14-16.0/19.0-20191007 ~ TW14	SPLP East	Solid	3010A	294981
LB 180-294981/1-C	Method Blank	SPLP East	Solid	3010A	294981
MB 180-295213/1-A	Method Blank	Total/NA	Solid	3010A	
LCS 180-295213/2-A	Lab Control Sample	Total/NA	Solid	3010A	
180-96862-4 MS	BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14	SPLP East	Solid	3010A	294981
180-96862-4 MSD	BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14	SPLP East	Solid	3010A	294981

Prep Batch: 295253

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96862-2	BRF-CCR-TW14-3.0/5.0-20191007 ~ TW14	SPLP East	Solid	7470A	294981
180-96862-3	BRF-CCR-TW14-6.5/8.5-20191007 ~ TW14	SPLP East	Solid	7470A	294981
180-96862-4	BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14	SPLP East	Solid	7470A	294981
180-96862-5	BRF-CCR-DUP01-20191007 ~ -	SPLP East	Solid	7470A	294981
180-96862-6	BRF-CCR-TW14-16.0/19.0-20191007 ~ TW14	SPLP East	Solid	7470A	294981
LB 180-294981/1-D	Method Blank	SPLP East	Solid	7470A	294981
MB 180-295253/1-A	Method Blank	Total/NA	Solid	7470A	
LCS 180-295253/2-A	Lab Control Sample	Total/NA	Solid	7470A	
180-96862-4 MS	BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14	SPLP East	Solid	7470A	294981
180-96862-4 MSD	BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14	SPLP East	Solid	7470A	294981

Analysis Batch: 295427

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96862-2	BRF-CCR-TW14-3.0/5.0-20191007 ~ TW14	SPLP East	Solid	EPA 7470A	295253
180-96862-3	BRF-CCR-TW14-6.5/8.5-20191007 ~ TW14	SPLP East	Solid	EPA 7470A	295253
180-96862-4	BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14	SPLP East	Solid	EPA 7470A	295253
180-96862-5	BRF-CCR-DUP01-20191007 ~ -	SPLP East	Solid	EPA 7470A	295253
180-96862-6	BRF-CCR-TW14-16.0/19.0-20191007 ~ TW14	SPLP East	Solid	EPA 7470A	295253
LB 180-294981/1-D	Method Blank	SPLP East	Solid	EPA 7470A	295253
MB 180-295253/1-A	Method Blank	Total/NA	Solid	EPA 7470A	295253
LCS 180-295253/2-A	Lab Control Sample	Total/NA	Solid	EPA 7470A	295253

Metals (Continued)

Analysis Batch: 295427 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96862-4 MS	BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14	SPLP East	Solid	EPA 7470A	295253
180-96862-4 MSD	BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14	SPLP East	Solid	EPA 7470A	295253

Analysis Batch: 295646

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96862-2	BRF-CCR-TW14-3.0/5.0-20191007 ~ TW14	SPLP East	Solid	EPA 6020A	295213
180-96862-3	BRF-CCR-TW14-6.5/8.5-20191007 ~ TW14	SPLP East	Solid	EPA 6020A	295213
180-96862-4	BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14	SPLP East	Solid	EPA 6020A	295213
180-96862-5	BRF-CCR-DUP01-20191007 ~ -	SPLP East	Solid	EPA 6020A	295213
180-96862-6	BRF-CCR-TW14-16.0/19.0-20191007 ~ TW14	SPLP East	Solid	EPA 6020A	295213
LB 180-294981/1-C	Method Blank	SPLP East	Solid	EPA 6020A	295213
MB 180-295213/1-A	Method Blank	Total/NA	Solid	EPA 6020A	295213
LCS 180-295213/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	295213
180-96862-4 MS	BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14	SPLP East	Solid	EPA 6020A	295213
180-96862-4 MSD	BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14	SPLP East	Solid	EPA 6020A	295213

Analysis Batch: 295714

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96862-2	BRF-CCR-TW14-3.0/5.0-20191007 ~ TW14	Total/NA	Solid	EPA 6020A	294788
180-96862-3	BRF-CCR-TW14-6.5/8.5-20191007 ~ TW14	Total/NA	Solid	EPA 6020A	294788
180-96862-4	BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14	Total/NA	Solid	EPA 6020A	294788
180-96862-5	BRF-CCR-DUP01-20191007 ~ -	Total/NA	Solid	EPA 6020A	294788
180-96862-6	BRF-CCR-TW14-16.0/19.0-20191007 ~ TW14	Total/NA	Solid	EPA 6020A	294788
MB 180-294788/1-A	Method Blank	Total/NA	Solid	EPA 6020A	294788
LCS 180-294788/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	294788
180-96862-4 MS	BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14	Total/NA	Solid	EPA 6020A	294788
180-96862-4 MSD	BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14	Total/NA	Solid	EPA 6020A	294788

