ENVIRONMENTAL STANDARDS

Setting the Standards for Innovative Environmental Solutions

Data Validation Report
Tennessee Valley Authority
John Sevier Fossil Plant
Environmental Investigation Plan
Background Soil Samples

This validation report was revised to update the the Sample Identification of laboratory sample 180-86109-3 based on the revised Chain-of-Custody provided.

This quality assurance (QA) review is based upon an examination of the data generated from the analyses of the 14 sediment samples and three aqueous blanks collected on January 23 and 24, 2019, at the Tennessee Valley Authority (TVA) John Sevier Fossil Plant facility. These samples were collectively analyzed by TestAmerica Laboratories, Inc. (TestAmerica), of Pittsburgh, Pennsylvania, for total metals by SW-846 Method 6020A; for total mercury by SW-846 Methods 7470A/7471B; for anions (specifically, chloride, fluoride, and sulfate) by SW-846 Method 9056A; and for pH by SW-846 Method 9045D.

This review was performed in accordance with the Environmental Investigation Plan for the Tennessee Valley Authority John Sevier Fossil Plant Environmental Investigation (JSF EIP, Revision 3, October 2018). This review was performed with guidance from the National Functional Guidelines for Inorganic Data Review (US EPA, October 2004); the US EPA Region IV Environmental Investigations Standard Operating Procedures and Quality Assurance Manual (November 2001); and the US EPA Region IV Data Validation Standard Operating Procedures. These validation guidance documents specifically address analyses performed in accordance with the Contract Laboratory Program (CLP) analytical methods and are not completely applicable to the type of analyses and analytical protocols performed for the SW-846 Methods utilized by the laboratory for these samples. Environmental Standards, Inc. (Environmental Standards) used professional judgment to determine the usability of the analytical results and compliance relative to the SW-846 Methods utilized by the laboratory.

Summary

The analytical results and associated laboratory quality control (QC) samples were reviewed to determine the integrity of the reported analytical results and to ensure that the data met the established data quality objectives. This QA review includes all samples in TestAmerica Job Number 180-86109-1.

The samples that have undergone Stage 4 data validation are listed below:

Sample Identification	Laboratory Sample Identification	Job Number	Matrix	Date Sample Collected	Parameter(s) Examined
JSF-BS-BG12-0.8/2.8-20190123	180-86109-1	180-86109-1	Sed	1/23/19	M, Hg, A, pH
JSF-BS-BG12-5.0/10.0-20190123	180-86109-2	180-86109-1	Sed	1/23/19	M, Hg, A, pH
JSF-BS-BG12-10.75/12.75-20190123	180-86109-3	180-86109-1	Sed	1/23/19	M, Hg, A, pH
JSF-BS-BG12-13.5/15.0-20190123	180-86109-4	180-86109-1	Sed	1/23/19	M, Hg, A, pH
JSF-BS-BG12-0.0/0.5-20190123	180-86109-5	180-86109-1	Sed	1/23/19	M, Hg, A, pH
JSF-BS-FB01-20190123 (Field Blank)	180-86109-6	180-86109-1	Aq	1/23/19	M, Hg, A
JSF-BS-BG11-1.1-3.1-20190124	180-86109-7	180-86109-1	Sed	1/24/19	M, Hg, A, pH
JSF-BS-BG11-5.5/8.5-20190124	180-86109-8	180-86109-1	Sed	1/24/19	M, Hg, A, pH
JSF-BS-FD01-20190124 (Field Duplicate of JSF-BG11-5.5/8.5-20190124)	180-86109-9	180-86109-1	Sed	1/24/19	M, Hg, A, pH
JSF-BS-BG12-11-11.3/13.3-20190124	180-86109-10	180-86109-1	Sed	1/24/19	M, Hg, A, pH
JSF-BS-BG11-0.0/0.5-20190124	180-86109-11	180-86109-1	Sed	1/24/19	M, Hg, A, pH
JSF-BS-EB01-20190124 (Equipment Blank)	180-86109-12	180-86109-1	Aq	1/24/19	M, Hg, A
JSF-BS-FB02-20190124 (Field Blank)	180-86109-13	180-86109-1	Aq	1/24/19	M, Hg, A
JSF-BS-BG10-1.4/3.4-20190124	180-86109-14	180-86109-1	Sed	1/24/19	M, Hg, A, pH
JSF-BS-BG10-6.5/8.5-20190124	180-86109-15	180-86109-1	Sed	1/24/19	M, Hg, A, pH
JSF-BS-BG10-10.5/12.5-20190124	180-86109-16	180-86109-1	Sed	1/24/19	M, Hg, A, pH
JSF-BS-BG10-0.0/0.5-20190124	180-86109-17	180-86109-1	Sed	1/24/19	M, Hg, A, pH

