



ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pittsburgh

301 Alpha Drive

RIDC Park

Pittsburgh, PA 15238

Tel: (412)963-7058

TestAmerica Job ID: 180-87768-1

Client Project/Site: JSF_CCR_20190314_1A

For:

Environmental Standards Inc.

1140 Valley Forge Road

PO BOX 810

Valley Forge, Pennsylvania 19482-0810

Attn: Amanda Cover

Gail Lage

Authorized for release by:

4/2/2019 6:26:16 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	5
Certification Summary	6
Sample Summary	7
Method Summary	8
Lab Chronicle	9
Client Sample Results	16
QC Sample Results	31
QC Association Summary	44
Chain of Custody	50
Receipt Checklists	54

Case Narrative

Client: Environmental Standards Inc.
Project/Site: JSF_CCR_20190314_1A

TestAmerica Job ID: 180-87768-1

Job ID: 180-87768-1

Laboratory: TestAmerica Pittsburgh

Narrative

Job Narrative 180-87768-1

Comments

No additional comments.

Receipt

The samples were received on 3/16/2019 10:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 1.9° C, 1.9° C, 2.1° C and 2.1° C.

GC Semi VOA

Method(s) Lloyd Kahn: The continuing calibration blank (CCB) for analytical batch 180-273683 contained Total Organic Carbon above the reporting limit (RL). All reported samples associated with this CCB contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

Method(s) Lloyd Kahn: Please note that 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.

JSF-CCR-TW10-1.5/3.5-20190314 (180-87768-2), JSF-CCR-TW10-6.0/9.0-20190314 (180-87768-3),
JSF-CCR-TW10-12.0/13.5-20190314 (180-87768-4), JSF-CCR-TW10-16.5/18.5-20190314 (180-87768-5),
JSF-CCR-TW10-21.0/24.0-20190314 (180-87768-6), JSF-CCR-TW10-26.0/29.0-20190314 (180-87768-7),
JSF-CCR-TW10-31.5/33.5-20190314 (180-87768-8), (180-87617-C-2), (180-87617-C-2 DU), (180-87617-C-2 MS) and (180-87617-C-2 MSD)

Method(s) Lloyd Kahn: The matrix spike (MS) recoveries for analytical batch 180-273683 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits. Sample had high hits for TOC which can impact percent recovery.

Method(s) Lloyd Kahn: The sample duplicate (DUP) precision for analytical batch 180-273683 was outside control limits. Sample matrix interference is suspected. Sample had high hits for TOC which can impact RPD.

Method(s) Lloyd Kahn: The laboratory control sample (LCS) associated with analytical batch 180-274261 was outside acceptance criteria for TOC Result 2, re-analysis could not be performed due to holding time restrictions; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

Method(s) Lloyd Kahn: Please note that 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.

JSF-CCR-TW10-1.5/3.5-20190314 (180-87768-2), JSF-CCR-TW10-21.0/24.0-20190314 (180-87768-6),
JSF-CCR-TW10-31.5/33.5-20190314 (180-87768-8), (180-87990-C-1), (180-87990-C-1 DU), (180-87990-C-1 MS) and (180-87990-C-1 MSD)

Method(s) Lloyd Kahn: The matrix spike/matrix spike duplicate (MS/MSD) recoveries for analytical batch 180-274106 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) Lloyd Kahn: The sample duplicate (DUP) precision for analytical batch 180-274106 was outside control limits. Sample matrix interference is suspected.

Method(s) Lloyd Kahn: Please note that 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.

JSF-CCR-TW10-1.5/3.5-20190314 (180-87768-2), (180-87843-E-1), (180-87843-E-1 DU), (180-87843-E-1 MS) and (180-87843-E-1 MSD)

Method(s) Lloyd Kahn: The sample duplicate (DUP) precision for analytical batch 180-274261 was outside control limits. Sample non-homogeneity is suspected.

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

Case Narrative

Client: Environmental Standards Inc.
Project/Site: JSF_CCR_20190314_1A

TestAmerica Job ID: 180-87768-1

Job ID: 180-87768-1 (Continued)

Laboratory: TestAmerica Pittsburgh (Continued)

Metals

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

General Chemistry

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

Geotechnical

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

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Definitions/Glossary

Client: Environmental Standards Inc.
Project/Site: JSF_CCR_20190314_1A

TestAmerica Job ID: 180-87768-1

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.

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.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery is outside acceptance limits.

General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.

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: JSF_CCR_20190314_1A

TestAmerica Job ID: 180-87768-1

Laboratory: TestAmerica Pittsburgh

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Arkansas DEQ	State Program	6	88-0690	06-27-19
California	State Program	9	2891	04-30-19
Connecticut	State Program	1	PH-0688	09-30-20
Florida	NELAP	4	E871008	06-30-19
Illinois	NELAP	5	200005	06-30-19
Kansas	NELAP	7	E-10350	01-31-20
Louisiana	NELAP	6	04041	06-30-19
Nevada	State Program	9	PA00164	07-31-19
New Hampshire	NELAP	1	2030	04-04-19
New Jersey	NELAP	2	PA005	06-30-19
New York	NELAP	2	11182	03-31-20
North Carolina (WW/SW)	State Program	4	434	12-31-19
Oregon	NELAP	10	PA-2151	01-28-19 *
Pennsylvania	NELAP	3	02-00416	04-30-19
South Carolina	State Program	4	89014	04-30-19
Texas	NELAP	6	T104704528-15-2	03-31-20
US Fish & Wildlife	Federal		LE94312A-1	07-31-19
USDA	Federal		P330-16-00211	06-26-19
Utah	NELAP	8	PA001462015-4	05-31-19
Virginia	NELAP	3	460189	09-14-19
West Virginia DEP	State Program	3	142	01-31-20
Wisconsin	State Program	5	998027800	08-31-19

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

TestAmerica Pittsburgh

Sample Summary

Client: Environmental Standards Inc.
Project/Site: JSF_CCR_20190314_1A

TestAmerica Job ID: 180-87768-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-87768-1	JSF-CCR-FB04-20190314	Water	03/14/19 11:30	03/16/19 10:00
180-87768-2	JSF-CCR-TW10-1.5/3.5-20190314	Solid	03/14/19 12:02	03/16/19 10:00
180-87768-3	JSF-CCR-TW10-6.0/9.0-20190314	Solid	03/14/19 13:49	03/16/19 10:00
180-87768-4	JSF-CCR-TW10-12.0/13.5-20190314	Solid	03/14/19 14:23	03/16/19 10:00
180-87768-5	JSF-CCR-TW10-16.5/18.5-20190314	Solid	03/14/19 15:12	03/16/19 10:00
180-87768-6	JSF-CCR-TW10-21.0/24.0-20190314	Solid	03/14/19 16:02	03/16/19 10:00
180-87768-7	JSF-CCR-TW10-26.0/29.0-20190314	Solid	03/14/19 16:37	03/16/19 10:00
180-87768-8	JSF-CCR-TW10-31.5/33.5-20190314	Solid	03/14/19 17:23	03/16/19 10:00

TestAmerica Pittsburgh

Method Summary

Client: Environmental Standards Inc.
Project/Site: JSF_CCR_20190314_1A

TestAmerica Job ID: 180-87768-1

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

Lab Chronicle

Client: Environmental Standards Inc.
Project/Site: JSF_CCR_20190314_1A

TestAmerica Job ID: 180-87768-1

Client Sample ID: JSF-CCR-FB04-20190314

Date Collected: 03/14/19 11:30

Date Received: 03/16/19 10:00

Lab Sample ID: 180-87768-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 9056A Instrument ID: CHICS2100B		1			273882	03/26/19 12:27	MJH	TAL PIT
Total Recoverable	Prep	3005A			50 mL	50 mL	273549	03/21/19 11:50	NAM	TAL PIT
Total Recoverable	Analysis	EPA 6020A Instrument ID: A		1	1.0 mL	1.0 mL	273763	03/22/19 14:51	WTR	TAL PIT
Total/NA	Prep	7470A			50 mL	50 mL	273815	03/25/19 10:11	KAK	TAL PIT
Total/NA	Analysis	EPA 7470A Instrument ID: HGY		1			273888	03/25/19 18:29	RJR	TAL PIT
Total/NA	Analysis	EPA 9060A Instrument ID: TOC1030		1			274541	03/28/19 17:16	CLL	TAL PIT

Client Sample ID: JSF-CCR-TW10-1.5/3.5-20190314

Date Collected: 03/14/19 12:02

Date Received: 03/16/19 10:00

Lab Sample ID: 180-87768-2

Matrix: Solid

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			200 g	4000 mL	273414	03/20/19 12:49	TAH	TAL PIT
SPLP East	Prep	3010A			50 mL	50 mL	273596	03/21/19 14:43	NAM	TAL PIT
SPLP East	Analysis	EPA 6020A Instrument ID: A		1	1.0 mL	1.0 mL	273763	03/22/19 17:12	WTR	TAL PIT
SPLP East	Leach	EPA 1312			200 g	4000 mL	273414	03/20/19 12:49	TAH	TAL PIT
SPLP East	Prep	7470A			50 mL	50 mL	273605	03/21/19 15:53	KAK	TAL PIT
SPLP East	Analysis	EPA 7470A Instrument ID: HGY		1			273711	03/22/19 13:28	KAK	TAL PIT
Total/NA	Analysis	2540G Instrument ID: NOEQUIP		1			273369	03/20/19 09:50	JMS	TAL PIT
Total/NA	Analysis	EPA 9045D Instrument ID: NOEQUIP		1	20.09 g	20 mL	273533	03/21/19 10:46	JMS	TAL PIT

Client Sample ID: JSF-CCR-TW10-1.5/3.5-20190314

Date Collected: 03/14/19 12:02

Date Received: 03/16/19 10:00

Lab Sample ID: 180-87768-2

Matrix: Solid

Percent Solids: 72.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			10.08 g	100 mL	274008	03/26/19 16:08	CMR	TAL PIT
Soluble	Analysis	EPA 9056A Instrument ID: CHICS2000		1			274035	03/27/19 13:22	CMR	TAL PIT
Total/NA	Prep	3050B			0.97 g	100 mL	273695	03/22/19 12:48	NAM	TAL PIT
Total/NA	Analysis	EPA 6020A Instrument ID: M		1			274215	03/28/19 01:38	WTR	TAL PIT
Total/NA	Prep	3050B			1.03 g	100 mL	274272	03/28/19 15:32	NAM	TAL PIT
Total/NA	Analysis	EPA 6020A Instrument ID: M		1			274454	03/29/19 19:37	WTR	TAL PIT
Total/NA	Prep	7471B			0.58 g	100 mL	273586	03/21/19 14:17	KAK	TAL PIT

TestAmerica Pittsburgh

Lab Chronicle

Client: Environmental Standards Inc.
Project/Site: JSF_CCR_20190314_1A

TestAmerica Job ID: 180-87768-1

Client Sample ID: JSF-CCR-TW10-1.5/3.5-20190314

Date Collected: 03/14/19 12:02
Date Received: 03/16/19 10:00

Lab Sample ID: 180-87768-2

Matrix: Solid
Percent Solids: 72.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 7471B		1			273704	03/22/19 12:48	KAK	TAL PIT
		Instrument ID: HGZ								
Total/NA	Analysis	EPA-Lloyd Kahn		1			274261	03/27/19 20:15	JBF	TAL PIT
		Instrument ID: FLASHEA								

Client Sample ID: JSF-CCR-TW10-6.0/9.0-20190314

Date Collected: 03/14/19 13:49
Date Received: 03/16/19 10:00

Lab Sample ID: 180-87768-3

Matrix: Solid

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			200 g	4000 mL	273414	03/20/19 12:49	TAH	TAL PIT
SPLP East	Prep	3010A			50 mL	50 mL	273596	03/21/19 14:43	NAM	TAL PIT
SPLP East	Analysis	EPA 6020A		1	1.0 mL	1.0 mL	273763	03/22/19 17:15	WTR	TAL PIT
		Instrument ID: A								
SPLP East	Leach	EPA 1312			200 g	4000 mL	273414	03/20/19 12:49	TAH	TAL PIT
SPLP East	Prep	7470A			50 mL	50 mL	273605	03/21/19 15:53	KAK	TAL PIT
SPLP East	Analysis	EPA 7470A		1			273711	03/22/19 13:29	KAK	TAL PIT
		Instrument ID: HGY								
Total/NA	Analysis	2540G		1			273369	03/20/19 09:50	JMS	TAL PIT
		Instrument ID: NOEQUIP								
Total/NA	Analysis	EPA 9045D		1	19.94 g	20 mL	273533	03/21/19 10:46	JMS	TAL PIT
		Instrument ID: NOEQUIP								

Client Sample ID: JSF-CCR-TW10-6.0/9.0-20190314

Date Collected: 03/14/19 13:49
Date Received: 03/16/19 10:00

Lab Sample ID: 180-87768-3

Matrix: Solid
Percent Solids: 78.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			10.05 g	100 mL	274008	03/26/19 16:08	CMR	TAL PIT
Soluble	Analysis	EPA 9056A		1			274035	03/27/19 13:39	CMR	TAL PIT
		Instrument ID: CHICS2000								
Total/NA	Prep	3050B			0.96 g	100 mL	273695	03/22/19 12:48	NAM	TAL PIT
Total/NA	Analysis	EPA 6020A		1			274215	03/28/19 01:43	WTR	TAL PIT
		Instrument ID: M								
Total/NA	Prep	3050B			0.98 g	100 mL	274272	03/28/19 15:32	NAM	TAL PIT
Total/NA	Analysis	EPA 6020A		1			274454	03/29/19 19:41	WTR	TAL PIT
		Instrument ID: M								
Total/NA	Prep	7471B			0.60 g	100 mL	273586	03/21/19 14:17	KAK	TAL PIT
Total/NA	Analysis	EPA 7471B		1			273704	03/22/19 12:49	KAK	TAL PIT
		Instrument ID: HGZ								
Total/NA	Analysis	EPA-Lloyd Kahn		1			273683	03/21/19 20:18	JBF	TAL PIT
		Instrument ID: FLASHEA								

TestAmerica Pittsburgh

Lab Chronicle

Client: Environmental Standards Inc.
Project/Site: JSF_CCR_20190314_1A

TestAmerica Job ID: 180-87768-1

Client Sample ID: JSF-CCR-TW10-12.0/13.5-20190314

Date Collected: 03/14/19 14:23

Date Received: 03/16/19 10:00

Lab Sample ID: 180-87768-4

Matrix: Solid

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			200 g	4000 mL	273414	03/20/19 12:49	TAH	TAL PIT
SPLP East	Prep	3010A			50 mL	50 mL	273596	03/21/19 14:43	NAM	TAL PIT
SPLP East	Analysis	EPA 6020A Instrument ID: A		1	1.0 mL	1.0 mL	273763	03/22/19 17:18	WTR	TAL PIT
SPLP East	Leach	EPA 1312			200 g	4000 mL	273414	03/20/19 12:49	TAH	TAL PIT
SPLP East	Prep	7470A			50 mL	50 mL	273605	03/21/19 15:53	KAK	TAL PIT
SPLP East	Analysis	EPA 7470A Instrument ID: HGY		1			273711	03/22/19 13:30	KAK	TAL PIT
Total/NA	Analysis	2540G Instrument ID: NOEQUIP		1			273369	03/20/19 09:50	JMS	TAL PIT
Total/NA	Analysis	EPA 9045D Instrument ID: NOEQUIP		1	20.28 g	20 mL	273533	03/21/19 10:46	JMS	TAL PIT

Client Sample ID: JSF-CCR-TW10-12.0/13.5-20190314

Date Collected: 03/14/19 14:23

Date Received: 03/16/19 10:00

Lab Sample ID: 180-87768-4

Matrix: Solid

Percent Solids: 78.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			10.17 g	100 mL	274008	03/26/19 16:08	CMR	TAL PIT
Soluble	Analysis	EPA 9056A Instrument ID: CHICS2000		1			274035	03/27/19 13:56	CMR	TAL PIT
Total/NA	Prep	3050B			1.02 g	100 mL	273695	03/22/19 12:48	NAM	TAL PIT
Total/NA	Analysis	EPA 6020A Instrument ID: M		1			274215	03/28/19 01:47	WTR	TAL PIT
Total/NA	Prep	3050B			1.00 g	100 mL	274272	03/28/19 15:32	NAM	TAL PIT
Total/NA	Analysis	EPA 6020A Instrument ID: M		1			274454	03/29/19 19:45	WTR	TAL PIT
Total/NA	Prep	7471B			0.65 g	100 mL	273586	03/21/19 14:17	KAK	TAL PIT
Total/NA	Analysis	EPA 7471B Instrument ID: HGZ		1			273704	03/22/19 12:50	KAK	TAL PIT
Total/NA	Analysis	EPA-Lloyd Kahn Instrument ID: FLASHEA		1			273683	03/21/19 20:28	JBF	TAL PIT

Client Sample ID: JSF-CCR-TW10-16.5/18.5-20190314

Date Collected: 03/14/19 15:12

Date Received: 03/16/19 10:00

Lab Sample ID: 180-87768-5

Matrix: Solid

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			200 g	4000 mL	273414	03/20/19 12:49	TAH	TAL PIT
SPLP East	Prep	3010A			50 mL	50 mL	273596	03/21/19 14:43	NAM	TAL PIT
SPLP East	Analysis	EPA 6020A Instrument ID: A		1	1.0 mL	1.0 mL	273763	03/22/19 17:22	WTR	TAL PIT
SPLP East	Leach	EPA 1312			200 g	4000 mL	273414	03/20/19 12:49	TAH	TAL PIT
SPLP East	Prep	7470A			50 mL	50 mL	273605	03/21/19 15:53	KAK	TAL PIT