Analysis Batch: 295821

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96862-6	BRF-CCR-TW14-16.0/19.0-20191007 ~ TW14	SPLP East	Solid	EPA 6020A	295213

General Chemistry

Analysis Batch: 294487

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96862-2	BRF-CCR-TW14-3.0/5.0-20191007 ~ TW14	Total/NA	Solid	2540G	
180-96862-3	BRF-CCR-TW14-6.5/8.5-20191007 ~ TW14	Total/NA	Solid	2540G	
180-96862-4	BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14	Total/NA	Solid	2540G	
180-96862-5	BRF-CCR-DUP01-20191007 ~ -	Total/NA	Solid	2540G	
180-96862-6	BRF-CCR-TW14-16.0/19.0-20191007 ~ TW14	Total/NA	Solid	2540G	
180-96862-4 DU	BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14	Total/NA	Solid	2540G	

Analysis Batch: 294757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96862-1	BRF-CCR-FB03-20191007 ~ TW14	Total/NA	Water	EPA 9060A	
180-96862-7	BRF-CCR-EB01-20191007 ~ TW14	Total/NA	Water	EPA 9060A	
MB 180-294757/6	Method Blank	Total/NA	Water	EPA 9060A	
LCS 180-294757/4	Lab Control Sample	Total/NA	Water	EPA 9060A	
LCSD 180-294757/5	Lab Control Sample Dup	Total/NA	Water	EPA 9060A	

QC Association Summary

Client: Environmental Standards Inc.
Project/Site: BRF_CCR_20191007_1A

Job ID: 180-96862-1

General Chemistry

Analysis Batch: 295134

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96862-2	BRF-CCR-TW14-3.0/5.0-20191007 ~ TW14	Total/NA	Solid	EPA-Lloyd Kahn	
180-96862-3	BRF-CCR-TW14-6.5/8.5-20191007 ~ TW14	Total/NA	Solid	EPA-Lloyd Kahn	
180-96862-4	BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14	Total/NA	Solid	EPA-Lloyd Kahn	
180-96862-5	BRF-CCR-DUP01-20191007 ~ -	Total/NA	Solid	EPA-Lloyd Kahn	
180-96862-6	BRF-CCR-TW14-16.0/19.0-20191007 ~ TW14	Total/NA	Solid	EPA-Lloyd Kahn	
MB 180-295134/3	Method Blank	Total/NA	Solid	EPA-Lloyd Kahn	
LCS 180-295134/4	Lab Control Sample	Total/NA	Solid	EPA-Lloyd Kahn	
180-96862-4 MS	BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14	Total/NA	Solid	EPA-Lloyd Kahn	
180-96862-4 MSD	BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14	Total/NA	Solid	EPA-Lloyd Kahn	
180-96862-4 DU	BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14	Total/NA	Solid	EPA-Lloyd Kahn	

Analysis Batch: 295183

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96862-2	BRF-CCR-TW14-3.0/5.0-20191007 ~ TW14	Total/NA	Solid	EPA 9045D	
180-96862-3	BRF-CCR-TW14-6.5/8.5-20191007 ~ TW14	Total/NA	Solid	EPA 9045D	
180-96862-4	BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14	Total/NA	Solid	EPA 9045D	
180-96862-5	BRF-CCR-DUP01-20191007 ~ -	Total/NA	Solid	EPA 9045D	
180-96862-6	BRF-CCR-TW14-16.0/19.0-20191007 ~ TW14	Total/NA	Solid	EPA 9045D	
LCS 180-295183/1	Lab Control Sample	Total/NA	Solid	EPA 9045D	
180-96787-B-8 DU	Duplicate	Total/NA	Solid	EPA 9045D	
180-96862-4 DU	BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14	Total/NA	Solid	EPA 9045D	

Analysis Batch: 296354

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-96862-2	BRF-CCR-TW14-3.0/5.0-20191007 ~ TW14	Total/NA	Solid	EPA-Lloyd Kahn	
180-96862-3	BRF-CCR-TW14-6.5/8.5-20191007 ~ TW14	Total/NA	Solid	EPA-Lloyd Kahn	
180-96862-4	BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14	Total/NA	Solid	EPA-Lloyd Kahn	
180-96862-5	BRF-CCR-DUP01-20191007 ~ -	Total/NA	Solid	EPA-Lloyd Kahn	
180-96862-6	BRF-CCR-TW14-16.0/19.0-20191007 ~ TW14	Total/NA	Solid	EPA-Lloyd Kahn	
MB 180-296354/3	Method Blank	Total/NA	Solid	EPA-Lloyd Kahn	
LCS 180-296354/4	Lab Control Sample	Total/NA	Solid	EPA-Lloyd Kahn	
180-96862-4 MS	BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14	Total/NA	Solid	EPA-Lloyd Kahn	
180-96862-4 MSD	BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14	Total/NA	Solid	EPA-Lloyd Kahn	
180-96862-4 DU	BRF-CCR-TW14-11.5/13.5-20191007 ~ TW14	Total/NA	Solid	EPA-Lloyd Kahn	