Parameters Examined

M - Total Metals by SW-846 Method 6020A.
Hg - Total Mercury by SW-846 Methods 7470A/7471B.
A - Anions (specifically, chloride, fluoride, and sulfate) by SW-846 Method 9056A.
pH - pH by SW-846 Method 9045D.
Sed - Sediment.
Aq - Aqueous.

Items Reviewed	
Holding Times	Instrument Tuning and Calibrations
Sample Preservation	Reporting Limit (RL) Standard Recoveries
Chain-of-Custody (COC) Record and Case Narrative	Internal Standard Recoveries
Blank Results	Serial Dilution Analysis
Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results	Post-Digestion Spike Results
Laboratory Control Sample (LCS) Results	Sample Preparation
Laboratory and Field Duplicate Results	Analytical Sequence
Quantitation of Positive Results	

Comments and Exceptions

- All analyses performed for the sampling event were in compliance with the requirements set forth in the EIP.

Qualifier Summary

Analyte(s)	Job Number	Sample(s)	Validation Qualifier(s)	Reason(s) for Qualification
silver	180-86109-1	JSF-BS-BG12-10.75/12.75-20190123, JSF-BS-BG12-0.0/0.5-20190123, and JSF-BS-BG10-0.0/0.5-20190124	U*	BE, BF
molybdenum	180-86109-1	JSF-BS-BG12-5.0/10.0-20190123, JSF-BS-BG12-13.5/15.0-20190123, and JSF-BS-BG12-0.0/0.5-20190123	U*	BF, BL
molybdenum	180-86109-1	JSF-BS-BG12-10.75/12.75-20190123 and JSF-BS-BG12-0.8/2.8-20190123	U*	BF
molybdenum	180-86109-1	JSF-BS-BG11-1.1/3.1-20190124, JSF-BS-BG11-5.5/8.5-20190124, and JSF-BS-FD01-20190124	U*	BL
fluoride	180-86109-1	JSF-BS-BG12-5.0/10.0-20190123, JSF-BS-BG12-10.75/12.75-20190123, JSF-BS-BG12-13.5/15.0-20190123, JSF-BS-BG11-1.1/3.1-20190124, JSF-BS-BG11-11.3/13.3-30190124, and JSF-BS-BG11-0.0/0.5-20190124	J	M-, MP

Analyte(s)	Job Number	Sample(s)	Validation Qualifier(s)	Reason(s) for Qualification
fluoride	180-86109-1	JSF-BS-BG12-0.8/2.8-20190123, JSF-BS-BG12-0.0/0.5-20190123, JSF-BS-BG11-5.5/8.8-20190124, JSF-BS-FD01-20190124, JSF-BS-BG10-1.4/3.4-20190124, JSF-BS-BG10-6.5/8.5-20190124, JSF-BS-BG10-10.5/12.5-20190124, and JSF-BS-BG10-0.0/0.5-20190124	UJ	M-
cobalt	180-86109-1	JSF-BG11-5.5/8.5-20190124 and JSF-BS-FD01-20190124	J	FD

Unless otherwise qualified, all positive results reported between the method detection limit (MDL) and quantitation limit (QL) should be considered estimated and have been flagged “J” on the data tables. (Reason Code: RL)

Review performed by: Allison M. Felix, Senior Quality Assurance Chemist
Review reviewed by: Amanda J. Cover, Senior Quality Assurance Chemist
Review approved by: Andrew L. Piasecki, Senior Quality Assurance Chemist
Review approved by: Rock J. Vitale, CEAC, Technical Director of Chemistry/Principal
Date review completed: 5/7/19

SECTION 2

ANALYTICAL RESULTS

INORGANIC DATA QUALIFIERS

U* This result should be considered “not-detected” because it was detected in a rinsate blank or laboratory blank at a similar level.

UR Unreliable reporting limit; analyte may or may not be present in sample.

R Unreliable positive result; analyte may or may not be present in sample.