TestAmerica Pittsburgh

Lab Chronicle

Client: Environmental Standards Inc.
Project/Site: JSF_CCR_20190314_1A

TestAmerica Job ID: 180-87768-1

Client Sample ID: JSF-CCR-TW10-16.5/18.5-20190314

Date Collected: 03/14/19 15:12
Date Received: 03/16/19 10:00

Lab Sample ID: 180-87768-5

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP East	Analysis	EPA 7470A		1			273711	03/22/19 13:31	KAK	TAL PIT
		Instrument ID: HGY								
Total/NA	Analysis	2540G		1			273369	03/20/19 09:50	JMS	TAL PIT
		Instrument ID: NOEQUIP								
Total/NA	Analysis	EPA 9045D		1	20.29 g	20 mL	273533	03/21/19 10:46	JMS	TAL PIT
		Instrument ID: NOEQUIP								

Client Sample ID: JSF-CCR-TW10-16.5/18.5-20190314

Date Collected: 03/14/19 15:12
Date Received: 03/16/19 10:00

Lab Sample ID: 180-87768-5

Matrix: Solid

Percent Solids: 80.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			10.11 g	100 mL	274008	03/26/19 16:08	CMR	TAL PIT
Soluble	Analysis	EPA 9056A		1			274035	03/27/19 14:13	CMR	TAL PIT
		Instrument ID: CHICS2000								
Total/NA	Prep	3050B			0.96 g	100 mL	273695	03/22/19 12:48	NAM	TAL PIT
Total/NA	Analysis	EPA 6020A		1			274215	03/28/19 01:51	WTR	TAL PIT
		Instrument ID: M								
Total/NA	Prep	3050B			0.99 g	100 mL	274272	03/28/19 15:32	NAM	TAL PIT
Total/NA	Analysis	EPA 6020A		1			274454	03/29/19 19:50	WTR	TAL PIT
		Instrument ID: M								
Total/NA	Prep	7471B			0.66 g	100 mL	273586	03/21/19 14:17	KAK	TAL PIT
Total/NA	Analysis	EPA 7471B		1			273704	03/22/19 12:51	KAK	TAL PIT
		Instrument ID: HGZ								
Total/NA	Analysis	EPA-Lloyd Kahn		1			273683	03/21/19 20:38	JBF	TAL PIT
		Instrument ID: FLASHEA								

Client Sample ID: JSF-CCR-TW10-21.0/24.0-20190314

Date Collected: 03/14/19 16:02
Date Received: 03/16/19 10:00

Lab Sample ID: 180-87768-6

Matrix: Solid

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			200 g	4000 mL	273414	03/20/19 12:49	TAH	TAL PIT
SPLP East	Prep	3010A			50 mL	50 mL	273596	03/21/19 14:43	NAM	TAL PIT
SPLP East	Analysis	EPA 6020A		1	1.0 mL	1.0 mL	273763	03/22/19 17:25	WTR	TAL PIT
		Instrument ID: A								
SPLP East	Leach	EPA 1312			200 g	4000 mL	273414	03/20/19 12:49	TAH	TAL PIT
SPLP East	Prep	7470A			50 mL	50 mL	273605	03/21/19 15:53	KAK	TAL PIT
SPLP East	Analysis	EPA 7470A		1			273711	03/22/19 13:32	KAK	TAL PIT
		Instrument ID: HGY								
Total/NA	Analysis	2540G		1			273369	03/20/19 09:50	JMS	TAL PIT
		Instrument ID: NOEQUIP								
Total/NA	Analysis	EPA 9045D		1	20.31 g	20 mL	273533	03/21/19 10:46	JMS	TAL PIT
		Instrument ID: NOEQUIP								

TestAmerica Pittsburgh

Lab Chronicle

Client: Environmental Standards Inc.
Project/Site: JSF_CCR_20190314_1A

TestAmerica Job ID: 180-87768-1

Client Sample ID: JSF-CCR-TW10-21.0/24.0-20190314

Date Collected: 03/14/19 16:02
Date Received: 03/16/19 10:00

Lab Sample ID: 180-87768-6

Matrix: Solid
Percent Solids: 73.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			10.21 g	100 mL	274008	03/26/19 16:08	CMR	TAL PIT
Soluble	Analysis	EPA 9056A		1			274035	03/27/19 14:30	CMR	TAL PIT
		Instrument ID: CHICS2000								
Total/NA	Prep	3050B			1.03 g	100 mL	273695	03/22/19 12:48	NAM	TAL PIT
Total/NA	Analysis	EPA 6020A		1			274215	03/28/19 01:55	WTR	TAL PIT
		Instrument ID: M								
Total/NA	Prep	3050B			0.97 g	100 mL	274272	03/28/19 15:32	NAM	TAL PIT
Total/NA	Analysis	EPA 6020A		1			274454	03/29/19 19:54	WTR	TAL PIT
		Instrument ID: M								
Total/NA	Prep	7471B			0.59 g	100 mL	273586	03/21/19 14:17	KAK	TAL PIT
Total/NA	Analysis	EPA 7471B		1			273704	03/22/19 12:52	KAK	TAL PIT
		Instrument ID: HGZ								
Total/NA	Analysis	EPA-Lloyd Kahn		1			274261	03/27/19 20:25	JBF	TAL PIT
		Instrument ID: FLASHEA								

Client Sample ID: JSF-CCR-TW10-26.0/29.0-20190314

Date Collected: 03/14/19 16:37
Date Received: 03/16/19 10:00

Lab Sample ID: 180-87768-7

Matrix: Solid

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			200 g	4000 mL	273414	03/20/19 12:51	TAH	TAL PIT
SPLP East	Prep	3010A			50 mL	50 mL	273596	03/21/19 14:43	NAM	TAL PIT
SPLP East	Analysis	EPA 6020A		1	1.0 mL	1.0 mL	273763	03/22/19 17:29	WTR	TAL PIT
		Instrument ID: A								
SPLP East	Leach	EPA 1312			200 g	4000 mL	273414	03/20/19 12:51	TAH	TAL PIT
SPLP East	Prep	7470A			50 mL	50 mL	273605	03/21/19 15:53	KAK	TAL PIT
SPLP East	Analysis	EPA 7470A		1			273711	03/22/19 13:33	KAK	TAL PIT
		Instrument ID: HGY								
Total/NA	Analysis	2540G		1			273369	03/20/19 09:50	JMS	TAL PIT
		Instrument ID: NOEQUIP								
Total/NA	Analysis	EPA 9045D		1	20.10 g	20 mL	273533	03/21/19 10:46	JMS	TAL PIT
		Instrument ID: NOEQUIP								

Client Sample ID: JSF-CCR-TW10-26.0/29.0-20190314

Date Collected: 03/14/19 16:37
Date Received: 03/16/19 10:00

Lab Sample ID: 180-87768-7

Matrix: Solid
Percent Solids: 72.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			10.12 g	100 mL	274008	03/26/19 16:08	CMR	TAL PIT
Soluble	Analysis	EPA 9056A		1			274035	03/27/19 14:47	CMR	TAL PIT
		Instrument ID: CHICS2000								
Total/NA	Prep	3050B			0.98 g	100 mL	273695	03/22/19 12:48	NAM	TAL PIT
Total/NA	Analysis	EPA 6020A		1			274215	03/28/19 02:00	WTR	TAL PIT
		Instrument ID: M								

TestAmerica Pittsburgh

Lab Chronicle

Client: Environmental Standards Inc.
Project/Site: JSF_CCR_20190314_1A

TestAmerica Job ID: 180-87768-1

Client Sample ID: JSF-CCR-TW10-26.0/29.0-20190314

Date Collected: 03/14/19 16:37
Date Received: 03/16/19 10:00

Lab Sample ID: 180-87768-7

Matrix: Solid
Percent Solids: 72.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.04 g	100 mL	274272	03/28/19 15:32	NAM	TAL PIT
Total/NA	Analysis	EPA 6020A		1			274454	03/29/19 19:58	WTR	TAL PIT
		Instrument ID: M								
Total/NA	Prep	7471B			0.57 g	100 mL	273586	03/21/19 14:17	KAK	TAL PIT
Total/NA	Analysis	EPA 7471B		1			273704	03/22/19 12:53	KAK	TAL PIT
		Instrument ID: HGZ								
Total/NA	Analysis	EPA-Lloyd Kahn		1			273683	03/21/19 20:59	JBF	TAL PIT
		Instrument ID: FLASHEA								

Client Sample ID: JSF-CCR-TW10-31.5/33.5-20190314

Date Collected: 03/14/19 17:23
Date Received: 03/16/19 10:00

Lab Sample ID: 180-87768-8

Matrix: Solid

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			200 g	4000 mL	273414	03/20/19 12:51	TAH	TAL PIT
SPLP East	Prep	3010A			50 mL	50 mL	273596	03/21/19 14:43	NAM	TAL PIT
SPLP East	Analysis	EPA 6020A		1	1.0 mL	1.0 mL	273763	03/22/19 17:32	WTR	TAL PIT
		Instrument ID: A								
SPLP East	Leach	EPA 1312			200 g	4000 mL	273414	03/20/19 12:51	TAH	TAL PIT
SPLP East	Prep	7470A			50 mL	50 mL	273605	03/21/19 15:53	KAK	TAL PIT
SPLP East	Analysis	EPA 7470A		1			273711	03/22/19 13:34	KAK	TAL PIT
		Instrument ID: HGY								
Total/NA	Analysis	2540G		1			273443	03/20/19 14:54	JMS	TAL PIT
		Instrument ID: NOEQUIP								
Total/NA	Analysis	EPA 9045D		1	19.97 g	20 mL	274201	03/28/19 08:49	JMS	TAL PIT
		Instrument ID: NOEQUIP								

Client Sample ID: JSF-CCR-TW10-31.5/33.5-20190314

Date Collected: 03/14/19 17:23
Date Received: 03/16/19 10:00

Lab Sample ID: 180-87768-8

Matrix: Solid
Percent Solids: 79.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			10.13 g	100 mL	274008	03/26/19 16:08	CMR	TAL PIT
Soluble	Analysis	EPA 9056A		1			274035	03/27/19 15:04	CMR	TAL PIT
		Instrument ID: CHICS2000								
Total/NA	Prep	3050B			0.97 g	100 mL	273695	03/22/19 12:48	NAM	TAL PIT
Total/NA	Analysis	EPA 6020A		1			274215	03/28/19 02:04	WTR	TAL PIT
		Instrument ID: M								
Total/NA	Prep	3050B			0.98 g	100 mL	274272	03/28/19 15:32	NAM	TAL PIT
Total/NA	Analysis	EPA 6020A		1			274454	03/29/19 20:02	WTR	TAL PIT
		Instrument ID: M								
Total/NA	Prep	7471B			0.58 g	100 mL	273586	03/21/19 14:17	KAK	TAL PIT
Total/NA	Analysis	EPA 7471B		1			273704	03/22/19 12:54	KAK	TAL PIT
		Instrument ID: HGZ								

TestAmerica Pittsburgh

Lab Chronicle

Client: Environmental Standards Inc.
Project/Site: JSF_CCR_20190314_1A

TestAmerica Job ID: 180-87768-1

Client Sample ID: JSF-CCR-TW10-31.5/33.5-20190314

Date Collected: 03/14/19 17:23

Date Received: 03/16/19 10:00

Lab Sample ID: 180-87768-8

Matrix: Solid

Percent Solids: 79.1

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			274261	03/27/19 20:35	JBF	TAL PIT

Laboratory References:

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

Analyst References:

Lab: TAL PIT

Batch Type: Leach

CMR = Carl Reagle

TAH = Todd Harteis

Batch Type: Prep

KAK = Kayla Kalamasz

NAM = Nicole Marfisi

Batch Type: Analysis

CLL = Cheryl Loheyde

CMR = Carl Reagle

JBF = Joshua Fritsch

JMS = Jessica Scalise

KAK = Kayla Kalamasz

MJH = Matthew Hartman

RJR = Ron Rosenbaum

WTR = Bill Reinheimer

TestAmerica Pittsburgh

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_CCR_20190314_1A

TestAmerica Job ID: 180-87768-1

Client Sample ID: JSF-CCR-FB04-20190314

Lab Sample ID: 180-87768-1

Date Collected: 03/14/19 11:30

Matrix: Water

Date Received: 03/16/19 10:00

Method: EPA 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.00	0.715	mg/L			03/26/19 12:27	1
Fluoride	ND		0.100	0.0263	mg/L			03/26/19 12:27	1
Sulfate	ND		1.00	0.380	mg/L			03/26/19 12:27	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			03/21/19 11:50	03/22/19 14:51
Arsenic	ND		0.00100	0.000323	mg/L			03/21/19 11:50	03/22/19 14:51
Barium	ND		0.0100	0.00149	mg/L			03/21/19 11:50	03/22/19 14:51
Beryllium	ND		0.00100	0.000155	mg/L			03/21/19 11:50	03/22/19 14:51
Boron	ND		0.0800	0.0303	mg/L			03/21/19 11:50	03/22/19 14:51
Cadmium	ND		0.00100	0.000125	mg/L			03/21/19 11:50	03/22/19 14:51
Calcium	ND		0.500	0.116	mg/L			03/21/19 11:50	03/22/19 14:51
Chromium	ND		0.00200	0.00153	mg/L			03/21/19 11:50	03/22/19 14:51
Cobalt	ND		0.000500	0.0000750	mg/L			03/21/19 11:50	03/22/19 14:51
Copper	ND		0.00200	0.000627	mg/L			03/21/19 11:50	03/22/19 14:51
Iron	ND		0.0500	0.0141	mg/L			03/21/19 11:50	03/22/19 14:51
Lead	ND		0.00100	0.000128	mg/L			03/21/19 11:50	03/22/19 14:51
Lithium	ND		0.00500	0.00314	mg/L			03/21/19 11:50	03/22/19 14:51
Manganese	ND		0.00500	0.00135	mg/L			03/21/19 11:50	03/22/19 14:51
Molybdenum	ND		0.00500	0.000610	mg/L			03/21/19 11:50	03/22/19 14:51
Nickel	ND		0.00100	0.000312	mg/L			03/21/19 11:50	03/22/19 14:51
Selenium	ND		0.00500	0.00262	mg/L			03/21/19 11:50	03/22/19 14:51
Silver	ND		0.00100	0.000121	mg/L			03/21/19 11:50	03/22/19 14:51
Thallium	ND		0.00100	0.000128	mg/L			03/21/19 11:50	03/22/19 14:51
Vanadium	0.00104		0.00100	0.000899	mg/L			03/21/19 11:50	03/22/19 14:51
Zinc	ND		0.00500	0.00322	mg/L			03/21/19 11:50	03/22/19 14:51

Method: EPA 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.000200	0.000101	mg/L			03/25/19 10:11	03/25/19 18:29

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Quad	ND		1.00	0.508	mg/L			03/28/19 17:16	1

TestAmerica Pittsburgh

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_CCR_20190314_1A

TestAmerica Job ID: 180-87768-1

Client Sample ID: JSF-CCR-TW10-1.5/3.5-20190314

Lab Sample ID: 180-87768-2

Date Collected: 03/14/19 12:02

Matrix: Solid

Date Received: 03/16/19 10:00

Percent Solids: 72.2

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		13.7	5.33	mg/Kg	⊗		03/27/19 13:22	1
Fluoride	ND		1.37	0.934	mg/Kg	⊗		03/27/19 13:22	1
Sulfate	29.2		13.7	9.33	mg/Kg	⊗		03/27/19 13:22	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.370		0.286	0.0885	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:38	1
Arsenic	19.2		0.143	0.0371	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:38	1
Barium	13.9		1.43	0.183	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:38	1
Beryllium	0.743		0.143	0.0107	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:38	1
Boron	3.24 J		11.4	1.93	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:38	1
Cadmium	0.0575 J		0.143	0.0243	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:38	1
Calcium	145		71.4	12.8	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:38	1
Chromium	22.5		0.286	0.118	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:38	1
Cobalt	8.25		0.0714	0.0118	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:38	1
Copper	35.9		0.286	0.161	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:38	1
Iron	32300		7.14	3.51	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:38	1
Lead	28.0		0.143	0.0500	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:38	1
Lithium	11.7		0.672	0.371	mg/Kg	⊗	03/28/19 15:32	03/29/19 19:37	1
Manganese	211		0.714	0.327	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:38	1
Molybdenum	2.26		0.714	0.233	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:38	1
Nickel	18.2		0.143	0.0871	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:38	1
Selenium	0.805		0.714	0.174	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:38	1
Silver	ND		0.143	0.0385	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:38	1
Thallium	0.289		0.143	0.0357	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:38	1
Vanadium	68.4		0.143	0.0914	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:38	1
Zinc	75.1		0.714	0.477	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:38	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.00	0.378	ug/L		03/21/19 14:43	03/22/19 17:12	1
Arsenic	17.0		1.00	0.323	ug/L		03/21/19 14:43	03/22/19 17:12	1
Barium	ND		10.0	1.49	ug/L		03/21/19 14:43	03/22/19 17:12	1
Beryllium	ND		1.00	0.155	ug/L		03/21/19 14:43	03/22/19 17:12	1
Boron	63.7 J B		80.0	30.3	ug/L		03/21/19 14:43	03/22/19 17:12	1
Cadmium	ND		1.00	0.125	ug/L		03/21/19 14:43	03/22/19 17:12	1
Calcium	516		500	116	ug/L		03/21/19 14:43	03/22/19 17:12	1
Chromium	ND		2.00	1.53	ug/L		03/21/19 14:43	03/22/19 17:12	1
Cobalt	0.392 J		0.500	0.0750	ug/L		03/21/19 14:43	03/22/19 17:12	1
Copper	ND		2.00	0.627	ug/L		03/21/19 14:43	03/22/19 17:12	1
Iron	23.8 J		50.0	14.1	ug/L		03/21/19 14:43	03/22/19 17:12	1
Lead	ND		1.00	0.128	ug/L		03/21/19 14:43	03/22/19 17:12	1
Lithium	ND		5.00	3.14	ug/L		03/21/19 14:43	03/22/19 17:12	1
Manganese	3.23 J		5.00	1.35	ug/L		03/21/19 14:43	03/22/19 17:12	1
Molybdenum	ND		5.00	0.610	ug/L		03/21/19 14:43	03/22/19 17:12	1
Nickel	0.327 J B		1.00	0.312	ug/L		03/21/19 14:43	03/22/19 17:12	1
Selenium	ND		5.00	2.62	ug/L		03/21/19 14:43	03/22/19 17:12	1
Silver	ND		1.00	0.121	ug/L		03/21/19 14:43	03/22/19 17:12	1
Thallium	ND		1.00	0.128	ug/L		03/21/19 14:43	03/22/19 17:12	1
Vanadium	1.43		1.00	0.899	ug/L		03/21/19 14:43	03/22/19 17:12	1