Tennessee Valley Authority

COOLER No.:	1	of	3
COC No:	BRF_CCR_20191007_1A		
1 of 1 Pages			
Task Desc:	BRF_CCR		

Chain-of-Custody / Analytical Request Document

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

180-96862 Chain of Custody

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 #:	Bull Run Fossil Plant
Project #:	18019624
Site Address	1265 Edgemoor Road
City	Clinton State, Zip: TN, 37716
Site PM Name:	Roy Quinn
Phone/Fax:	423-751-3753
Site PM Email:	jrquinn@tva.gov

SB 10/07/2019

Required Sampler Information	
Sampler:	S. Bolden & M. Edmunds
Sampling Company:	Stantec
Address	Warehouse Row North 1110 Market Street, S
City/State	Chattanooga, TN Phone: (432) 320-1421
Sampling Team Number:	1
Send EDD/Hard Copy to:	tva_deliverables@envstd.com

SB 10/07/2019

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	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: CCR_MATERIALS	Analysis: CCR_MATERIALS_BLANKS	Preserv: None	Preserv: see comm
1	BRF-CCR-FB03-20191007	TW14	NA	NA	AQ	G	FB	10/7/2019	1119	4		☐		X		
2	BRF-CCR-TW14-3.0/5.0-20191007	TW14	3.0	5.0	CCR	G	N	10/7/2019	1210	5		☐	X			
3	BRF-CCR-TW14-6.5/8.5-20191007	TW14	6.5	8.5	CCR	G	N	10/7/2019	1233	5		☐	X			
4	BRF-CCR-TW14-11.5/13.5-20191007	TW14	11.5	13.5	CCR	G	N	10/7/2019	1442	5		X	X			
5	BRF-CCR-DUP01-20191007	-	-	-	CCR	G	FD	10/7/2019	-	5		☐	X			
6	BRF-CCR-TW14-16.0/19.0-20191007	TW14	16.0	19.0	CCR	G	N	10/7/2019	1516	5		☐	X			
7	BRF-CCR-EB01-20191007	TW14	NA	NA	AQ	G	EB	10/7/2019	1531	4		☐		X		

SB 10/07/2019

Additional Comments/Special Instructions:

Additional volume collected should be used for MS/MSDs.

CCR_MATERIALS_BLANKS:
Anions unpreserved; Metals preserved w/ HNO3 to pH<2; TOC preserved w/ H2SO4 to pH <2

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Suama Bolden (Stantec) SBolden	10/7/2019	1700	[signature]	10/8/19	910
SB 10/07/2019					
SB 10/07/2019					

SHIPPING METHOD:	SAMPLER NAME AND SIGNATURE
Courier	Suama Bolden SBolden
	Matthew Edmunds [signature]

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

Tennessee Valley Authority

Chain-of-Custody / Analytical Request Document

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

COOLER No.:	2 of 3
COC No:	BRF_CCR_20191007_1A
1 of 1 Pages	
Task Desc:	BRF_CCR

Required Ship to Lab:		Required Project Information:		Required Sampler Information	
Lab Name:	TestAmerica Pittsburgh	Site ID #:	Bull Run Fossil Plant	Sampler:	S. Bolden & M. Edmunds
Lab Address:	301 Alpha Drive	Project #:	18019624	Sampling Company:	Stantec
	Pittsburgh, PA 15238	Site Address	1265 Edgemoor Road	Address	Warehouse Row North 1110 Market Street, Suite 214A
		City	Clinton State, Zip: TN, 37716	City/State	Chattanooga, TN Phone: (432) 320-1421
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				