J Quantitation is approximate due to limitations identified during data validation.

UJ This analyte was not detected, but the reporting limit may or may not be higher due to a bias identified during data validation.

REASON CODES AND EXPLANATIONS

Reason Code	Explanation
BE	Equipment blank contamination. The result should be considered “not-detected.”
BF	Field blank contamination. The result should be considered “not-detected.”
BL	Laboratory blank contamination. The result should be considered “not-detected.”
BN	Negative laboratory blank contamination.
C	Initial and/or Continuing Calibration issue, indeterminate bias.
C+	Initial and/or Continuing Calibration issue. The result may be biased high.
C-	Initial and/or Continuing Calibration issue. The result may be biased low.
FD	Field duplicate imprecision.
FG	Total versus Dissolved Imprecision.
H	Holding time exceeded.
I	Internal standard recovery outside of acceptance limits.
L	LCS and LCSD recoveries outside of acceptance limits, indeterminate bias.
L+	LCS and/or LCSD recoveries outside of acceptance limits. The result may be biased high.
L-	LCS and/or LCSD recoveries outside of acceptance limits. The result may be biased low.
LD	Laboratory duplicate imprecision.
LP	LCS/LCSD imprecision.
M	MS and MSD recoveries outside of acceptance limits, indeterminate bias.
M+	MS and/or MSD recoveries outside of acceptance limits. The result may be biased high.
M-	MS and/or MSD recoveries outside of acceptance limits. The result may be biased low.
MP	MS/MSD imprecision.
P	Post-digestion spike recoveries outside of acceptance limits, indeterminate bias.
P+	Post-digestion spike recovery outside of acceptance limits. The result may be biased high.
P-	Post-digestion spike recovery outside of acceptance limits. The result may be biased low.
Q	Chemical Preservation issue.
R	RL standards outside of acceptance limits, indeterminate bias.
R+	RL standard(s) outside of acceptance limits. The result may be biased high.
R-	RL standard(s) outside of acceptance limits. The result may be biased low.
RL	Reported result between the MDL and the QL.
T	Temperature preservation issue.
SD	Serial Dilution imprecision.
X	Percent solids < 50%.
Y+	Chemical Yield outside of acceptance limits. The result may be biased high.
Y-	Chemical yield outside of acceptance limits. The result may be biased low.
Z	ICP or ICP/MS Interference.
ZZ	Other.

TVA TDEC Program
Facility: John Sevier Fossil Plant
SDG: 180861091

Lab Sample ID	180-86109-1
Sys Sample Code	JSF-BS-BG12-0.8/2.8-20190123
Sample Name	JSF-BS-BG12-0.8/2.8-20190123
Sample Date	1/23/2019 11:19:00 AM
Location	JSF-BG12
Sample Type	N
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
	Percent Moisture:			%	16.2									
SW-846 6020A	Antimony	7440-36-0	T	MG/KG	0.0876	J	RL	0.0740	0.0740	0.239	Y	Yes	1	DRY
	Arsenic	7440-38-2	T	MG/KG	4.21			0.0310	0.0310	0.119	Y	Yes	1	DRY
	Barium	7440-39-3	T	MG/KG	100			0.0680	0.0680	1.19	Y	Yes	1	DRY
	Beryllium	7440-41-7	T	MG/KG	1.42			0.00895	0.00895	0.119	Y	Yes	1	DRY
	Boron	7440-42-8	T	MG/KG	1.53	J	RL	0.910	0.910	9.55	Y	Yes	1	DRY
	Cadmium	7440-43-9	T	MG/KG		U		0.0203	0.0203	0.119	N	Yes	1	DRY
	Calcium	7440-70-2	T	MG/KG	2990			10.7	10.7	59.7	Y	Yes	1	DRY
	Chromium	7440-47-3	T	MG/KG	11.9			0.0787	0.0787	0.239	Y	Yes	1	DRY
	Cobalt	7440-48-4	T	MG/KG	11.1			0.00990	0.00990	0.0597	Y	Yes	1	DRY
	Copper	7440-50-8	T	MG/KG	5.28			0.135	0.135	0.239	Y	Yes	1	DRY
	Lead	7439-92-1	T	MG/KG	10.3			0.0418	0.0418	0.119	Y	Yes	1	DRY
	Lithium	7439-93-2	T	MG/KG	8.29			0.329	0.329	0.597	Y	Yes	1	DRY
	Molybdenum	7439-98-7	T	MG/KG		U*	BF	0.585	0.585	0.597	N	Yes	1	DRY
	Nickel	7440-02-0	T	MG/KG	9.28			0.0728	0.0728	0.119	Y	Yes	1	DRY
	Selenium	7782-49-2	T	MG/KG	1.45			0.0716	0.0716	0.597	Y	Yes	1	DRY
	Silver	7440-22-4	T	MG/KG		U		0.0167	0.0167	0.119	N	Yes	1	DRY
	Thallium	7440-28-0	T	MG/KG	0.139			0.0155	0.0155	0.119	Y	Yes	1	DRY
	Vanadium	7440-62-2	T	MG/KG	21.7			0.0728	0.0728	0.119	Y	Yes	1	DRY
	Zinc	7440-66-6	T	MG/KG	25.0			0.399	0.399	0.597	Y	Yes	1	DRY
SW-846 7471B	Mercury	7439-97-6	T	MG/KG		U		0.0168	0.0168	0.0387	N	Yes	1	DRY
SW-846 9045D	pH at 25 Degrees C	PH	N	SU	6.7			0.1	0.1	0.1	Y	Yes	1	WET
SW-846 9056A	Chloride	16887-00-6	N	MG/KG		U		4.57	4.57	11.8	N	Yes	1	DRY
	Fluoride	16984-48-8	N	MG/KG		UJ	M-	0.801	0.801	1.18	N	Yes	1	DRY
	Sulfate	14808-79-8	N	MG/KG	795			7.99	7.99	11.8	Y	Yes	1	DRY