TestAmerica Pittsburgh

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_CCR_20190314_1A

TestAmerica Job ID: 180-87768-1

Client Sample ID: JSF-CCR-TW10-1.5/3.5-20190314

Lab Sample ID: 180-87768-2

Date Collected: 03/14/19 12:02
Date Received: 03/16/19 10:00

Matrix: Solid

Percent Solids: 72.2

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		03/21/19 14:43	03/22/19 17:12	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		03/21/19 15:53	03/22/19 13:28	1

Method: EPA 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.184		0.0473	0.0205	mg/Kg		03/21/19 14:17	03/22/19 12:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	2560		1380	1030	mg/Kg			03/27/19 20:15	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	27.8		0.1	0.1	%			03/20/19 09:50	1
Percent Solids	72.2		0.1	0.1	%			03/20/19 09:50	1
pH	5.4	HF	0.1	0.1	SU			03/21/19 10:46	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_CCR_20190314_1A

TestAmerica Job ID: 180-87768-1

Client Sample ID: JSF-CCR-TW10-6.0/9.0-20190314

Lab Sample ID: 180-87768-3

Date Collected: 03/14/19 13:49

Matrix: Solid

Date Received: 03/16/19 10:00

Percent Solids: 78.9

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		12.6	4.89	mg/Kg	⊗		03/27/19 13:39	1
Fluoride	3.66		1.26	0.858	mg/Kg	⊗		03/27/19 13:39	1
Sulfate	62.9		12.6	8.57	mg/Kg	⊗		03/27/19 13:39	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	1.28		0.264	0.0819	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:43	1
Arsenic	101		0.132	0.0343	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:43	1
Barium	356		1.32	0.169	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:43	1
Beryllium	2.95		0.132	0.00990	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:43	1
Boron	21.4		10.6	1.78	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:43	1
Cadmium	0.465		0.132	0.0225	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:43	1
Calcium	4210		66.0	11.8	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:43	1
Chromium	21.5		0.264	0.110	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:43	1
Cobalt	10.2		0.0660	0.0110	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:43	1
Copper	44.8		0.264	0.149	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:43	1
Iron	17800		6.60	3.25	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:43	1
Lead	18.6		0.132	0.0462	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:43	1
Lithium	24.9		0.647	0.357	mg/Kg	⊗	03/28/19 15:32	03/29/19 19:41	1
Manganese	91.8		0.660	0.302	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:43	1
Molybdenum	2.48		0.660	0.215	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:43	1
Nickel	21.7		0.132	0.0806	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:43	1
Selenium	2.12		0.660	0.161	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:43	1
Silver	0.0773 J		0.132	0.0357	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:43	1
Thallium	1.84		0.132	0.0330	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:43	1
Vanadium	54.5		0.132	0.0845	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:43	1
Zinc	40.7		0.660	0.441	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:43	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	1.27 J		2.00	0.378	ug/L	⊗	03/21/19 14:43	03/22/19 17:15	1
Arsenic	577		1.00	0.323	ug/L	⊗	03/21/19 14:43	03/22/19 17:15	1
Barium	53.5		10.0	1.49	ug/L	⊗	03/21/19 14:43	03/22/19 17:15	1
Beryllium	ND		1.00	0.155	ug/L	⊗	03/21/19 14:43	03/22/19 17:15	1
Boron	38.5 J B		80.0	30.3	ug/L	⊗	03/21/19 14:43	03/22/19 17:15	1
Cadmium	ND		1.00	0.125	ug/L	⊗	03/21/19 14:43	03/22/19 17:15	1
Calcium	13300		500	116	ug/L	⊗	03/21/19 14:43	03/22/19 17:15	1
Chromium	1.92 J		2.00	1.53	ug/L	⊗	03/21/19 14:43	03/22/19 17:15	1
Cobalt	ND		0.500	0.0750	ug/L	⊗	03/21/19 14:43	03/22/19 17:15	1
Copper	ND		2.00	0.627	ug/L	⊗	03/21/19 14:43	03/22/19 17:15	1
Iron	17.2 J		50.0	14.1	ug/L	⊗	03/21/19 14:43	03/22/19 17:15	1
Lead	ND		1.00	0.128	ug/L	⊗	03/21/19 14:43	03/22/19 17:15	1
Lithium	ND		5.00	3.14	ug/L	⊗	03/21/19 14:43	03/22/19 17:15	1
Manganese	ND		5.00	1.35	ug/L	⊗	03/21/19 14:43	03/22/19 17:15	1
Molybdenum	5.20		5.00	0.610	ug/L	⊗	03/21/19 14:43	03/22/19 17:15	1
Nickel	ND		1.00	0.312	ug/L	⊗	03/21/19 14:43	03/22/19 17:15	1
Selenium	3.50 J		5.00	2.62	ug/L	⊗	03/21/19 14:43	03/22/19 17:15	1
Silver	ND		1.00	0.121	ug/L	⊗	03/21/19 14:43	03/22/19 17:15	1
Thallium	ND		1.00	0.128	ug/L	⊗	03/21/19 14:43	03/22/19 17:15	1
Vanadium	25.5		1.00	0.899	ug/L	⊗	03/21/19 14:43	03/22/19 17:15	1

TestAmerica Pittsburgh

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_CCR_20190314_1A

TestAmerica Job ID: 180-87768-1

Client Sample ID: JSF-CCR-TW10-6.0/9.0-20190314

Lab Sample ID: 180-87768-3

Date Collected: 03/14/19 13:49

Matrix: Solid

Date Received: 03/16/19 10:00

Percent Solids: 78.9

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		03/21/19 14:43	03/22/19 17:15	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		03/21/19 15:53	03/22/19 13:29	1

Method: EPA 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0913		0.0418	0.0181	mg/Kg		03/21/19 14:17	03/22/19 12:49	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	28300	^	1270	946	mg/Kg			03/21/19 20:18	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	21.1		0.1	0.1	%			03/20/19 09:50	1
Percent Solids	78.9		0.1	0.1	%			03/20/19 09:50	1
pH	8.0	HF	0.1	0.1	SU			03/21/19 10:46	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_CCR_20190314_1A

TestAmerica Job ID: 180-87768-1

Client Sample ID: JSF-CCR-TW10-12.0/13.5-20190314

Lab Sample ID: 180-87768-4

Date Collected: 03/14/19 14:23

Matrix: Solid

Date Received: 03/16/19 10:00

Percent Solids: 78.9

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		12.5	4.83	mg/Kg	⊗		03/27/19 13:56	1
Fluoride	3.34		1.25	0.847	mg/Kg	⊗		03/27/19 13:56	1
Sulfate	54.4		12.5	8.46	mg/Kg	⊗		03/27/19 13:56	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	⊗	03/22/19 12:48	03/28/19 01:47	1
Arsenic	146		0.124	0.0323	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:47	1
Barium	526		1.24	0.159	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:47	1
Beryllium	4.40		0.124	0.00932	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:47	1
Boron	38.0		9.94	1.68	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:47	1
Cadmium	0.720		0.124	0.0211	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:47	1
Calcium	5820		62.1	11.1	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:47	1
Chromium	30.9		0.248	0.103	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:47	1
Cobalt	14.1		0.0621	0.0103	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:47	1
Copper	61.7		0.248	0.140	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:47	1
Iron	19700		6.21	3.06	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:47	1
Lead	31.5		0.124	0.0435	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:47	1
Lithium	37.6		0.634	0.350	mg/Kg	⊗	03/28/19 15:32	03/29/19 19:45	1
Manganese	100		0.621	0.284	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:47	1
Molybdenum	3.34		0.621	0.202	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:47	1
Nickel	30.2		0.124	0.0758	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:47	1
Selenium	7.03		0.621	0.152	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:47	1
Silver	0.141		0.124	0.0335	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:47	1
Thallium	2.80		0.124	0.0311	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:47	1
Vanadium	78.8		0.124	0.0795	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:47	1
Zinc	56.6		0.621	0.415	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:47	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	2.82		2.00	0.378	ug/L	⊗	03/21/19 14:43	03/22/19 17:18	1
Arsenic	267		1.00	0.323	ug/L	⊗	03/21/19 14:43	03/22/19 17:18	1
Barium	48.4		10.0	1.49	ug/L	⊗	03/21/19 14:43	03/22/19 17:18	1
Beryllium	ND		1.00	0.155	ug/L	⊗	03/21/19 14:43	03/22/19 17:18	1
Boron	72.2 J B		80.0	30.3	ug/L	⊗	03/21/19 14:43	03/22/19 17:18	1
Cadmium	ND		1.00	0.125	ug/L	⊗	03/21/19 14:43	03/22/19 17:18	1
Calcium	13300		500	116	ug/L	⊗	03/21/19 14:43	03/22/19 17:18	1
Chromium	2.15		2.00	1.53	ug/L	⊗	03/21/19 14:43	03/22/19 17:18	1
Cobalt	0.0890 J		0.500	0.0750	ug/L	⊗	03/21/19 14:43	03/22/19 17:18	1
Copper	1.23 J		2.00	0.627	ug/L	⊗	03/21/19 14:43	03/22/19 17:18	1
Iron	130		50.0	14.1	ug/L	⊗	03/21/19 14:43	03/22/19 17:18	1
Lead	0.229 J		1.00	0.128	ug/L	⊗	03/21/19 14:43	03/22/19 17:18	1
Lithium	ND		5.00	3.14	ug/L	⊗	03/21/19 14:43	03/22/19 17:18	1
Manganese	2.21 J		5.00	1.35	ug/L	⊗	03/21/19 14:43	03/22/19 17:18	1
Molybdenum	4.95 J		5.00	0.610	ug/L	⊗	03/21/19 14:43	03/22/19 17:18	1
Nickel	ND		1.00	0.312	ug/L	⊗	03/21/19 14:43	03/22/19 17:18	1
Selenium	31.5		5.00	2.62	ug/L	⊗	03/21/19 14:43	03/22/19 17:18	1
Silver	ND		1.00	0.121	ug/L	⊗	03/21/19 14:43	03/22/19 17:18	1
Thallium	ND		1.00	0.128	ug/L	⊗	03/21/19 14:43	03/22/19 17:18	1
Vanadium	76.0		1.00	0.899	ug/L	⊗	03/21/19 14:43	03/22/19 17:18	1

TestAmerica Pittsburgh

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_CCR_20190314_1A

TestAmerica Job ID: 180-87768-1

Client Sample ID: JSF-CCR-TW10-12.0/13.5-20190314

Lab Sample ID: 180-87768-4

Date Collected: 03/14/19 14:23
Date Received: 03/16/19 10:00

Matrix: Solid

Percent Solids: 78.9

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		03/21/19 14:43	03/22/19 17:18	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		03/21/19 15:53	03/22/19 13:30	1

Method: EPA 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0873		0.0386	0.0167	mg/Kg		03/21/19 14:17	03/22/19 12:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	25000	^	1270	945	mg/Kg			03/21/19 20:28	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	21.1		0.1	0.1	%			03/20/19 09:50	1
Percent Solids	78.9		0.1	0.1	%			03/20/19 09:50	1
pH	8.2	HF	0.1	0.1	SU			03/21/19 10:46	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_CCR_20190314_1A

TestAmerica Job ID: 180-87768-1

Client Sample ID: JSF-CCR-TW10-16.5/18.5-20190314

Lab Sample ID: 180-87768-5

Date Collected: 03/14/19 15:12

Matrix: Solid

Date Received: 03/16/19 10:00

Percent Solids: 80.0

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		12.4	4.80	mg/Kg	⊗		03/27/19 14:13	1
Fluoride	5.00		1.24	0.841	mg/Kg	⊗		03/27/19 14:13	1
Sulfate	34.3		12.4	8.40	mg/Kg	⊗		03/27/19 14:13	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	2.71		0.261	0.0808	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:51	1
Arsenic	209		0.130	0.0339	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:51	1
Barium	413		1.30	0.167	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:51	1
Beryllium	4.53		0.130	0.00977	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:51	1
Boron	39.6		10.4	1.76	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:51	1
Cadmium	0.578		0.130	0.0221	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:51	1
Calcium	3550		65.1	11.7	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:51	1
Chromium	33.2		0.261	0.108	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:51	1
Cobalt	15.3		0.0651	0.0108	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:51	1
Copper	72.5		0.261	0.147	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:51	1
Iron	21700		6.51	3.20	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:51	1
Lead	33.6		0.130	0.0456	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:51	1
Lithium	32.6		0.632	0.349	mg/Kg	⊗	03/28/19 15:32	03/29/19 19:50	1
Manganese	81.2		0.651	0.298	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:51	1
Molybdenum	5.38		0.651	0.212	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:51	1
Nickel	32.8		0.130	0.0795	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:51	1
Selenium	6.86		0.651	0.159	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:51	1
Silver	0.135		0.130	0.0352	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:51	1
Thallium	4.01		0.130	0.0326	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:51	1
Vanadium	89.9		0.130	0.0834	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:51	1
Zinc	57.8		0.651	0.435	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:51	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	3.56		2.00	0.378	ug/L	⊗	03/21/19 14:43	03/22/19 17:22	1
Arsenic	361		1.00	0.323	ug/L	⊗	03/21/19 14:43	03/22/19 17:22	1
Barium	92.6		10.0	1.49	ug/L	⊗	03/21/19 14:43	03/22/19 17:22	1
Beryllium	ND		1.00	0.155	ug/L	⊗	03/21/19 14:43	03/22/19 17:22	1
Boron	62.3 J B		80.0	30.3	ug/L	⊗	03/21/19 14:43	03/22/19 17:22	1
Cadmium	ND		1.00	0.125	ug/L	⊗	03/21/19 14:43	03/22/19 17:22	1
Calcium	20100		500	116	ug/L	⊗	03/21/19 14:43	03/22/19 17:22	1
Chromium	1.58 J		2.00	1.53	ug/L	⊗	03/21/19 14:43	03/22/19 17:22	1
Cobalt	ND		0.500	0.0750	ug/L	⊗	03/21/19 14:43	03/22/19 17:22	1
Copper	ND		2.00	0.627	ug/L	⊗	03/21/19 14:43	03/22/19 17:22	1
Iron	ND		50.0	14.1	ug/L	⊗	03/21/19 14:43	03/22/19 17:22	1
Lead	ND		1.00	0.128	ug/L	⊗	03/21/19 14:43	03/22/19 17:22	1
Lithium	ND		5.00	3.14	ug/L	⊗	03/21/19 14:43	03/22/19 17:22	1
Manganese	4.57 J		5.00	1.35	ug/L	⊗	03/21/19 14:43	03/22/19 17:22	1
Molybdenum	9.50		5.00	0.610	ug/L	⊗	03/21/19 14:43	03/22/19 17:22	1
Nickel	ND		1.00	0.312	ug/L	⊗	03/21/19 14:43	03/22/19 17:22	1
Selenium	19.3		5.00	2.62	ug/L	⊗	03/21/19 14:43	03/22/19 17:22	1
Silver	ND		1.00	0.121	ug/L	⊗	03/21/19 14:43	03/22/19 17:22	1
Thallium	0.263 J		1.00	0.128	ug/L	⊗	03/21/19 14:43	03/22/19 17:22	1
Vanadium	66.1		1.00	0.899	ug/L	⊗	03/21/19 14:43	03/22/19 17:22	1

TestAmerica Pittsburgh

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_CCR_20190314_1A

TestAmerica Job ID: 180-87768-1

Client Sample ID: JSF-CCR-TW10-16.5/18.5-20190314

Lab Sample ID: 180-87768-5

Date Collected: 03/14/19 15:12
Date Received: 03/16/19 10:00

Matrix: Solid

Percent Solids: 80.0

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		03/21/19 14:43	03/22/19 17:22	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		03/21/19 15:53	03/22/19 13:31	1

Method: EPA 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.170		0.0375	0.0163	mg/Kg		03/21/19 14:17	03/22/19 12:51	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	46000	^	1250	933	mg/Kg			03/21/19 20:38	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	20.0		0.1	0.1	%			03/20/19 09:50	1
Percent Solids	80.0		0.1	0.1	%			03/20/19 09:50	1
pH	8.2	HF	0.1	0.1	SU			03/21/19 10:46	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_CCR_20190314_1A