SB 10/07/2019

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	Preserve None	Preserve see comments	Analysis CCR_MATERIALS	Analysis CCR_MATERIALS_BLANKS
1	BRF-CCR-FB03-20191007	TW14	NA	NA	AQ	G	FB	10/7/2019	1119	4		☐					X
2	BRF-CCR-TW14-3.0/5.0-20191007	TW14	3.0	5.0	CCR	G	N	10/7/2019	1210	5		☐				X	
3	BRF-CCR-TW14-6.5/8.5-20191007	TW14	6.5	8.5	CCR	G	N	10/7/2019	1233	5		☐				X	
4	BRF-CCR-TW14-11.5/13.5-20191007	TW14	11.5	13.5	CCR	G	N	10/7/2019	1442	5		X				X	
5	BRF-CCR-DUP01-20191007	-	-	-	CCR	G	FD	10/7/2019	-	5		☐				X	
6	BRF-CCR-TW14-16.0/19.0-20191007	TW14	16.0	19.0	CCR	G	N	10/7/2019	1516	5		☐				X	
7	BRF-CCR-EB01-20191007	TW14	NA	NA	AQ	G	EB	10/7/2019	1531	4		☐					X

SB 10/07/2019

Additional Comments/Special Instructions:

Additional volume collected should be used for MS/MSDs.

CCR_MATERIALS_BLANKS:
Anions unpreserved; Metals preserved w/ HNO3 to pH<2; TOC preserved w/ H2SO4 to pH <2

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Suama Bolden (Stantec)	10/7/2019	1700		10/8/19	910
SB 10/07/2019					
SB 10/07/2019					

SHIPPING METHOD:	SAMPLER NAME AND SIGNATURE
Courier	Suama Bolden
	Matthew Edmunds

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?

Form TVA 30067A

TVA

Tennessee Valley Authority

Chain-of-Custody / Analytical Request Document

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

COOLER No.:	3	of	3
COC No:	BRF_CCR_20191007_1A		
1 of 1 Pages			
Task Desc:	BRF_CCR		

Required Ship to Lab:		Required Project Information:		Required Sampler Information	
Lab Name:	TestAmerica Pittsburgh	Site ID #:	Bull Run Fossil Plant	Sampler:	S. Bolden & M. Edmunds
Lab Address:	301 Alpha Drive	Project #:	18019624	Sampling Company:	Stantec
	Pittsburgh, PA 15238	Site Address	1265 Edgemoor Road	Address	Warehouse Row North 1110 Market Street, Suite 214A
		City	Clinton State, Zip: TN, 37716	City/State	Chattanooga, TN Phone: (432) 320-1421
Lab Manager Contact Information		Site PM Name:	Roy Quinn	Sampling Team Number:	1
Lab PM:	Gail Lage	Phone/Fax:	423-751-3753	Send EDD/Hard Copy to:	tva_deliverables@envstd.com
Phone/Fax:	615-301-5741/615-726-3404	Site PM Email:	jrquinn@tva.gov		
Lab Email:	Gail.Lage@testamericainc.com				

SB 10/07/2019

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	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: CCR_MATERIALS	Analysis: CCR_MATERIALS_BLANKS	Filtered: N	Filtered: N	Preserve: None	Preserve: see comments
1	BRF-CCR-FB03-20191007	TW14	NA	NA	AQ	G	FB	10/7/2019	1119	4		☐		X				
2	BRF-CCR-TW14-3.0/5.0-20191007	TW14	3.0	5.0	CCR	G	N	10/7/2019	1210	5		☐	X					
3	BRF-CCR-TW14-6.5/8.5-20191007	TW14	6.5	8.5	CCR	G	N	10/7/2019	1233	5		☐	X					
4	BRF-CCR-TW14-11.5/13.5-20191007	TW14	11.5	13.5	CCR	G	N	10/7/2019	1442	5		X	X					
5	BRF-CCR-DUP01-20191007	-	-	-	CCR	G	FD	10/7/2019	-	5		☐	X					
6	BRF-CCR-TW14-16.0/19.0-20191007	TW14	16.0	19.0	CCR	G	N	10/7/2019	1516	5		☐	X					
7	BRF-CCR-EB01-20191007	TW14	NA	NA	AQ	G	EB	10/7/2019	1531	4		☐		X				

SB 10/07/2019

Additional Comments/Special Instructions:

Additional volume collected should be used for MS/MSDs.

CCR_MATERIALS_BLANKS:
Anions unpreserved; Metals preserved w/ HNO3 to pH<2; TOC preserved w/ H2SO4 to pH <2

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Suama Bolden (Stantec) SBolden	10/7/2019	1700	[illegible]	10/8/19	910
SB 10/07/2019					
SB 10/07/2019					

SHIPPING METHOD:	SAMPLER NAME AND SIGNATURE
Courier	Suama Bolden SBolden
	Matthew Edmunds

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?

SB 10/07/2019

Form TVA 30067A

Login Sample Receipt Checklist

Client: Environmental Standards Inc.

Job Number: 180-96862-1

Login Number: 96862
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	