TVA TDEC Program
Facility: John Sevier Fossil Plant
SDG: 180861091

Lab Sample ID	180-86109-10
Sys Sample Code	JSF-BS-BG11-11.3/13.3-20190124
Sample Name	JSF-BS-BG11-11.3/13.3-20190124
Sample Date	1/24/2019 12:02:00 PM
Location	JSF-BG11
Sample Type	N
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
	Percent Moisture:			%	15.2									
SW-846 6020A	Antimony	7440-36-0	T	MG/KG	0.0920	J	RL	0.0762	0.0762	0.246	Y	Yes	1	DRY
	Arsenic	7440-38-2	T	MG/KG	2.55			0.0319	0.0319	0.123	Y	Yes	1	DRY
	Barium	7440-39-3	T	MG/KG	119			0.0700	0.0700	1.23	Y	Yes	1	DRY
	Beryllium	7440-41-7	T	MG/KG	1.09			0.00921	0.00921	0.123	Y	Yes	1	DRY
	Boron	7440-42-8	T	MG/KG	1.23	J	RL	0.937	0.937	9.83	Y	Yes	1	DRY
	Cadmium	7440-43-9	T	MG/KG	0.0673	J	RL	0.0209	0.0209	0.123	Y	Yes	1	DRY
	Calcium	7440-70-2	T	MG/KG	1550			11.0	11.0	61.4	Y	Yes	1	DRY
	Chromium	7440-47-3	T	MG/KG	13.2			0.0811	0.0811	0.246	Y	Yes	1	DRY
	Cobalt	7440-48-4	T	MG/KG	11.5			0.0102	0.0102	0.0614	Y	Yes	1	DRY
	Copper	7440-50-8	T	MG/KG	9.87			0.139	0.139	0.246	Y	Yes	1	DRY
	Lead	7439-92-1	T	MG/KG	10.3			0.0430	0.0430	0.123	Y	Yes	1	DRY
	Lithium	7439-93-2	T	MG/KG	10.3			0.339	0.339	0.614	Y	Yes	1	DRY
	Molybdenum	7439-98-7	T	MG/KG	0.383	J	RL	0.0762	0.0762	0.614	Y	Yes	1	DRY
	Nickel	7440-02-0	T	MG/KG	12.9			0.0749	0.0749	0.123	Y	Yes	1	DRY
	Selenium	7782-49-2	T	MG/KG	1.15			0.0737	0.0737	0.614	Y	Yes	1	DRY
	Silver	7440-22-4	T	MG/KG		U		0.0172	0.0172	0.123	N	Yes	1	DRY
	Thallium	7440-28-0	T	MG/KG	0.129			0.0160	0.0160	0.123	Y	Yes	1	DRY
	Vanadium	7440-62-2	T	MG/KG	20.1			0.0749	0.0749	0.123	Y	Yes	1	DRY
	Zinc	7440-66-6	T	MG/KG	39.1			0.410	0.410	0.614	Y	Yes	1	DRY
SW-846 7471B	Mercury	7439-97-6	T	MG/KG		U		0.0184	0.0184	0.0425	N	Yes	1	DRY
SW-846 9045D	pH at 25 Degrees C	PH	N	SU	7.9			0.1	0.1	0.1	Y	Yes	1	WET
SW-846 9056A	Chloride	16887-00-6	N	MG/KG		U		4.48	4.48	11.5	N	Yes	1	DRY
	Fluoride	16984-48-8	N	MG/KG	1.55	J	M-,MP	0.785	0.785	1.15	Y	Yes	1	DRY
	Sulfate	14808-79-8	N	MG/KG	149			7.84	7.84	11.5	Y	Yes	1	DRY