TestAmerica Job ID: 180-87768-1

Client Sample ID: JSF-CCR-TW10-21.0/24.0-20190314

Lab Sample ID: 180-87768-6

Date Collected: 03/14/19 16:02

Matrix: Solid

Date Received: 03/16/19 10:00

Percent Solids: 73.5

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		13.3	5.17	mg/Kg	⊗		03/27/19 14:30	1
Fluoride	8.62		1.33	0.906	mg/Kg	⊗		03/27/19 14:30	1
Sulfate	38.0		13.3	9.04	mg/Kg	⊗		03/27/19 14:30	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	2.67		0.264	0.0819	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:55	1
Arsenic	198		0.132	0.0343	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:55	1
Barium	484		1.32	0.169	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:55	1
Beryllium	4.93		0.132	0.00990	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:55	1
Boron	42.7		10.6	1.78	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:55	1
Cadmium	0.584		0.132	0.0224	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:55	1
Calcium	3900		66.0	11.8	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:55	1
Chromium	33.6		0.264	0.110	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:55	1
Cobalt	17.2		0.0660	0.0110	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:55	1
Copper	75.2		0.264	0.149	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:55	1
Iron	21000		6.60	3.25	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:55	1
Lead	34.1		0.132	0.0462	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:55	1
Lithium	35.5		0.701	0.387	mg/Kg	⊗	03/28/19 15:32	03/29/19 19:54	1
Manganese	73.6		0.660	0.302	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:55	1
Molybdenum	4.99		0.660	0.215	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:55	1
Nickel	34.6		0.132	0.0805	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:55	1
Selenium	8.58		0.660	0.161	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:55	1
Silver	0.141		0.132	0.0356	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:55	1
Thallium	3.75		0.132	0.0330	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:55	1
Vanadium	93.2		0.132	0.0845	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:55	1
Zinc	58.0		0.660	0.441	mg/Kg	⊗	03/22/19 12:48	03/28/19 01:55	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	8.44		2.00	0.378	ug/L	⊗	03/21/19 14:43	03/22/19 17:25	1
Arsenic	281		1.00	0.323	ug/L	⊗	03/21/19 14:43	03/22/19 17:25	1
Barium	99.7		10.0	1.49	ug/L	⊗	03/21/19 14:43	03/22/19 17:25	1
Beryllium	ND		1.00	0.155	ug/L	⊗	03/21/19 14:43	03/22/19 17:25	1
Boron	123 B		80.0	30.3	ug/L	⊗	03/21/19 14:43	03/22/19 17:25	1
Cadmium	ND		1.00	0.125	ug/L	⊗	03/21/19 14:43	03/22/19 17:25	1
Calcium	13300		500	116	ug/L	⊗	03/21/19 14:43	03/22/19 17:25	1
Chromium	3.25		2.00	1.53	ug/L	⊗	03/21/19 14:43	03/22/19 17:25	1
Cobalt	0.0980 J		0.500	0.0750	ug/L	⊗	03/21/19 14:43	03/22/19 17:25	1
Copper	0.801 J		2.00	0.627	ug/L	⊗	03/21/19 14:43	03/22/19 17:25	1
Iron	61.9		50.0	14.1	ug/L	⊗	03/21/19 14:43	03/22/19 17:25	1
Lead	ND		1.00	0.128	ug/L	⊗	03/21/19 14:43	03/22/19 17:25	1
Lithium	3.80 J		5.00	3.14	ug/L	⊗	03/21/19 14:43	03/22/19 17:25	1
Manganese	2.86 J		5.00	1.35	ug/L	⊗	03/21/19 14:43	03/22/19 17:25	1
Molybdenum	11.1		5.00	0.610	ug/L	⊗	03/21/19 14:43	03/22/19 17:25	1
Nickel	ND		1.00	0.312	ug/L	⊗	03/21/19 14:43	03/22/19 17:25	1
Selenium	21.2		5.00	2.62	ug/L	⊗	03/21/19 14:43	03/22/19 17:25	1
Silver	ND		1.00	0.121	ug/L	⊗	03/21/19 14:43	03/22/19 17:25	1
Thallium	ND		1.00	0.128	ug/L	⊗	03/21/19 14:43	03/22/19 17:25	1
Vanadium	93.5		1.00	0.899	ug/L	⊗	03/21/19 14:43	03/22/19 17:25	1

TestAmerica Pittsburgh

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_CCR_20190314_1A

TestAmerica Job ID: 180-87768-1

Client Sample ID: JSF-CCR-TW10-21.0/24.0-20190314

Lab Sample ID: 180-87768-6

Date Collected: 03/14/19 16:02
Date Received: 03/16/19 10:00

Matrix: Solid

Percent Solids: 73.5

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		03/21/19 14:43	03/22/19 17:25	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		03/21/19 15:53	03/22/19 13:32	1

Method: EPA 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.131		0.0456	0.0198	mg/Kg		03/21/19 14:17	03/22/19 12:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	7580		1360	1010	mg/Kg			03/27/19 20:25	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	26.5		0.1	0.1	%			03/20/19 09:50	1
Percent Solids	73.5		0.1	0.1	%			03/20/19 09:50	1
pH	8.2	HF	0.1	0.1	SU			03/21/19 10:46	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_CCR_20190314_1A

TestAmerica Job ID: 180-87768-1

Client Sample ID: JSF-CCR-TW10-26.0/29.0-20190314

Lab Sample ID: 180-87768-7

Date Collected: 03/14/19 16:37

Matrix: Solid

Date Received: 03/16/19 10:00

Percent Solids: 72.9

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		13.6	5.26	mg/Kg	⊗		03/27/19 14:47	1
Fluoride	14.4		1.36	0.922	mg/Kg	⊗		03/27/19 14:47	1
Sulfate	39.9		13.6	9.21	mg/Kg	⊗		03/27/19 14:47	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	3.92		0.280	0.0868	mg/Kg	⊗	03/22/19 12:48	03/28/19 02:00	1
Arsenic	218		0.140	0.0364	mg/Kg	⊗	03/22/19 12:48	03/28/19 02:00	1
Barium	631		1.40	0.179	mg/Kg	⊗	03/22/19 12:48	03/28/19 02:00	1
Beryllium	6.22		0.140	0.0105	mg/Kg	⊗	03/22/19 12:48	03/28/19 02:00	1
Boron	50.1		11.2	1.89	mg/Kg	⊗	03/22/19 12:48	03/28/19 02:00	1
Cadmium	0.965		0.140	0.0238	mg/Kg	⊗	03/22/19 12:48	03/28/19 02:00	1
Calcium	4220		70.0	12.5	mg/Kg	⊗	03/22/19 12:48	03/28/19 02:00	1
Chromium	37.5		0.280	0.116	mg/Kg	⊗	03/22/19 12:48	03/28/19 02:00	1
Cobalt	19.6		0.0700	0.0116	mg/Kg	⊗	03/22/19 12:48	03/28/19 02:00	1
Copper	86.8		0.280	0.158	mg/Kg	⊗	03/22/19 12:48	03/28/19 02:00	1
Iron	21000		7.00	3.44	mg/Kg	⊗	03/22/19 12:48	03/28/19 02:00	1
Lead	42.3		0.140	0.0490	mg/Kg	⊗	03/22/19 12:48	03/28/19 02:00	1
Lithium	40.9		0.660	0.364	mg/Kg	⊗	03/28/19 15:32	03/29/19 19:58	1
Manganese	89.0		0.700	0.321	mg/Kg	⊗	03/22/19 12:48	03/28/19 02:00	1
Molybdenum	6.11		0.700	0.228	mg/Kg	⊗	03/22/19 12:48	03/28/19 02:00	1
Nickel	40.1		0.140	0.0854	mg/Kg	⊗	03/22/19 12:48	03/28/19 02:00	1
Selenium	7.19		0.700	0.171	mg/Kg	⊗	03/22/19 12:48	03/28/19 02:00	1
Silver	0.179		0.140	0.0378	mg/Kg	⊗	03/22/19 12:48	03/28/19 02:00	1
Thallium	4.38		0.140	0.0350	mg/Kg	⊗	03/22/19 12:48	03/28/19 02:00	1
Vanadium	110		0.140	0.0896	mg/Kg	⊗	03/22/19 12:48	03/28/19 02:00	1
Zinc	73.0		0.700	0.468	mg/Kg	⊗	03/22/19 12:48	03/28/19 02:00	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	26.6		2.00	0.378	ug/L	⊗	03/21/19 14:43	03/22/19 17:29	1
Arsenic	180		1.00	0.323	ug/L	⊗	03/21/19 14:43	03/22/19 17:29	1
Barium	98.2		10.0	1.49	ug/L	⊗	03/21/19 14:43	03/22/19 17:29	1
Beryllium	ND		1.00	0.155	ug/L	⊗	03/21/19 14:43	03/22/19 17:29	1
Boron	133 B		80.0	30.3	ug/L	⊗	03/21/19 14:43	03/22/19 17:29	1
Cadmium	ND		1.00	0.125	ug/L	⊗	03/21/19 14:43	03/22/19 17:29	1
Calcium	13200		500	116	ug/L	⊗	03/21/19 14:43	03/22/19 17:29	1
Chromium	2.85		2.00	1.53	ug/L	⊗	03/21/19 14:43	03/22/19 17:29	1
Cobalt	0.254 J		0.500	0.0750	ug/L	⊗	03/21/19 14:43	03/22/19 17:29	1
Copper	0.790 J		2.00	0.627	ug/L	⊗	03/21/19 14:43	03/22/19 17:29	1
Iron	53.7		50.0	14.1	ug/L	⊗	03/21/19 14:43	03/22/19 17:29	1
Lead	ND		1.00	0.128	ug/L	⊗	03/21/19 14:43	03/22/19 17:29	1
Lithium	7.75		5.00	3.14	ug/L	⊗	03/21/19 14:43	03/22/19 17:29	1
Manganese	2.24 J		5.00	1.35	ug/L	⊗	03/21/19 14:43	03/22/19 17:29	1
Molybdenum	39.1		5.00	0.610	ug/L	⊗	03/21/19 14:43	03/22/19 17:29	1
Nickel	1.04 B		1.00	0.312	ug/L	⊗	03/21/19 14:43	03/22/19 17:29	1
Selenium	8.99		5.00	2.62	ug/L	⊗	03/21/19 14:43	03/22/19 17:29	1
Silver	ND		1.00	0.121	ug/L	⊗	03/21/19 14:43	03/22/19 17:29	1
Thallium	ND		1.00	0.128	ug/L	⊗	03/21/19 14:43	03/22/19 17:29	1
Vanadium	158		1.00	0.899	ug/L	⊗	03/21/19 14:43	03/22/19 17:29	1

TestAmerica Pittsburgh

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_CCR_20190314_1A

TestAmerica Job ID: 180-87768-1

Client Sample ID: JSF-CCR-TW10-26.0/29.0-20190314

Lab Sample ID: 180-87768-7

Date Collected: 03/14/19 16:37

Matrix: Solid

Date Received: 03/16/19 10:00

Percent Solids: 72.9

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		03/21/19 14:43	03/22/19 17:29	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		03/21/19 15:53	03/22/19 13:33	1

Method: EPA 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.124		0.0477	0.0207	mg/Kg		03/21/19 14:17	03/22/19 12:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	31600	^	1370	1020	mg/Kg			03/21/19 20:59	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	27.1		0.1	0.1	%			03/20/19 09:50	1
Percent Solids	72.9		0.1	0.1	%			03/20/19 09:50	1
pH	8.2	HF	0.1	0.1	SU			03/21/19 10:46	1

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_CCR_20190314_1A

TestAmerica Job ID: 180-87768-1

Client Sample ID: JSF-CCR-TW10-31.5/33.5-20190314

Lab Sample ID: 180-87768-8

Date Collected: 03/14/19 17:23

Matrix: Solid

Date Received: 03/16/19 10:00

Percent Solids: 79.1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		12.5	4.84	mg/Kg	⊗		03/27/19 15:04	1
Fluoride	6.50		1.25	0.849	mg/Kg	⊗		03/27/19 15:04	1
Sulfate	55.0		12.5	8.47	mg/Kg	⊗		03/27/19 15:04	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	2.41		0.261	0.0808	mg/Kg	⊗	03/22/19 12:48	03/28/19 02:04	1
Arsenic	193		0.130	0.0339	mg/Kg	⊗	03/22/19 12:48	03/28/19 02:04	1
Barium	446		1.30	0.167	mg/Kg	⊗	03/22/19 12:48	03/28/19 02:04	1
Beryllium	4.33		0.130	0.00977	mg/Kg	⊗	03/22/19 12:48	03/28/19 02:04	1
Boron	74.2		10.4	1.76	mg/Kg	⊗	03/22/19 12:48	03/28/19 02:04	1
Cadmium	1.20		0.130	0.0222	mg/Kg	⊗	03/22/19 12:48	03/28/19 02:04	1
Calcium	5230		65.2	11.7	mg/Kg	⊗	03/22/19 12:48	03/28/19 02:04	1
Chromium	33.1		0.261	0.108	mg/Kg	⊗	03/22/19 12:48	03/28/19 02:04	1
Cobalt	14.3		0.0652	0.0108	mg/Kg	⊗	03/22/19 12:48	03/28/19 02:04	1
Copper	80.1		0.261	0.147	mg/Kg	⊗	03/22/19 12:48	03/28/19 02:04	1
Iron	17100		6.52	3.21	mg/Kg	⊗	03/22/19 12:48	03/28/19 02:04	1
Lead	40.7		0.130	0.0456	mg/Kg	⊗	03/22/19 12:48	03/28/19 02:04	1
Lithium	53.8		0.645	0.356	mg/Kg	⊗	03/28/19 15:32	03/29/19 20:02	1
Manganese	66.2		0.652	0.298	mg/Kg	⊗	03/22/19 12:48	03/28/19 02:04	1
Molybdenum	6.59		0.652	0.212	mg/Kg	⊗	03/22/19 12:48	03/28/19 02:04	1
Nickel	36.0		0.130	0.0795	mg/Kg	⊗	03/22/19 12:48	03/28/19 02:04	1
Selenium	8.12		0.652	0.159	mg/Kg	⊗	03/22/19 12:48	03/28/19 02:04	1
Silver	0.203		0.130	0.0352	mg/Kg	⊗	03/22/19 12:48	03/28/19 02:04	1
Thallium	3.91		0.130	0.0326	mg/Kg	⊗	03/22/19 12:48	03/28/19 02:04	1
Vanadium	99.5		0.130	0.0834	mg/Kg	⊗	03/22/19 12:48	03/28/19 02:04	1
Zinc	74.1		0.652	0.435	mg/Kg	⊗	03/22/19 12:48	03/28/19 02:04	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	2.42		2.00	0.378	ug/L	⊗	03/21/19 14:43	03/22/19 17:32	1
Arsenic	169		1.00	0.323	ug/L	⊗	03/21/19 14:43	03/22/19 17:32	1
Barium	2.97 J		10.0	1.49	ug/L	⊗	03/21/19 14:43	03/22/19 17:32	1
Beryllium	ND		1.00	0.155	ug/L	⊗	03/21/19 14:43	03/22/19 17:32	1
Boron	170 B		80.0	30.3	ug/L	⊗	03/21/19 14:43	03/22/19 17:32	1
Cadmium	ND		1.00	0.125	ug/L	⊗	03/21/19 14:43	03/22/19 17:32	1
Calcium	3600		500	116	ug/L	⊗	03/21/19 14:43	03/22/19 17:32	1
Chromium	2.60		2.00	1.53	ug/L	⊗	03/21/19 14:43	03/22/19 17:32	1
Cobalt	0.138 J		0.500	0.0750	ug/L	⊗	03/21/19 14:43	03/22/19 17:32	1
Copper	1.62 J		2.00	0.627	ug/L	⊗	03/21/19 14:43	03/22/19 17:32	1
Iron	60.6		50.0	14.1	ug/L	⊗	03/21/19 14:43	03/22/19 17:32	1
Lead	0.265 J		1.00	0.128	ug/L	⊗	03/21/19 14:43	03/22/19 17:32	1
Lithium	8.45		5.00	3.14	ug/L	⊗	03/21/19 14:43	03/22/19 17:32	1
Manganese	1.74 J		5.00	1.35	ug/L	⊗	03/21/19 14:43	03/22/19 17:32	1
Molybdenum	18.0		5.00	0.610	ug/L	⊗	03/21/19 14:43	03/22/19 17:32	1
Nickel	0.498 JB		1.00	0.312	ug/L	⊗	03/21/19 14:43	03/22/19 17:32	1
Selenium	11.9		5.00	2.62	ug/L	⊗	03/21/19 14:43	03/22/19 17:32	1
Silver	ND		1.00	0.121	ug/L	⊗	03/21/19 14:43	03/22/19 17:32	1
Thallium	ND		1.00	0.128	ug/L	⊗	03/21/19 14:43	03/22/19 17:32	1
Vanadium	61.2		1.00	0.899	ug/L	⊗	03/21/19 14:43	03/22/19 17:32	1

TestAmerica Pittsburgh

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_CCR_20190314_1A

TestAmerica Job ID: 180-87768-1

Client Sample ID: JSF-CCR-TW10-31.5/33.5-20190314

Lab Sample ID: 180-87768-8

Date Collected: 03/14/19 17:23
Date Received: 03/16/19 10:00

Matrix: Solid

Percent Solids: 79.1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Zinc	5.92		5.00	3.22	ug/L		03/21/19 14:43	03/22/19 17:32	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		03/21/19 15:53	03/22/19 13:34	1

Method: EPA 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.105		0.0432	0.0187	mg/Kg		03/21/19 14:17	03/22/19 12:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	21100		1260	943	mg/Kg			03/27/19 20:35	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	20.9		0.1	0.1	%			03/20/19 14:54	1
Percent Solids	79.1		0.1	0.1	%			03/20/19 14:54	1
pH	8.5	HF	0.1	0.1	SU			03/28/19 08:49	1

QC Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_CCR_20190314_1A

TestAmerica Job ID: 180-87768-1

Method: EPA 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 180-273882/6

Matrix: Water

Analysis Batch: 273882

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.00	0.715	mg/L			03/26/19 05:02	1
Fluoride	ND		0.100	0.0263	mg/L			03/26/19 05:02	1
Sulfate	ND		1.00	0.380	mg/L			03/26/19 05:02	1

Lab Sample ID: LCS 180-273882/5

Matrix: Water

Analysis Batch: 273882

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	25.09		mg/L		100	80 - 120
Fluoride		1.25	1.199		mg/L		96	80 - 120
Sulfate		25.0	24.59		mg/L		98	80 - 120

Lab Sample ID: 180-87728-A-3 MS

Matrix: Water

Analysis Batch: 273882

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	2.87		25.0	29.07		mg/L		105	80 - 120
Fluoride	0.214		1.25	1.504		mg/L		103	80 - 120
Sulfate	122		25.0	145.5	4	mg/L		92	80 - 120

Lab Sample ID: 180-87728-A-3 MSD

Matrix: Water

Analysis Batch: 273882

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.	RPD	RPD Limit
								Limits		0	15
Chloride	2.87		25.0	29.05		mg/L		105	80 - 120		
Fluoride	0.214		1.25	1.512		mg/L		104	80 - 120	1	15
Sulfate	122		25.0	145.1	4	mg/L		90	80 - 120	0	15

Lab Sample ID: MB 180-274008/1-A

Matrix: Solid

Analysis Batch: 274035

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		10.0	3.88	mg/Kg			03/27/19 09:42	1
Fluoride	ND		1.00	0.680	mg/Kg			03/27/19 09:42	1
Sulfate	ND		10.0	6.79	mg/Kg			03/27/19 09:42	1