TVA TDEC Program
Facility: John Sevier Fossil Plant
SDG: 180861091

Lab Sample ID	180-86109-11
Sys Sample Code	JSF-BS-BG11-0.0/0.5-20190124
Sample Name	JSF-BS-BG11-0.0/0.5-20190124
Sample Date	1/24/2019 12:47:00 PM
Location	JSF-BG11
Sample Type	N
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
	Percent Moisture:			%	27.0									
SW-846 6020A	Antimony	7440-36-0	T	MG/KG	0.183	J	RL	0.0876	0.0876	0.283	Y	Yes	1	DRY
	Arsenic	7440-38-2	T	MG/KG	10.8			0.0367	0.0367	0.141	Y	Yes	1	DRY
	Barium	7440-39-3	T	MG/KG	64.7			0.0805	0.0805	1.41	Y	Yes	1	DRY
	Beryllium	7440-41-7	T	MG/KG	0.778			0.0106	0.0106	0.141	Y	Yes	1	DRY
	Boron	7440-42-8	T	MG/KG	2.51	J	RL	1.08	1.08	11.3	Y	Yes	1	DRY
	Cadmium	7440-43-9	T	MG/KG	0.0907	J	RL	0.0240	0.0240	0.141	Y	Yes	1	DRY
	Calcium	7440-70-2	T	MG/KG	3550			12.6	12.6	70.6	Y	Yes	1	DRY
	Chromium	7440-47-3	T	MG/KG	13.9			0.0932	0.0932	0.283	Y	Yes	1	DRY
	Cobalt	7440-48-4	T	MG/KG	6.60			0.0117	0.0117	0.0706	Y	Yes	1	DRY
	Copper	7440-50-8	T	MG/KG	11.2			0.160	0.160	0.283	Y	Yes	1	DRY
	Lead	7439-92-1	T	MG/KG	15.7			0.0494	0.0494	0.141	Y	Yes	1	DRY
	Lithium	7439-93-2	T	MG/KG	15.2			0.390	0.390	0.706	Y	Yes	1	DRY
	Molybdenum	7439-98-7	T	MG/KG	0.633	J	RL	0.0876	0.0876	0.706	Y	Yes	1	DRY
	Nickel	7440-02-0	T	MG/KG	11.1			0.0862	0.0862	0.141	Y	Yes	1	DRY
	Selenium	7782-49-2	T	MG/KG	0.876			0.0848	0.0848	0.706	Y	Yes	1	DRY
	Silver	7440-22-4	T	MG/KG		U		0.0198	0.0198	0.141	N	Yes	1	DRY
	Thallium	7440-28-0	T	MG/KG	0.186			0.0184	0.0184	0.141	Y	Yes	1	DRY
	Vanadium	7440-62-2	T	MG/KG	17.9			0.0862	0.0862	0.141	Y	Yes	1	DRY
	Zinc	7440-66-6	T	MG/KG	39.0			0.472	0.472	0.706	Y	Yes	1	DRY
SW-846 7471B	Mercury	7439-97-6	T	MG/KG	0.0568			0.0170	0.0170	0.0393	Y	Yes	1	DRY
SW-846 9045D	pH at 25 Degrees C	PH	N	SU	8.0			0.1	0.1	0.1	Y	Yes	1	WET
SW-846 9056A	Chloride	16887-00-6	N	MG/KG		U		5.26	5.26	13.6	N	Yes	1	DRY
	Fluoride	16984-48-8	N	MG/KG	1.43	J	M-,MP	0.923	0.923	1.36	Y	Yes	1	DRY
	Sulfate	14808-79-8	N	MG/KG	13.1	J	RL	9.21	9.21	13.6	Y	Yes	1	DRY