Lab Sample ID: LCS 180-274008/2-A

Matrix: Solid

Analysis Batch: 274035

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.
							Limits
Chloride	250	269.4		mg/Kg		108	80 - 120
Fluoride	12.5	12.39		mg/Kg		99	80 - 120
Sulfate	250	228.4		mg/Kg		91	80 - 120

TestAmerica Pittsburgh

QC Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_CCR_20190314_1A

TestAmerica Job ID: 180-87768-1

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

Lab Sample ID: 180-87845-B-4-B MS

Matrix: Solid

Analysis Batch: 274035

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec.	Limits
Chloride	ND		309	317.8		mg/Kg	⊗	103	80 - 120	
Fluoride	1.65	F1	15.4	13.79	F1	mg/Kg	⊗	79	80 - 120	
Sulfate	20.5		309	285.5		mg/Kg	⊗	86	80 - 120	

Lab Sample ID: 180-87845-B-4-C MSD

Matrix: Solid

Analysis Batch: 274035

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec.	RPD	RPD Limit
Chloride	ND		310	316.1		mg/Kg	⊗	102	80 - 120	1	15
Fluoride	1.65	F1	15.5	14.05		mg/Kg	⊗	80	80 - 120	2	15
Sulfate	20.5		310	285.7		mg/Kg	⊗	85	80 - 120	0	15

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

Lab Sample ID: MB 180-273596/1-A

Matrix: Solid

Analysis Batch: 273763

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 273596

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.00	0.378	ug/L		03/21/19 14:43	03/22/19 16:11	1
Arsenic	ND		1.00	0.323	ug/L		03/21/19 14:43	03/22/19 16:11	1
Barium	ND		10.0	1.49	ug/L		03/21/19 14:43	03/22/19 16:11	1
Beryllium	ND		1.00	0.155	ug/L		03/21/19 14:43	03/22/19 16:11	1
Boron	38.22	J	80.0	30.3	ug/L		03/21/19 14:43	03/22/19 16:11	1
Cadmium	ND		1.00	0.125	ug/L		03/21/19 14:43	03/22/19 16:11	1
Calcium	ND		500	116	ug/L		03/21/19 14:43	03/22/19 16:11	1
Chromium	ND		2.00	1.53	ug/L		03/21/19 14:43	03/22/19 16:11	1
Cobalt	ND		0.500	0.0750	ug/L		03/21/19 14:43	03/22/19 16:11	1
Copper	ND		2.00	0.627	ug/L		03/21/19 14:43	03/22/19 16:11	1
Iron	ND		50.0	14.1	ug/L		03/21/19 14:43	03/22/19 16:11	1
Lead	ND		1.00	0.128	ug/L		03/21/19 14:43	03/22/19 16:11	1
Lithium	ND		5.00	3.14	ug/L		03/21/19 14:43	03/22/19 16:11	1
Manganese	ND		5.00	1.35	ug/L		03/21/19 14:43	03/22/19 16:11	1
Molybdenum	ND		5.00	0.610	ug/L		03/21/19 14:43	03/22/19 16:11	1
Nickel	0.3970	J	1.00	0.312	ug/L		03/21/19 14:43	03/22/19 16:11	1
Selenium	ND		5.00	2.62	ug/L		03/21/19 14:43	03/22/19 16:11	1
Silver	ND		1.00	0.121	ug/L		03/21/19 14:43	03/22/19 16:11	1
Thallium	ND		1.00	0.128	ug/L		03/21/19 14:43	03/22/19 16:11	1
Vanadium	ND		1.00	0.899	ug/L		03/21/19 14:43	03/22/19 16:11	1
Zinc	ND		5.00	3.22	ug/L		03/21/19 14:43	03/22/19 16:11	1

Lab Sample ID: LCS 180-273596/2-A

Matrix: Solid

Analysis Batch: 273763

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 273596

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.	Limits
Antimony	500	561.0		ug/L	112	80 - 120		

TestAmerica Pittsburgh

QC Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_CCR_20190314_1A

TestAmerica Job ID: 180-87768-1

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

Lab Sample ID: LCS 180-273596/2-A

Matrix: Solid

Analysis Batch: 273763

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 273596

%Rec.

Analyte	Spike	LCS	LCS	Unit	D	%Rec	Limits
	Added	Result	Qualifier				
Arsenic	40.0	40.30		ug/L	101	80 - 120	
Barium	2000	1978		ug/L	99	80 - 120	
Beryllium	50.0	48.57		ug/L	97	80 - 120	
Boron	1000	1125		ug/L	113	80 - 120	
Cadmium	50.0	55.69		ug/L	111	80 - 120	
Calcium	50000	53020		ug/L	106	80 - 120	
Chromium	200	198.3		ug/L	99	80 - 120	
Cobalt	500	479.9		ug/L	96	80 - 120	
Copper	250	262.4		ug/L	105	80 - 120	
Iron	11000	11040		ug/L	100	80 - 120	
Lead	20.0	20.96		ug/L	105	80 - 120	
Lithium	50.0	52.06		ug/L	104	80 - 120	
Manganese	500	528.8		ug/L	106	80 - 120	
Molybdenum	1000	1055		ug/L	106	80 - 120	
Nickel	500	502.6		ug/L	101	80 - 120	
Selenium	10.0	10.89		ug/L	109	80 - 120	
Silver	50.0	53.11		ug/L	106	80 - 120	
Thallium	50.0	52.06		ug/L	104	80 - 120	
Vanadium	500	537.2		ug/L	107	80 - 120	
Zinc	500	494.0		ug/L	99	80 - 120	

Lab Sample ID: MB 180-273695/1-A

Matrix: Solid

Analysis Batch: 274215

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 273695

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Antimony	ND		0.200	0.0620	mg/Kg	03/22/19 12:48	03/28/19 01:17		1
Arsenic	ND		0.100	0.0260	mg/Kg	03/22/19 12:48	03/28/19 01:17		1
Barium	ND		1.00	0.128	mg/Kg	03/22/19 12:48	03/28/19 01:17		1
Beryllium	ND		0.100	0.00750	mg/Kg	03/22/19 12:48	03/28/19 01:17		1
Boron	ND		8.00	1.35	mg/Kg	03/22/19 12:48	03/28/19 01:17		1
Cadmium	ND		0.100	0.0170	mg/Kg	03/22/19 12:48	03/28/19 01:17		1
Calcium	ND		50.0	8.95	mg/Kg	03/22/19 12:48	03/28/19 01:17		1
Chromium	ND		0.200	0.0830	mg/Kg	03/22/19 12:48	03/28/19 01:17		1
Cobalt	ND		0.0500	0.00830	mg/Kg	03/22/19 12:48	03/28/19 01:17		1
Copper	ND		0.200	0.113	mg/Kg	03/22/19 12:48	03/28/19 01:17		1
Iron	ND		5.00	2.46	mg/Kg	03/22/19 12:48	03/28/19 01:17		1
Lead	ND		0.100	0.0350	mg/Kg	03/22/19 12:48	03/28/19 01:17		1
Manganese	ND		0.500	0.229	mg/Kg	03/22/19 12:48	03/28/19 01:17		1
Molybdenum	ND		0.500	0.163	mg/Kg	03/22/19 12:48	03/28/19 01:17		1
Nickel	ND		0.100	0.0610	mg/Kg	03/22/19 12:48	03/28/19 01:17		1
Selenium	ND		0.500	0.122	mg/Kg	03/22/19 12:48	03/28/19 01:17		1
Silver	ND		0.100	0.0270	mg/Kg	03/22/19 12:48	03/28/19 01:17		1
Thallium	ND		0.100	0.0250	mg/Kg	03/22/19 12:48	03/28/19 01:17		1
Vanadium	ND		0.100	0.0640	mg/Kg	03/22/19 12:48	03/28/19 01:17		1
Zinc	ND		0.500	0.334	mg/Kg	03/22/19 12:48	03/28/19 01:17		1

TestAmerica Pittsburgh

QC Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_CCR_20190314_1A

TestAmerica Job ID: 180-87768-1

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

Lab Sample ID: LCS 180-273695/2-A

Matrix: Solid

Analysis Batch: 274215

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 273695

5

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Antimony	100	89.13		mg/Kg		89	80 - 120
Arsenic	4.00	3.735		mg/Kg		93	80 - 120
Barium	200	187.7		mg/Kg		94	80 - 120
Beryllium	5.00	4.896		mg/Kg		98	80 - 120
Boron	100	91.35		mg/Kg		91	80 - 120
Cadmium	5.00	5.233		mg/Kg		105	80 - 120
Calcium	5000	5000		mg/Kg		100	80 - 120
Chromium	20.0	19.85		mg/Kg		99	80 - 120
Cobalt	50.0	49.90		mg/Kg		100	80 - 120
Copper	25.0	25.26		mg/Kg		101	80 - 120
Iron	1100	1098		mg/Kg		100	80 - 120
Lead	2.00	2.037		mg/Kg		102	80 - 120
Manganese	50.0	52.24		mg/Kg		104	80 - 120
Molybdenum	200	179.0		mg/Kg		90	80 - 120
Nickel	50.0	49.40		mg/Kg		99	80 - 120
Selenium	1.00	0.9226		mg/Kg		92	80 - 120
Silver	5.00	5.092		mg/Kg		102	80 - 120
Thallium	5.00	4.966		mg/Kg		99	80 - 120
Vanadium	50.0	48.37		mg/Kg		97	80 - 120
Zinc	50.0	48.52		mg/Kg		97	80 - 120

Lab Sample ID: 180-87845-A-4-E MS

Matrix: Solid

Analysis Batch: 274215

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 273695

13

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Antimony	ND	F1	124	61.89	F1	mg/Kg	⊗	50	75 - 125
Arsenic	4.60	F1	4.97	15.41	F1	mg/Kg	⊗	218	75 - 125
Barium	248		248	474.1		mg/Kg	⊗	91	75 - 125
Beryllium	1.01		6.21	6.983		mg/Kg	⊗	96	75 - 125
Boron	5.22	J	124	108.2		mg/Kg	⊗	83	75 - 125
Cadmium	0.0513	J	6.21	6.079		mg/Kg	⊗	97	75 - 125
Calcium	2380		6210	7688		mg/Kg	⊗	86	75 - 125
Chromium	33.8		24.8	59.48		mg/Kg	⊗	103	75 - 125
Cobalt	17.1		62.1	69.18		mg/Kg	⊗	84	75 - 125
Copper	38.4	F1	31.0	49.60	F1	mg/Kg	⊗	36	75 - 125
Iron	27700		1370	31460	4	mg/Kg	⊗	276	75 - 125
Lead	9.90		2.48	12.32		mg/Kg	⊗	97	75 - 125
Manganese	844		62.1	784.5	4	mg/Kg	⊗	-95	75 - 125
Molybdenum	ND	F1	248	203.9		mg/Kg	⊗	82	75 - 125
Nickel	37.0		62.1	88.51		mg/Kg	⊗	83	75 - 125
Selenium	1.85	F1	1.24	2.648	F1	mg/Kg	⊗	64	75 - 125
Silver	ND		6.21	6.042		mg/Kg	⊗	97	75 - 125
Thallium	0.282		6.21	6.068		mg/Kg	⊗	93	75 - 125
Vanadium	26.9		62.1	75.64		mg/Kg	⊗	79	75 - 125
Zinc	59.1		62.1	113.5		mg/Kg	⊗	88	75 - 125

TestAmerica Pittsburgh

QC Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_CCR_20190314_1A

TestAmerica Job ID: 180-87768-1

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

Lab Sample ID: 180-87845-A-4-F MSD

Matrix: Solid

Analysis Batch: 274215

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 273695

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier							
Antimony	ND	F1	129	69.23	F1	mg/Kg	⊗	54	75 - 125	11	20	6
Arsenic	4.60	F1	5.17	12.81	F1	mg/Kg	⊗	159	75 - 125	18	20	7
Barium	248		259	474.6		mg/Kg	⊗	88	75 - 125	0	20	8
Beryllium	1.01		6.46	7.229		mg/Kg	⊗	96	75 - 125	3	20	9
Boron	5.22	J	129	111.2		mg/Kg	⊗	82	75 - 125	3	20	10
Cadmium	0.0513	J	6.46	6.442		mg/Kg	⊗	99	75 - 125	6	20	11
Calcium	2380		6460	7939		mg/Kg	⊗	86	75 - 125	3	20	12
Chromium	33.8		25.9	53.72		mg/Kg	⊗	77	75 - 125	10	20	13
Cobalt	17.1		64.6	69.69		mg/Kg	⊗	81	75 - 125	1	20	
Copper	38.4	F1	32.3	59.95	F1	mg/Kg	⊗	67	75 - 125	19	20	
Iron	27700		1420	28410	4	mg/Kg	⊗	51	75 - 125	10	20	
Lead	9.90		2.59	12.12		mg/Kg	⊗	86	75 - 125	2	20	
Manganese	844		64.6	910.4	4	mg/Kg	⊗	104	75 - 125	15	20	
Molybdenum	ND	F1	259	192.2	F1	mg/Kg	⊗	74	75 - 125	6	20	
Nickel	37.0		64.6	88.18		mg/Kg	⊗	79	75 - 125	0	20	
Selenium	1.85	F1	1.29	2.877		mg/Kg	⊗	79	75 - 125	8	20	
Silver	ND		6.46	6.191		mg/Kg	⊗	96	75 - 125	2	20	
Thallium	0.282		6.46	6.142		mg/Kg	⊗	91	75 - 125	1	20	
Vanadium	26.9		64.6	75.59		mg/Kg	⊗	75	75 - 125	0	20	
Zinc	59.1		64.6	110.3		mg/Kg	⊗	79	75 - 125	3	20	

Lab Sample ID: MB 180-274272/1-A

Matrix: Solid

Analysis Batch: 274454

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 274272

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Lithium	ND		0.500	0.276	mg/Kg		03/28/19 15:32	03/29/19 19:28	1

Lab Sample ID: LCS 180-274272/2-A

Matrix: Solid

Analysis Batch: 274454

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 274272

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec.
	Added	Result	Qualifier				
Lithium	5.00	4.937		mg/Kg		99	80 - 120

Lab Sample ID: 180-87845-A-4-H MS

Matrix: Solid

Analysis Batch: 274454

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 274272

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.		
	Result	Qualifier	Added	Result	Qualifier						
Lithium	21.5	F1	6.53	33.10	F1	mg/Kg	⊗	177	75 - 125		

Lab Sample ID: 180-87845-A-4-I MSD

Matrix: Solid

Analysis Batch: 274454

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 274272

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.		
	Result	Qualifier	Added	Result	Qualifier						
Lithium	21.5	F1	6.53	33.80	F1	mg/Kg	⊗	188	75 - 125	2	20

TestAmerica Pittsburgh

QC Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_CCR_20190314_1A

TestAmerica Job ID: 180-87768-1

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

Lab Sample ID: MB 180-273549/1-A

Matrix: Water

Analysis Batch: 273763

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 273549

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200	0.000378	mg/L				1
Arsenic	ND		0.00100	0.000323	mg/L				1
Barium	ND		0.0100	0.00149	mg/L				1
Beryllium	ND		0.00100	0.000155	mg/L				1
Boron	ND		0.0800	0.0303	mg/L				1
Cadmium	ND		0.00100	0.000125	mg/L				1
Calcium	ND		0.500	0.116	mg/L				1
Chromium	ND		0.00200	0.00153	mg/L				1
Cobalt	ND		0.000500	0.0000750	mg/L				1
Copper	ND		0.00200	0.000627	mg/L				1
Iron	ND		0.0500	0.0141	mg/L				1
Lead	ND		0.00100	0.000128	mg/L				1
Lithium	ND		0.00500	0.00314	mg/L				1
Manganese	ND		0.00500	0.00135	mg/L				1
Molybdenum	ND		0.00500	0.000610	mg/L				1
Nickel	ND		0.00100	0.000312	mg/L				1
Selenium	ND		0.00500	0.00262	mg/L				1
Silver	ND		0.00100	0.000121	mg/L				1
Thallium	ND		0.00100	0.000128	mg/L				1
Vanadium	ND		0.00100	0.000899	mg/L				1
Zinc	ND		0.00500	0.00322	mg/L				1

Lab Sample ID: LCS 180-273549/2-A

Matrix: Water

Analysis Batch: 273763

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 273549

Analyte	Spike Added	LCS			Unit	D	%Rec	Limits	%Rec.
		Result	Qualifier	%Rec.					
Antimony	0.500	0.5412			mg/L		108	80 - 120	
Arsenic	0.0400	0.03946			mg/L		99	80 - 120	
Barium	2.00	1.975			mg/L		99	80 - 120	
Beryllium	0.0500	0.04934			mg/L		99	80 - 120	
Boron	1.00	1.087			mg/L		109	80 - 120	
Cadmium	0.0500	0.05494			mg/L		110	80 - 120	
Calcium	50.0	53.19			mg/L		106	80 - 120	
Chromium	0.200	0.1987			mg/L		99	80 - 120	
Cobalt	0.500	0.4818			mg/L		96	80 - 120	
Copper	0.250	0.2598			mg/L		104	80 - 120	
Iron	11.0	11.06			mg/L		101	80 - 120	
Lead	0.0200	0.02135			mg/L		107	80 - 120	
Lithium	0.0500	0.05114			mg/L		102	80 - 120	
Manganese	0.500	0.5311			mg/L		106	80 - 120	
Molybdenum	1.00	1.033			mg/L		103	80 - 120	
Nickel	0.500	0.5021			mg/L		100	80 - 120	
Selenium	0.0100	0.01037			mg/L		104	80 - 120	
Silver	0.0500	0.05364			mg/L		107	80 - 120	
Thallium	0.0500	0.05185			mg/L		104	80 - 120	
Vanadium	0.500	0.5416			mg/L		108	80 - 120	
Zinc	0.500	0.4882			mg/L		98	80 - 120	

TestAmerica Pittsburgh

QC Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_CCR_20190314_1A

TestAmerica Job ID: 180-87768-1

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

Lab Sample ID: 490-170351-E-2-A MS

Matrix: Water

Analysis Batch: 273763

Client Sample ID: Matrix Spike

Prep Type: Total Recoverable

Prep Batch: 273549

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Antimony	ND		0.500	0.5323		mg/L	106	75 - 125	
Arsenic	ND		0.0400	0.03857		mg/L	96	75 - 125	
Barium	0.114		2.00	1.954		mg/L	92	75 - 125	
Beryllium	ND		0.0500	0.04763		mg/L	95	75 - 125	
Cadmium	ND		0.0500	0.05346		mg/L	107	75 - 125	
Calcium	153	F1	50.0	175.0	F1	mg/L	44	75 - 125	
Chromium	ND		0.200	0.1912		mg/L	96	75 - 125	
Cobalt	0.00203		0.500	0.4648		mg/L	93	75 - 125	
Copper	ND		0.250	0.2479		mg/L	99	75 - 125	
Iron	ND		11.0	10.52		mg/L	96	75 - 125	
Lead	ND		0.0200	0.02012		mg/L	101	75 - 125	
Lithium	0.00677		0.0500	0.05570		mg/L	98	75 - 125	
Manganese	0.382		0.500	0.8616		mg/L	96	75 - 125	
Molybdenum	0.00219	J	1.00	1.020		mg/L	102	75 - 125	
Nickel	0.00259		0.500	0.4816		mg/L	96	75 - 125	
Selenium	0.00341	J	0.0100	0.01297		mg/L	96	75 - 125	
Silver	ND		0.0500	0.05168		mg/L	103	75 - 125	
Thallium	ND		0.0500	0.05011		mg/L	100	75 - 125	
Vanadium	0.00135		0.500	0.5223		mg/L	104	75 - 125	
Zinc	ND		0.500	0.4647		mg/L	93	75 - 125	

Lab Sample ID: 490-170351-E-2-B MSD

Matrix: Water

Analysis Batch: 273763

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total Recoverable

Prep Batch: 273549

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Antimony	ND		0.500	0.5431		mg/L	109	75 - 125		2	20
Arsenic	ND		0.0400	0.03865		mg/L	97	75 - 125		0	20
Barium	0.114		2.00	2.016		mg/L	95	75 - 125		3	20
Beryllium	ND		0.0500	0.04770		mg/L	95	75 - 125		0	20
Cadmium	ND		0.0500	0.05358		mg/L	107	75 - 125		0	20
Calcium	153	F1	50.0	180.8	F1	mg/L	55	75 - 125		3	20
Chromium	ND		0.200	0.1921		mg/L	96	75 - 125		0	20
Cobalt	0.00203		0.500	0.4620		mg/L	92	75 - 125		1	20
Copper	ND		0.250	0.2494		mg/L	100	75 - 125		1	20
Iron	ND		11.0	10.71		mg/L	97	75 - 125		2	20
Lead	ND		0.0200	0.02068		mg/L	103	75 - 125		3	20
Lithium	0.00677		0.0500	0.05548		mg/L	97	75 - 125		0	20
Manganese	0.382		0.500	0.8636		mg/L	96	75 - 125		0	20
Molybdenum	0.00219	J	1.00	1.032		mg/L	103	75 - 125		1	20
Nickel	0.00259		0.500	0.4808		mg/L	96	75 - 125		0	20
Selenium	0.00341	J	0.0100	0.01338		mg/L	100	75 - 125		3	20
Silver	ND		0.0500	0.05232		mg/L	105	75 - 125		1	20
Thallium	ND		0.0500	0.05117		mg/L	102	75 - 125		2	20
Vanadium	0.00135		0.500	0.5282		mg/L	105	75 - 125		1	20
Zinc	ND		0.500	0.4679		mg/L	94	75 - 125		1	20

TestAmerica Pittsburgh

QC Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_CCR_20190314_1A

TestAmerica Job ID: 180-87768-1

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

Lab Sample ID: 490-170351-E-2-B MSD

Matrix: Water

Analysis Batch: 274116

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable

Prep Batch: 273549

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec.	RPD
	0.0464	J	1.00	1.032		mg/L	99	Limits	Limit
Boron								75 - 125	10 20

Lab Sample ID: LB 180-273414/1-B

Matrix: Solid

Analysis Batch: 273763

Client Sample ID: Method Blank
Prep Type: SPLP East
Prep Batch: 273596

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.00	0.378	ug/L	03/21/19 14:43	03/22/19 16:14		1
Arsenic	ND		1.00	0.323	ug/L	03/21/19 14:43	03/22/19 16:14		1
Barium	ND		10.0	1.49	ug/L	03/21/19 14:43	03/22/19 16:14		1
Beryllium	ND		1.00	0.155	ug/L	03/21/19 14:43	03/22/19 16:14		1
Boron	ND		80.0	30.3	ug/L	03/21/19 14:43	03/22/19 16:14		1
Cadmium	ND		1.00	0.125	ug/L	03/21/19 14:43	03/22/19 16:14		1
Calcium	ND		500	116	ug/L	03/21/19 14:43	03/22/19 16:14		1
Chromium	ND		2.00	1.53	ug/L	03/21/19 14:43	03/22/19 16:14		1
Cobalt	ND		0.500	0.0750	ug/L	03/21/19 14:43	03/22/19 16:14		1
Copper	ND		2.00	0.627	ug/L	03/21/19 14:43	03/22/19 16:14		1
Iron	ND		50.0	14.1	ug/L	03/21/19 14:43	03/22/19 16:14		1
Lead	ND		1.00	0.128	ug/L	03/21/19 14:43	03/22/19 16:14		1
Lithium	ND		5.00	3.14	ug/L	03/21/19 14:43	03/22/19 16:14		1
Manganese	ND		5.00	1.35	ug/L	03/21/19 14:43	03/22/19 16:14		1
Molybdenum	ND		5.00	0.610	ug/L	03/21/19 14:43	03/22/19 16:14		1
Nickel	ND		1.00	0.312	ug/L	03/21/19 14:43	03/22/19 16:14		1
Selenium	ND		5.00	2.62	ug/L	03/21/19 14:43	03/22/19 16:14		1
Silver	ND		1.00	0.121	ug/L	03/21/19 14:43	03/22/19 16:14		1
Thallium	ND		1.00	0.128	ug/L	03/21/19 14:43	03/22/19 16:14		1
Vanadium	ND		1.00	0.899	ug/L	03/21/19 14:43	03/22/19 16:14		1
Zinc	ND		5.00	3.22	ug/L	03/21/19 14:43	03/22/19 16:14		1

Lab Sample ID: 180-87617-A-2-E MS

Matrix: Solid

Analysis Batch: 273763

Client Sample ID: Matrix Spike
Prep Type: SPLP East
Prep Batch: 273596

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec.	
							113	Limits	
Antimony	3.71		500	567.1		ug/L		75 - 125	
Arsenic	697		40.0	777.3	4	ug/L	201	75 - 125	
Barium	6.29	J	2000	2024		ug/L	101	75 - 125	
Beryllium	ND		50.0	50.89		ug/L	102	75 - 125	
Boron	154	B	1000	1159		ug/L	100	75 - 125	
Cadmium	ND		50.0	56.08		ug/L	112	75 - 125	
Calcium	7220		50000	61250		ug/L	108	75 - 125	
Chromium	2.90		200	200.3		ug/L	99	75 - 125	
Cobalt	0.231	J	500	481.3		ug/L	96	75 - 125	
Copper	2.18		250	260.6		ug/L	103	75 - 125	
Iron	269		11000	11140		ug/L	99	75 - 125	
Lead	0.438	J	20.0	21.21		ug/L	104	75 - 125	
Lithium	3.44	J	50.0	56.33		ug/L	106	75 - 125	
Manganese	2.86	J	500	537.2		ug/L	107	75 - 125	

TestAmerica Pittsburgh

QC Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_CCR_20190314_1A

TestAmerica Job ID: 180-87768-1

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

Lab Sample ID: 180-87617-A-2-E MS

Matrix: Solid

Analysis Batch: 273763

Client Sample ID: Matrix Spike
Prep Type: SPLP East
Prep Batch: 273596

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	Limits		
	Result	Qualifier	Added	Result	Qualifier						
Molybdenum	12.2		1000	1090		ug/L		108	75 - 125		
Nickel	0.507	J B	500	505.6		ug/L		101	75 - 125		
Selenium	16.6		10.0	27.67		ug/L		110	75 - 125		
Silver	ND		50.0	54.03		ug/L		108	75 - 125		
Thallium	ND		50.0	52.46		ug/L		105	75 - 125		
Vanadium	122		500	663.6		ug/L		108	75 - 125		
Zinc	ND		500	494.7		ug/L		99	75 - 125		

Lab Sample ID: 180-87617-A-2-F MSD

Matrix: Solid

Analysis Batch: 273763

Client Sample ID: Matrix Spike Duplicate
Prep Type: SPLP East
Prep Batch: 273596

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier						
Antimony	3.71		500	567.6		ug/L		113	75 - 125	0	20
Arsenic	697		40.0	762.9	4	ug/L		165	75 - 125	2	20
Barium	6.29	J	2000	2022		ug/L		101	75 - 125	0	20
Beryllium	ND		50.0	50.83		ug/L		102	75 - 125	0	20
Boron	154	B	1000	1198		ug/L		104	75 - 125	3	20
Cadmium	ND		50.0	56.29		ug/L		113	75 - 125	0	20
Calcium	7220		50000	61560		ug/L		109	75 - 125	0	20
Chromium	2.90		200	201.8		ug/L		99	75 - 125	1	20
Cobalt	0.231	J	500	482.2		ug/L		96	75 - 125	0	20
Copper	2.18		250	263.4		ug/L		104	75 - 125	1	20
Iron	269		11000	11260		ug/L		100	75 - 125	1	20
Lead	0.438	J	20.0	21.31		ug/L		104	75 - 125	0	20
Lithium	3.44	J	50.0	56.54		ug/L		106	75 - 125	0	20
Manganese	2.86	J	500	539.4		ug/L		107	75 - 125	0	20
Molybdenum	12.2		1000	1097		ug/L		108	75 - 125	1	20
Nickel	0.507	J B	500	511.1		ug/L		102	75 - 125	1	20
Selenium	16.6		10.0	27.67		ug/L		110	75 - 125	0	20
Silver	ND		50.0	54.22		ug/L		108	75 - 125	0	20
Thallium	ND		50.0	52.44		ug/L		105	75 - 125	0	20
Vanadium	122		500	668.7		ug/L		109	75 - 125	1	20
Zinc	ND		500	494.6		ug/L		99	75 - 125	0	20

Method: EPA 7470A - Mercury (CVAA)

Lab Sample ID: MB 180-273605/1-A

Matrix: Solid

Analysis Batch: 273711

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 273605

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	ND		0.200	0.101	ug/L		03/21/19 15:53	03/22/19 13:13	1

TestAmerica Pittsburgh

QC Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_CCR_20190314_1A

TestAmerica Job ID: 180-87768-1

Method: EPA 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 180-273605/2-A

Matrix: Solid

Analysis Batch: 273711

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 273605

Analyte

Mercury

Spike Added

2.50

LCS Result

2.205

LCS Qualifier

ug/L

D

88

%Rec.

80 - 120

Lab Sample ID: MB 180-273815/1-A

Matrix: Water

Analysis Batch: 273888

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 273815

Analyte

Mercury

MB Result

ND

MB Qualifier

RL

0.000200

MDL

0.000101

Unit

mg/L

D

Prepared

03/25/19 10:11

Analyzed

03/25/19 17:59

Dil Fac

1

Lab Sample ID: LCS 180-273815/2-A

Matrix: Water

Analysis Batch: 273888

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 273815

Analyte

Mercury

Spike Added

0.00250

LCS Result

0.002564

LCS Qualifier

mg/L

D

103

%Rec.

80 - 120

Lab Sample ID: 180-87767-G-5-C MS

Matrix: Water

Analysis Batch: 273888

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 273815

Analyte

Mercury

Sample Result

ND

Sample Qualifier

Spike Added

0.00100

MS Result

0.0009920

MS Qualifier

mg/L

D

99

%Rec.

75 - 125

Lab Sample ID: 180-87767-G-5-D MSD

Matrix: Water

Analysis Batch: 273888

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 273815

Analyte

Mercury

Sample Result

ND

Sample Qualifier

Spike Added

0.00100

MSD Result

0.0009910

MSD Qualifier

mg/L

D

99

%Rec.

75 - 125

RPD

0

Limit

20

Lab Sample ID: LB 180-273414/1-C

Matrix: Solid

Analysis Batch: 273711

Client Sample ID: Method Blank

Prep Type: SPLP East

Prep Batch: 273605

Analyte

Mercury

LB Result

ND

LB Qualifier

RL

0.200

MDL

0.101

Unit

ug/L

D

Prepared

03/21/19 15:53

Analyzed

03/22/19 13:15

Dil Fac

1

Lab Sample ID: 180-87617-A-2-H MS

Matrix: Solid

Analysis Batch: 273711

Client Sample ID: Matrix Spike

Prep Type: SPLP East

Prep Batch: 273605

Analyte

Mercury

Sample Result

ND

Sample Qualifier

Spike Added

1.00

MS Result

0.8780

MS Qualifier

ug/L

D

88

%Rec.

75 - 125

Lab Sample ID: 180-87617-A-2-I MSD

Matrix: Solid

Analysis Batch: 273711

Client Sample ID: Matrix Spike Duplicate

Prep Type: SPLP East

Prep Batch: 273605

Analyte

Mercury

Sample Result

ND

Sample Qualifier

Spike Added

1.00

MSD Result

0.8810

MSD Qualifier

ug/L

D

88

%Rec.

75 - 125

RPD

0

Limit

20

TestAmerica Pittsburgh

QC Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_CCR_20190314_1A

TestAmerica Job ID: 180-87768-1

Method: EPA 7471B - Mercury (CVAA)

Lab Sample ID: MB 180-273586/1-A

Matrix: Solid

Analysis Batch: 273704

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 273586

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0330	0.0143	mg/Kg		03/21/19 14:17	03/22/19 12:37	1

Lab Sample ID: LCS 180-273586/2-A

Matrix: Solid

Analysis Batch: 273704

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 273586

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec.	Limits
Mercury	0.417	0.3822		mg/Kg		92	80 - 120

Method: 2540G - SM 2540G

Lab Sample ID: 180-87768-4 DU

Matrix: Solid

Analysis Batch: 273369

Client Sample ID: JSF-CCR-TW10-12.0/13.5-20190314

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Percent Moisture	21.1		21.4		%		1	10
Percent Solids	78.9		78.6		%		0.4	10

Lab Sample ID: 180-87821-A-7 DU

Matrix: Solid

Analysis Batch: 273443

Client Sample ID: Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Percent Moisture	34.3		34.4		%		0.5	10
Percent Solids	65.7		65.6		%		0.2	10

Method: EPA 9045D - pH

Lab Sample ID: LCS 180-273533/1

Matrix: Solid

Analysis Batch: 273533

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

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

Lab Sample ID: 180-87768-2 DU

Matrix: Solid

Analysis Batch: 273533

Client Sample ID: JSF-CCR-TW10-1.5/3.5-20190314

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
pH	5.4	HF	5.5		SU		1	2

Lab Sample ID: LCS 180-274201/1

Matrix: Solid

Analysis Batch: 274201

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

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

TestAmerica Pittsburgh

QC Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_CCR_20190314_1A

TestAmerica Job ID: 180-87768-1

Lab Sample ID: 180-87768-8 DU
Matrix: Solid
Analysis Batch: 274201

Client Sample ID: JSF-CCR-TW10-31.5/33.5-20190314
Prep Type: Total/NA

Analyte	Sample	Sample	DU		DU		D	RPD	RPD	Limit
	Result	Qualifier	Result	Qualifier	Unit					
pH	8.5	HF	8.5		SU			0.1		2

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

Lab Sample ID: MB 180-274541/6
Matrix: Water
Analysis Batch: 274541

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Total Organic Carbon - Quad	ND		1.00	0.508	mg/L			03/28/19 16:52	1

Lab Sample ID: LCS 180-274541/4
Matrix: Water
Analysis Batch: 274541

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

Analyte	Spike	LCS	LCS	%Rec.	Limits	D	%Rec
	Added	Result	Qualifier				
Total Organic Carbon - Quad	20.0	19.35		mg/L	97		85 - 115

Lab Sample ID: LCSD 180-274541/5
Matrix: Water
Analysis Batch: 274541

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

Analyte	Spike	LCSD	LCSD	%Rec.	Limits	D	%Rec	RPD	RPD
	Added	Result	Qualifier						
Total Organic Carbon - Quad	20.0	19.24		mg/L	96		85 - 115	1	20

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

Lab Sample ID: MB 180-273683/3
Matrix: Solid
Analysis Batch: 273683

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Total Organic Carbon - Duplicates	ND		1000	746	mg/Kg			03/21/19 17:21	1

Lab Sample ID: LCS 180-273683/4
Matrix: Solid
Analysis Batch: 273683

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

Analyte	Spike	LCS	LCS	%Rec.	Limits	D	%Rec
	Added	Result	Qualifier				
Total Organic Carbon - Duplicates	37800	30550		mg/Kg	81		75 - 125

Lab Sample ID: 180-87617-C-2 MS
Matrix: Solid
Analysis Batch: 273683

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

Analyte	Sample	Sample	Spike	MS	MS	D	%Rec.	
	Result	Qualifier						
Total Organic Carbon - Duplicates	26200		26000	46340		⊗	77	75 - 125

TestAmerica Pittsburgh

QC Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_CCR_20190314_1A

TestAmerica Job ID: 180-87768-1

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

Lab Sample ID: 180-87617-C-2 MSD

Matrix: Solid

Analysis Batch: 273683

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
Total Organic Carbon - Duplicates	26200		25500	50460		mg/Kg	☒	95	75 - 125	9	20

Lab Sample ID: 180-87617-C-2 DU

Matrix: Solid

Analysis Batch: 273683

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Organic Carbon - Duplicates	26200		22110		mg/Kg	☒	17	20

Lab Sample ID: MB 180-274261/3

Matrix: Solid

Analysis Batch: 274261

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	ND		1000	746	mg/Kg			03/27/19 19:14	1

Lab Sample ID: LCS 180-274261/4

Matrix: Solid

Analysis Batch: 274261

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Duplicates	37800	33570		mg/Kg		89	75 - 125

Lab Sample ID: 180-87990-C-1 MS

Matrix: Solid

Analysis Batch: 274261

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
Total Organic Carbon - Duplicates	17300	F1	115000	105100		mg/Kg	☒	76	75 - 125

Lab Sample ID: 180-87990-C-1 MSD

Matrix: Solid

Analysis Batch: 274261

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
Total Organic Carbon - Duplicates	17300	F1	119000	128300		mg/Kg	☒	93	75 - 125	20	20

Lab Sample ID: 180-87990-C-1 DU

Matrix: Solid

Analysis Batch: 274261

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Organic Carbon - Duplicates	17300	F1	20990		mg/Kg	☒	19	20

TestAmerica Pittsburgh

QC Association Summary

Client: Environmental Standards Inc.
Project/Site: JSF_CCR_20190314_1A

TestAmerica Job ID: 180-87768-1

HPLC/IC

Analysis Batch: 273882

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-87768-1	JSF-CCR-FB04-20190314	Total/NA	Water	EPA 9056A	
MB 180-273882/6	Method Blank	Total/NA	Water	EPA 9056A	
LCS 180-273882/5	Lab Control Sample	Total/NA	Water	EPA 9056A	
180-87728-A-3 MS	Matrix Spike	Total/NA	Water	EPA 9056A	
180-87728-A-3 MSD	Matrix Spike Duplicate	Total/NA	Water	EPA 9056A	

Leach Batch: 274008

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-87768-2	JSF-CCR-TW10-1.5/3.5-20190314	Soluble	Solid	DI Leach	
180-87768-3	JSF-CCR-TW10-6.0/9.0-20190314	Soluble	Solid	DI Leach	
180-87768-4	JSF-CCR-TW10-12.0/13.5-20190314	Soluble	Solid	DI Leach	
180-87768-5	JSF-CCR-TW10-16.5/18.5-20190314	Soluble	Solid	DI Leach	
180-87768-6	JSF-CCR-TW10-21.0/24.0-20190314	Soluble	Solid	DI Leach	
180-87768-7	JSF-CCR-TW10-26.0/29.0-20190314	Soluble	Solid	DI Leach	
180-87768-8	JSF-CCR-TW10-31.5/33.5-20190314	Soluble	Solid	DI Leach	
MB 180-274008/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 180-274008/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
180-87845-B-4-B MS	Matrix Spike	Soluble	Solid	DI Leach	
180-87845-B-4-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 274035

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-87768-2	JSF-CCR-TW10-1.5/3.5-20190314	Soluble	Solid	EPA 9056A	274008
180-87768-3	JSF-CCR-TW10-6.0/9.0-20190314	Soluble	Solid	EPA 9056A	274008
180-87768-4	JSF-CCR-TW10-12.0/13.5-20190314	Soluble	Solid	EPA 9056A	274008
180-87768-5	JSF-CCR-TW10-16.5/18.5-20190314	Soluble	Solid	EPA 9056A	274008
180-87768-6	JSF-CCR-TW10-21.0/24.0-20190314	Soluble	Solid	EPA 9056A	274008
180-87768-7	JSF-CCR-TW10-26.0/29.0-20190314	Soluble	Solid	EPA 9056A	274008
180-87768-8	JSF-CCR-TW10-31.5/33.5-20190314	Soluble	Solid	EPA 9056A	274008
MB 180-274008/1-A	Method Blank	Soluble	Solid	EPA 9056A	274008
LCS 180-274008/2-A	Lab Control Sample	Soluble	Solid	EPA 9056A	274008
180-87845-B-4-B MS	Matrix Spike	Soluble	Solid	EPA 9056A	274008
180-87845-B-4-C MSD	Matrix Spike Duplicate	Soluble	Solid	EPA 9056A	274008

Metals

Leach Batch: 273414

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-87768-2	JSF-CCR-TW10-1.5/3.5-20190314	SPLP East	Solid	EPA 1312	
180-87768-3	JSF-CCR-TW10-6.0/9.0-20190314	SPLP East	Solid	EPA 1312	
180-87768-4	JSF-CCR-TW10-12.0/13.5-20190314	SPLP East	Solid	EPA 1312	
180-87768-5	JSF-CCR-TW10-16.5/18.5-20190314	SPLP East	Solid	EPA 1312	
180-87768-6	JSF-CCR-TW10-21.0/24.0-20190314	SPLP East	Solid	EPA 1312	
180-87768-7	JSF-CCR-TW10-26.0/29.0-20190314	SPLP East	Solid	EPA 1312	
180-87768-8	JSF-CCR-TW10-31.5/33.5-20190314	SPLP East	Solid	EPA 1312	
LB 180-273414/1-B	Method Blank	SPLP East	Solid	EPA 1312	
LB 180-273414/1-C	Method Blank	SPLP East	Solid	EPA 1312	
180-87617-A-2-E MS	Matrix Spike	SPLP East	Solid	EPA 1312	
180-87617-A-2-F MSD	Matrix Spike Duplicate	SPLP East	Solid	EPA 1312	
180-87617-A-2-H MS	Matrix Spike	SPLP East	Solid	EPA 1312	

TestAmerica Pittsburgh

QC Association Summary

Client: Environmental Standards Inc.
Project/Site: JSF_CCR_20190314_1A

TestAmerica Job ID: 180-87768-1

Metals (Continued)

Leach Batch: 273414 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-87617-A-2-I MSD	Matrix Spike Duplicate	SPLP East	Solid	EPA 1312	

Prep Batch: 273549

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-87768-1	JSF-CCR-FB04-20190314	Total Recoverable	Water	3005A	
MB 180-273549/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 180-273549/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
490-170351-E-2-A MS	Matrix Spike	Total Recoverable	Water	3005A	
490-170351-E-2-B MSD	Matrix Spike Duplicate	Total Recoverable	Water	3005A	

Prep Batch: 273586

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-87768-2	JSF-CCR-TW10-1.5/3.5-20190314	Total/NA	Solid	7471B	
180-87768-3	JSF-CCR-TW10-6.0/9.0-20190314	Total/NA	Solid	7471B	
180-87768-4	JSF-CCR-TW10-12.0/13.5-20190314	Total/NA	Solid	7471B	
180-87768-5	JSF-CCR-TW10-16.5/18.5-20190314	Total/NA	Solid	7471B	
180-87768-6	JSF-CCR-TW10-21.0/24.0-20190314	Total/NA	Solid	7471B	
180-87768-7	JSF-CCR-TW10-26.0/29.0-20190314	Total/NA	Solid	7471B	
180-87768-8	JSF-CCR-TW10-31.5/33.5-20190314	Total/NA	Solid	7471B	
MB 180-273586/1-A	Method Blank	Total/NA	Solid	7471B	
LCS 180-273586/2-A	Lab Control Sample	Total/NA	Solid	7471B	

Prep Batch: 273596

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-87768-2	JSF-CCR-TW10-1.5/3.5-20190314	SPLP East	Solid	3010A	273414
180-87768-3	JSF-CCR-TW10-6.0/9.0-20190314	SPLP East	Solid	3010A	273414
180-87768-4	JSF-CCR-TW10-12.0/13.5-20190314	SPLP East	Solid	3010A	273414
180-87768-5	JSF-CCR-TW10-16.5/18.5-20190314	SPLP East	Solid	3010A	273414
180-87768-6	JSF-CCR-TW10-21.0/24.0-20190314	SPLP East	Solid	3010A	273414
180-87768-7	JSF-CCR-TW10-26.0/29.0-20190314	SPLP East	Solid	3010A	273414
180-87768-8	JSF-CCR-TW10-31.5/33.5-20190314	SPLP East	Solid	3010A	273414
LB 180-273414/1-B	Method Blank	SPLP East	Solid	3010A	273414
MB 180-273596/1-A	Method Blank	Total/NA	Solid	3010A	
LCS 180-273596/2-A	Lab Control Sample	Total/NA	Solid	3010A	
180-87617-A-2-E MS	Matrix Spike	SPLP East	Solid	3010A	273414
180-87617-A-2-F MSD	Matrix Spike Duplicate	SPLP East	Solid	3010A	273414

Prep Batch: 273605

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-87768-2	JSF-CCR-TW10-1.5/3.5-20190314	SPLP East	Solid	7470A	273414
180-87768-3	JSF-CCR-TW10-6.0/9.0-20190314	SPLP East	Solid	7470A	273414
180-87768-4	JSF-CCR-TW10-12.0/13.5-20190314	SPLP East	Solid	7470A	273414
180-87768-5	JSF-CCR-TW10-16.5/18.5-20190314	SPLP East	Solid	7470A	273414
180-87768-6	JSF-CCR-TW10-21.0/24.0-20190314	SPLP East	Solid	7470A	273414
180-87768-7	JSF-CCR-TW10-26.0/29.0-20190314	SPLP East	Solid	7470A	273414
180-87768-8	JSF-CCR-TW10-31.5/33.5-20190314	SPLP East	Solid	7470A	273414
LB 180-273414/1-C	Method Blank	SPLP East	Solid	7470A	273414
MB 180-273605/1-A	Method Blank	Total/NA	Solid	7470A	
LCS 180-273605/2-A	Lab Control Sample	Total/NA	Solid	7470A	
180-87617-A-2-H MS	Matrix Spike	SPLP East	Solid	7470A	273414
180-87617-A-2-I MSD	Matrix Spike Duplicate	SPLP East	Solid	7470A	273414

TestAmerica Pittsburgh

QC Association Summary

Client: Environmental Standards Inc.
Project/Site: JSF_CCR_20190314_1A

TestAmerica Job ID: 180-87768-1

Prep Batch: 273695

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-87768-2	JSF-CCR-TW10-1.5/3.5-20190314	Total/NA	Solid	3050B	
180-87768-3	JSF-CCR-TW10-6.0/9.0-20190314	Total/NA	Solid	3050B	
180-87768-4	JSF-CCR-TW10-12.0/13.5-20190314	Total/NA	Solid	3050B	
180-87768-5	JSF-CCR-TW10-16.5/18.5-20190314	Total/NA	Solid	3050B	
180-87768-6	JSF-CCR-TW10-21.0/24.0-20190314	Total/NA	Solid	3050B	
180-87768-7	JSF-CCR-TW10-26.0/29.0-20190314	Total/NA	Solid	3050B	
180-87768-8	JSF-CCR-TW10-31.5/33.5-20190314	Total/NA	Solid	3050B	
MB 180-273695/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 180-273695/2-A	Lab Control Sample	Total/NA	Solid	3050B	
180-87845-A-4-E MS	Matrix Spike	Total/NA	Solid	3050B	
180-87845-A-4-F MSD	Matrix Spike Duplicate	Total/NA	Solid	3050B	

Analysis Batch: 273704

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-87768-2	JSF-CCR-TW10-1.5/3.5-20190314	Total/NA	Solid	EPA 7471B	273586
180-87768-3	JSF-CCR-TW10-6.0/9.0-20190314	Total/NA	Solid	EPA 7471B	273586
180-87768-4	JSF-CCR-TW10-12.0/13.5-20190314	Total/NA	Solid	EPA 7471B	273586
180-87768-5	JSF-CCR-TW10-16.5/18.5-20190314	Total/NA	Solid	EPA 7471B	273586
180-87768-6	JSF-CCR-TW10-21.0/24.0-20190314	Total/NA	Solid	EPA 7471B	273586
180-87768-7	JSF-CCR-TW10-26.0/29.0-20190314	Total/NA	Solid	EPA 7471B	273586
180-87768-8	JSF-CCR-TW10-31.5/33.5-20190314	Total/NA	Solid	EPA 7471B	273586
MB 180-273586/1-A	Method Blank	Total/NA	Solid	EPA 7471B	273586
LCS 180-273586/2-A	Lab Control Sample	Total/NA	Solid	EPA 7471B	273586

Analysis Batch: 273711

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-87768-2	JSF-CCR-TW10-1.5/3.5-20190314	SPLP East	Solid	EPA 7470A	273605
180-87768-3	JSF-CCR-TW10-6.0/9.0-20190314	SPLP East	Solid	EPA 7470A	273605
180-87768-4	JSF-CCR-TW10-12.0/13.5-20190314	SPLP East	Solid	EPA 7470A	273605
180-87768-5	JSF-CCR-TW10-16.5/18.5-20190314	SPLP East	Solid	EPA 7470A	273605
180-87768-6	JSF-CCR-TW10-21.0/24.0-20190314	SPLP East	Solid	EPA 7470A	273605
180-87768-7	JSF-CCR-TW10-26.0/29.0-20190314	SPLP East	Solid	EPA 7470A	273605
180-87768-8	JSF-CCR-TW10-31.5/33.5-20190314	SPLP East	Solid	EPA 7470A	273605
LB 180-273414/1-C	Method Blank	SPLP East	Solid	EPA 7470A	273605
MB 180-273605/1-A	Method Blank	Total/NA	Solid	EPA 7470A	273605
LCS 180-273605/2-A	Lab Control Sample	Total/NA	Solid	EPA 7470A	273605
180-87617-A-2-H MS	Matrix Spike	SPLP East	Solid	EPA 7470A	273605
180-87617-A-2-I MSD	Matrix Spike Duplicate	SPLP East	Solid	EPA 7470A	273605

Analysis Batch: 273763

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-87768-1	JSF-CCR-FB04-20190314	Total Recoverable	Water	EPA 6020A	273549
180-87768-2	JSF-CCR-TW10-1.5/3.5-20190314	SPLP East	Solid	EPA 6020A	273596
180-87768-3	JSF-CCR-TW10-6.0/9.0-20190314	SPLP East	Solid	EPA 6020A	273596
180-87768-4	JSF-CCR-TW10-12.0/13.5-20190314	SPLP East	Solid	EPA 6020A	273596
180-87768-5	JSF-CCR-TW10-16.5/18.5-20190314	SPLP East	Solid	EPA 6020A	273596
180-87768-6	JSF-CCR-TW10-21.0/24.0-20190314	SPLP East	Solid	EPA 6020A	273596
180-87768-7	JSF-CCR-TW10-26.0/29.0-20190314	SPLP East	Solid	EPA 6020A	273596
180-87768-8	JSF-CCR-TW10-31.5/33.5-20190314	SPLP East	Solid	EPA 6020A	273596
LB 180-273414/1-B	Method Blank	SPLP East	Solid	EPA 6020A	273596
MB 180-273549/1-A	Method Blank	Total Recoverable	Water	EPA 6020A	273549
MB 180-273596/1-A	Method Blank	Total/NA	Solid	EPA 6020A	273596
LCS 180-273549/2-A	Lab Control Sample	Total Recoverable	Water	EPA 6020A	273549

TestAmerica Pittsburgh

QC Association Summary

Client: Environmental Standards Inc.
Project/Site: JSF_CCR_20190314_1A

TestAmerica Job ID: 180-87768-1

Metals (Continued)

Analysis Batch: 273763 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 180-273596/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	273596
180-87617-A-2-E MS	Matrix Spike	SPLP East	Solid	EPA 6020A	273596
180-87617-A-2-F MSD	Matrix Spike Duplicate	SPLP East	Solid	EPA 6020A	273596
490-170351-E-2-A MS	Matrix Spike	Total Recoverable	Water	EPA 6020A	273549
490-170351-E-2-B MSD	Matrix Spike Duplicate	Total Recoverable	Water	EPA 6020A	273549

Prep Batch: 273815

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-87768-1	JSF-CCR-FB04-20190314	Total/NA	Water	7470A	8
MB 180-273815/1-A	Method Blank	Total/NA	Water	7470A	9
LCS 180-273815/2-A	Lab Control Sample	Total/NA	Water	7470A	10
180-87767-G-5-C MS	Matrix Spike	Total/NA	Water	7470A	11
180-87767-G-5-D MSD	Matrix Spike Duplicate	Total/NA	Water	7470A	

Analysis Batch: 273888

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-87768-1	JSF-CCR-FB04-20190314	Total/NA	Water	EPA 7470A	12
MB 180-273815/1-A	Method Blank	Total/NA	Water	EPA 7470A	13
LCS 180-273815/2-A	Lab Control Sample	Total/NA	Water	EPA 7470A	
180-87767-G-5-C MS	Matrix Spike	Total/NA	Water	EPA 7470A	
180-87767-G-5-D MSD	Matrix Spike Duplicate	Total/NA	Water	EPA 7470A	

Analysis Batch: 274116

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-170351-E-2-B MSD	Matrix Spike Duplicate	Total Recoverable	Water	EPA 6020A	273549

Analysis Batch: 274215

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-87768-2	JSF-CCR-TW10-1.5/3.5-20190314	Total/NA	Solid	EPA 6020A	273695
180-87768-3	JSF-CCR-TW10-6.0/9.0-20190314	Total/NA	Solid	EPA 6020A	273695
180-87768-4	JSF-CCR-TW10-12.0/13.5-20190314	Total/NA	Solid	EPA 6020A	273695
180-87768-5	JSF-CCR-TW10-16.5/18.5-20190314	Total/NA	Solid	EPA 6020A	273695
180-87768-6	JSF-CCR-TW10-21.0/24.0-20190314	Total/NA	Solid	EPA 6020A	273695
180-87768-7	JSF-CCR-TW10-26.0/29.0-20190314	Total/NA	Solid	EPA 6020A	273695
180-87768-8	JSF-CCR-TW10-31.5/33.5-20190314	Total/NA	Solid	EPA 6020A	273695
MB 180-273695/1-A	Method Blank	Total/NA	Solid	EPA 6020A	273695
LCS 180-273695/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	273695
180-87845-A-4-E MS	Matrix Spike	Total/NA	Solid	EPA 6020A	273695
180-87845-A-4-F MSD	Matrix Spike Duplicate	Total/NA	Solid	EPA 6020A	273695

Prep Batch: 274272

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-87768-2	JSF-CCR-TW10-1.5/3.5-20190314	Total/NA	Solid	3050B	
180-87768-3	JSF-CCR-TW10-6.0/9.0-20190314	Total/NA	Solid	3050B	
180-87768-4	JSF-CCR-TW10-12.0/13.5-20190314	Total/NA	Solid	3050B	
180-87768-5	JSF-CCR-TW10-16.5/18.5-20190314	Total/NA	Solid	3050B	
180-87768-6	JSF-CCR-TW10-21.0/24.0-20190314	Total/NA	Solid	3050B	
180-87768-7	JSF-CCR-TW10-26.0/29.0-20190314	Total/NA	Solid	3050B	
180-87768-8	JSF-CCR-TW10-31.5/33.5-20190314	Total/NA	Solid	3050B	
MB 180-274272/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 180-274272/2-A	Lab Control Sample	Total/NA	Solid	3050B	

TestAmerica Pittsburgh

QC Association Summary

Client: Environmental Standards Inc.
Project/Site: JSF_CCR_20190314_1A

TestAmerica Job ID: 180-87768-1

Metals (Continued)

Prep Batch: 274272 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-87845-A-4-H MS	Matrix Spike	Total/NA	Solid	3050B	
180-87845-A-4-I MSD	Matrix Spike Duplicate	Total/NA	Solid	3050B	

Analysis Batch: 274454

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-87768-2	JSF-CCR-TW10-1.5/3.5-20190314	Total/NA	Solid	EPA 6020A	274272
180-87768-3	JSF-CCR-TW10-6.0/9.0-20190314	Total/NA	Solid	EPA 6020A	274272
180-87768-4	JSF-CCR-TW10-12.0/13.5-20190314	Total/NA	Solid	EPA 6020A	274272
180-87768-5	JSF-CCR-TW10-16.5/18.5-20190314	Total/NA	Solid	EPA 6020A	274272
180-87768-6	JSF-CCR-TW10-21.0/24.0-20190314	Total/NA	Solid	EPA 6020A	274272
180-87768-7	JSF-CCR-TW10-26.0/29.0-20190314	Total/NA	Solid	EPA 6020A	274272
180-87768-8	JSF-CCR-TW10-31.5/33.5-20190314	Total/NA	Solid	EPA 6020A	274272
MB 180-274272/1-A	Method Blank	Total/NA	Solid	EPA 6020A	274272
LCS 180-274272/2-A	Lab Control Sample	Total/NA	Solid	EPA 6020A	274272
180-87845-A-4-H MS	Matrix Spike	Total/NA	Solid	EPA 6020A	274272
180-87845-A-4-I MSD	Matrix Spike Duplicate	Total/NA	Solid	EPA 6020A	274272

General Chemistry

Analysis Batch: 273369

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-87768-2	JSF-CCR-TW10-1.5/3.5-20190314	Total/NA	Solid	2540G	
180-87768-3	JSF-CCR-TW10-6.0/9.0-20190314	Total/NA	Solid	2540G	
180-87768-4	JSF-CCR-TW10-12.0/13.5-20190314	Total/NA	Solid	2540G	
180-87768-5	JSF-CCR-TW10-16.5/18.5-20190314	Total/NA	Solid	2540G	
180-87768-6	JSF-CCR-TW10-21.0/24.0-20190314	Total/NA	Solid	2540G	
180-87768-7	JSF-CCR-TW10-26.0/29.0-20190314	Total/NA	Solid	2540G	
180-87768-4 DU	JSF-CCR-TW10-12.0/13.5-20190314	Total/NA	Solid	2540G	

Analysis Batch: 273443

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-87768-8	JSF-CCR-TW10-31.5/33.5-20190314	Total/NA	Solid	2540G	
180-87821-A-7 DU	Duplicate	Total/NA	Solid	2540G	

Analysis Batch: 273533

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-87768-2	JSF-CCR-TW10-1.5/3.5-20190314	Total/NA	Solid	EPA 9045D	
180-87768-3	JSF-CCR-TW10-6.0/9.0-20190314	Total/NA	Solid	EPA 9045D	
180-87768-4	JSF-CCR-TW10-12.0/13.5-20190314	Total/NA	Solid	EPA 9045D	
180-87768-5	JSF-CCR-TW10-16.5/18.5-20190314	Total/NA	Solid	EPA 9045D	
180-87768-6	JSF-CCR-TW10-21.0/24.0-20190314	Total/NA	Solid	EPA 9045D	
180-87768-7	JSF-CCR-TW10-26.0/29.0-20190314	Total/NA	Solid	EPA 9045D	
LCS 180-273533/1	Lab Control Sample	Total/NA	Solid	EPA 9045D	
180-87768-2 DU	JSF-CCR-TW10-1.5/3.5-20190314	Total/NA	Solid	EPA 9045D	

Analysis Batch: 273683

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-87768-3	JSF-CCR-TW10-6.0/9.0-20190314	Total/NA	Solid	EPA-Lloyd Kahn	
180-87768-4	JSF-CCR-TW10-12.0/13.5-20190314	Total/NA	Solid	EPA-Lloyd Kahn	
180-87768-5	JSF-CCR-TW10-16.5/18.5-20190314	Total/NA	Solid	EPA-Lloyd Kahn	

TestAmerica Pittsburgh

QC Association Summary

Client: Environmental Standards Inc.
Project/Site: JSF_CCR_20190314_1A

TestAmerica Job ID: 180-87768-1

General Chemistry (Continued)

Analysis Batch: 273683 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-87768-7	JSF-CCR-TW10-26.0/29.0-20190314	Total/NA	Solid	EPA-Lloyd Kahn	
MB 180-273683/3	Method Blank	Total/NA	Solid	EPA-Lloyd Kahn	
LCS 180-273683/4	Lab Control Sample	Total/NA	Solid	EPA-Lloyd Kahn	
180-87617-C-2 MS	Matrix Spike	Total/NA	Solid	EPA-Lloyd Kahn	
180-87617-C-2 MSD	Matrix Spike Duplicate	Total/NA	Solid	EPA-Lloyd Kahn	
180-87617-C-2 DU	Duplicate	Total/NA	Solid	EPA-Lloyd Kahn	

Analysis Batch: 274201

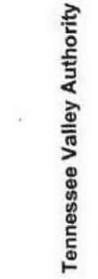
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-87768-8	JSF-CCR-TW10-31.5/33.5-20190314	Total/NA	Solid	EPA 9045D	
LCS 180-274201/1	Lab Control Sample	Total/NA	Solid	EPA 9045D	
180-87768-8 DU	JSF-CCR-TW10-31.5/33.5-20190314	Total/NA	Solid	EPA 9045D	

Analysis Batch: 274261

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-87768-2	JSF-CCR-TW10-1.5/3.5-20190314	Total/NA	Solid	EPA-Lloyd Kahn	
180-87768-6	JSF-CCR-TW10-21.0/24.0-20190314	Total/NA	Solid	EPA-Lloyd Kahn	
180-87768-8	JSF-CCR-TW10-31.5/33.5-20190314	Total/NA	Solid	EPA-Lloyd Kahn	
MB 180-274261/3	Method Blank	Total/NA	Solid	EPA-Lloyd Kahn	
LCS 180-274261/4	Lab Control Sample	Total/NA	Solid	EPA-Lloyd Kahn	
180-87990-C-1 MS	Matrix Spike	Total/NA	Solid	EPA-Lloyd Kahn	
180-87990-C-1 MSD	Matrix Spike Duplicate	Total/NA	Solid	EPA-Lloyd Kahn	
180-87990-C-1 DU	Duplicate	Total/NA	Solid	EPA-Lloyd Kahn	

Analysis Batch: 274541

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-87768-1	JSF-CCR-FB04-20190314	Total/NA	Water	EPA 9060A	
MB 180-274541/6	Method Blank	Total/NA	Water	EPA 9060A	
LCS 180-274541/4	Lab Control Sample	Total/NA	Water	EPA 9060A	
LCSD 180-274541/5	Lab Control Sample Dup	Total/NA	Water	EPA 9060A	



TVA Environmental Investigations

Chain-of-Custody / Analytical Request Document

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

COOLER No.:	1	of	4																				
COC No.:	JSF CCR 20190314 1A																						
1 of 1 Pages																							
Task Desc:	JSF_CCR																						
Required Ship to Lab: TestAmerica Pittsburgh 301 Alpha Drive Pittsburgh, PA 15238																							
Site ID #:	JOHN SEIVER FOSSIL PLANT																						
Project #:	18016862																						
Site Address:	611 Old Highway 70 S																						
City	Rogersville	State, Zip:	TN 37857																				
Site Pm Name:	Roy Quinn																						
Phone/Fax:	423-751-3175/3																						
Site Pm Email:	jquinn@tama.com																						
Lab Manager Contact Information Gail Lage 615-301-5741/615-728-3404 Gail.Lage@testamericainc.com																							
Required Project Information: Sampling Company: Sample: Sampling Company: Address: Warehouse Row North 1110 Market Street, Suite 214A City/State: Chattanooga, TN Phone: 423 600-5347																							
Sampling Team Number:	1																						
Send ED00/Hard Copy to:	Via email to jquinn@tama.com																						
Analysis Turnaround Time <input type="checkbox"/> 24 Hours <input type="checkbox"/> 3 Business Days <input type="checkbox"/> 5 Business Days <input checked="" type="checkbox"/> 10 Business Days (Standard)																							
Turnaround Days <small>TAT if different from above</small> <input type="checkbox"/> Working Days																							
Sample Depth <table border="1"> <thead> <tr> <th>Depth Unit</th> <th>Select Unit</th> <th>Start Depth</th> <th>End Depth</th> <th>MATRIX CODE</th> <th>SAMPLE TYPE</th> <th>SAMPLE DATE</th> <th>SAMPLE TIME</th> <th>CONTAINERS</th> <th>Comments/ Lab Sample I.D.</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td>G=GRAB C=COMP</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>				Depth Unit	Select Unit	Start Depth	End Depth	MATRIX CODE	SAMPLE TYPE	SAMPLE DATE	SAMPLE TIME	CONTAINERS	Comments/ Lab Sample I.D.					G=GRAB C=COMP					
Depth Unit	Select Unit	Start Depth	End Depth	MATRIX CODE	SAMPLE TYPE	SAMPLE DATE	SAMPLE TIME	CONTAINERS	Comments/ Lab Sample I.D.														
				G=GRAB C=COMP																			
ITEMS #	SAMPLE ID Samples IDs MUST BE UNIQUE		SAMPLE LOCATION																				
1	JSF-CCR-FB04-20190314		TW10	NA NA W G	FB	3/14/2019	11:30	4															
2	JSF-CCR-TW10-1.5/3.5-20190314		TW10	1.5 3.5 S G	N	3/14/2019	12:02	5															
3	JSF-CCR-TW10-8.0/9.0-20190314		TW10	6.0 9.0 S G	N	3/14/2019	13:49	5															
4	JSF-CCR-TW10-12.0/13.5-20190314		TW10	12.0 13.5 S G	N	3/14/2019	14:23	5															
5	JSF-CCR-TW10-16.5/18.5-20190314		TW10	16.5 18.5 S G	N	3/14/2019	15:12	5															
6	JSF-CCR-TW10-21.0/24.0-20190314		TW10	21.0 24.0 S G	N	3/14/2019	16:02	5															
7	JSF-CCR-TW10-26.0/29.0-20190314		TW10	26.0 29.0 S G	N	3/14/2019	16:37	5															
8	JSF-CCR-TW10-31.5/33.5-20190314		TW10	31.5 33.5 S G	N	3/14/2019	17:23	5															
Additional Comments/Special Instructions: Additional volume collected should be used for MS/MSDs. Perform MS/MSD on sample identified above Anions – unpreserved; Metals – preserved w/ HNO3 to pH<2 TOC Preserved with H2SO4 to pH<2																							
RELINQUISHED BY / AFFILIATION Suanna Bolden (Stanleic) <i>SB</i> 3/15/19 3/15/19																							
DATE TIME ACCEPTED BY / AFFILIATION Suanna Bolden (Stanleic) <i>SB</i> 3/16/19 09:00 3/16/19 09:00 3/16/19																							
DATE TIME TIME Sample Receipt Conditions Suanna Bolden (Stanleic) <i>SB</i> 3/15/19 09:00 3/16/19 09:00 3/16/19																							
Temperature in °C FedEx <i>SB</i> 3/15/19																							
Sample Intact? FedEx <i>SB</i> 3/15/19																							



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	4
COC No.:	JSF CCR 20190314_1A		
Task Desc.:	JSF CCR		
COOLER No.:	2	of	4
COC No.:	JSF CCR 20190314_1A		
Task Desc.:	JSF CCR		
Required Project Information:			
Lab Name:	TestAmerica Pittsburgh		
Lab Address:	301 Alpha Drive Pittsburgh, PA 15238		
Project #:	18019862		
Site Address:	6111 Old Highway 70 S Roxbury, PA		
City:	Roy Quinn		
Site PM Name:	Roy Quinn		
Site PM Email:	lquinn@tva.gov		
Phone/Fax:	423-751-3753		
Lab Manager Contact Information			
Lab PM:			
Phone/Fax:	615-301-5741/615-726-3404		
Lab Email:	Gail.Lage@tva.farmington.tn.gov		
Required Sampler Information:			
Sampler:	S. Bolden and J. Myer		
Sampling Company:	Stantec		
Address:	Warehouse Row North 1110 Market Street, Suite 214A Chattanooga, TN		
City/State:			
Phone:	423.808.5347		
Analysis Turnaround Time			
<input type="checkbox"/> DAILY/24 HRS <input checked="" type="checkbox"/> WORKING DAYS			
<small>TAT if different from Below</small>			
<input type="checkbox"/> 24 Hours <input type="checkbox"/> 3 Business Days <input type="checkbox"/> 5 Business Days <input checked="" type="checkbox"/> 10 Business Days (Standard)			
MS/MSD			
Sample Depth			
Depth	Select Unit	Start Depth	End Depth
MATRIX CODE			
SAMPLE TYPE			
SAMPLE DATE			
SAMPLE TIME			
CONTAINERS			
# OF CONTAINERS			
Comments/ Lab Sample I.D.			
ITEMS #			
SAMPLE ID			
SAMPLE LOCATION			
G=GRAB C=COMP			
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1202			
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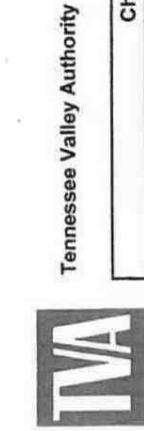
Tennessee Valley Authority

TVA Environmental Investigations

Chain-of-Custody / Analytical Request Document

Chairman of Committee on ECAI DOCUMENT All relevant fields owing have completed and submitted

Required Ship to Lab:		Required Project Information:		Required Sampler Information	
Lab Name:	TestAmerica Pittsburgh	Site ID #:	JOHN SEVIER FOSSIL PLANT	Sampler:	S. Bolden and J. Myer
Lab Address:	301 Alpha Drive Pittsburgh, PA 15238	Project #:	18916962	Sampling Company:	Stantec
Site Address:	611 Old Highway 70 S	Address:		Warehouse Row North 110 Market Street Suite 214A	
City:	Rogersville	State, Zip:	TK 37857	City/State:	Chattanooga, TN
Site P/M Name:	Roy Quinn	Sampling Team Number:		Phone:	423 860-5347
Phone/Fax:	423-751-3753	Send ED/HD Copy to:			
Site P/M Email:	Gail.Lage@testamericainc.com				
Lab Manager Contact Information		Analysis Turnaround Time		Working Days	
Lab P/M:	Gail Lage 615-301-5741/615-726-3404	TAT if different from below			
Phone/Fax:		<input type="checkbox"/> 24 Hours			
Lab Email:	Gail.Lage@testamericainc.com	<input type="checkbox"/> 3 Business Days			
		<input type="checkbox"/> 5 Business Days			
		<input checked="" type="checkbox"/> 10 Business Days (Standard)			
		CALS		MS/MSD	
#	SAMPLE ID	SAMPLE LOCATION	SAMPLE DATE	SAMPLE TIME	CONTAINERS
ITEMS	Samples IDs MUST BE UNIQUE	Start Depth	End Depth	MATRIX CODE	Comments/ Lab Sample I.D.
1	JSF-GCR-FB04-20190314	TW10	NA	W G	3/14/2019 1130 4
2	JSF-GCR-TW10-1-5/5-20190314	TW10	1.5	3.5 S G	3/14/2019 1202 5
3	JSF-GCR-TW10-6-0/0-0-20190314	TW10	6.0	9.0 S G	3/14/2019 1349 5
4	JSF-GCR-TW10-12/0/13.5-20190314	TW10	12.0	13.5 S G	3/14/2019 1423 5
5	JSF-GCR-TW10-16.5/18.5-20190314	TW10	16.5	18.5 S G	3/14/2019 1512 5
6	JSF-GCR-TW10-21.0/24.0-20190314	TW10	21.0	24.0 S G	3/14/2019 1602 5
7	JSF-GCR-TW10-26.0/29.0-20190314	TW10	26.0	29.0 S G	3/14/2019 1637 5
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Additional Comments/Special Instructions:		Suzanna Bolden (Stantec)	DATE	TIME	ACCEPTED BY / AFFILIATION
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Perform MS/MSD on sample identified above					
Anions - unpreserved; Metals - preserved w/ HNO3 to pH<2					
TOC Preserved with H2SO4 to pH<2					
ShIPPING METHOD		SAMPLER NAME AND SIGNATURE			
FedEx		Suzanna Bolden John Myer			
Temperature In °C		Temperature In °F			
Sample on Ice?		Sample in Ice?			
Temp/Brake?		Temp/Brake?			



TVA Environmental Investigations

Chain-of-Custody / Analytical Request Document

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

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Login Sample Receipt Checklist

Client: Environmental Standards Inc.

Job Number: 180-87768-1

Login Number: 87768

List Source: TestAmerica Pittsburgh

List Number: 1

Creator: Say, Thomas C

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	