TVA TDEC Program
Facility: John Sevier Fossil Plant
SDG: 180861091

Lab Sample ID	180-86109-12
Sys Sample Code	JSF-BS-EB01-20190124
Sample Name	JSF-BS-EB01-20190124
Sample Date	1/24/2019 12:35:00 PM
Location	JSF-BG11
Sample Type	EB
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SW-846 6020A	Antimony	7440-36-0	T	MG/L		U		0.00112	0.00112	0.00200	N	Yes	1	NA
	Arsenic	7440-38-2	T	MG/L		U		0.000323	0.000323	0.00100	N	Yes	1	NA
	Barium	7440-39-3	T	MG/L		U		0.000373	0.000373	0.0100	N	Yes	1	NA
	Beryllium	7440-41-7	T	MG/L		U		0.0000570	0.0000570	0.00100	N	Yes	1	NA
	Boron	7440-42-8	T	MG/L		U		0.0303	0.0303	0.0800	N	Yes	1	NA
	Cadmium	7440-43-9	T	MG/L		U		0.000125	0.000125	0.00100	N	Yes	1	NA
	Calcium	7440-70-2	T	MG/L		U		0.116	0.116	0.500	N	Yes	1	NA
	Chromium	7440-47-3	T	MG/L	0.00142	J	RL	0.000631	0.000631	0.00200	Y	Yes	1	NA
	Cobalt	7440-48-4	T	MG/L		U		0.0000750	0.0000750	0.000500	N	Yes	1	NA
	Copper	7440-50-8	T	MG/L		U		0.00130	0.00130	0.00200	N	Yes	1	NA
	Lead	7439-92-1	T	MG/L		U		0.0000940	0.0000940	0.00100	N	Yes	1	NA
	Lithium	7439-93-2	T	MG/L		U		0.00256	0.00256	0.00500	N	Yes	1	NA
	Molybdenum	7439-98-7	T	MG/L		U		0.000474	0.000474	0.00500	N	Yes	1	NA
	Nickel	7440-02-0	T	MG/L		U		0.000312	0.000312	0.00100	N	Yes	1	NA
	Selenium	7782-49-2	T	MG/L		U		0.000813	0.000813	0.00500	N	Yes	1	NA
	Silver	7440-22-4	T	MG/L	0.00116			0.000121	0.000121	0.00100	Y	Yes	1	NA
	Thallium	7440-28-0	T	MG/L		U		0.0000630	0.0000630	0.00100	N	Yes	1	NA
	Vanadium	7440-62-2	T	MG/L		U		0.000899	0.000899	0.00100	N	Yes	1	NA
	Zinc	7440-66-6	T	MG/L		U		0.00242	0.00242	0.00500	N	Yes	1	NA
SW-846 7470A	Mercury	7439-97-6	T	MG/L		U		0.000101	0.000101	0.000200	N	Yes	1	NA
SW-846 9056A	Chloride	16887-00-6	N	MG/L		U		0.715	0.715	1.00	N	Yes	1	NA
	Fluoride	16984-48-8	N	MG/L		U		0.0263	0.0263	0.100	N	Yes	1	NA
	Sulfate	14808-79-8	N	MG/L		U		0.380	0.380	1.00	N	Yes	1	NA

TVA TDEC Program
Facility: John Sevier Fossil Plant
SDG: 180861091

Lab Sample ID	180-86109-13
Sys Sample Code	JSF-BS-FB02-20190124
Sample Name	JSF-BS-FB02-20190124
Sample Date	1/24/2019 2:34:00 PM
Location	JSF-BG10
Sample Type	FB
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SW-846 6020A	Antimony	7440-36-0	T	MG/L		U		0.00112	0.00112	0.00200	N	Yes	1	NA
	Arsenic	7440-38-2	T	MG/L		U		0.000323	0.000323	0.00100	N	Yes	1	NA
	Barium	7440-39-3	T	MG/L		U		0.000373	0.000373	0.0100	N	Yes	1	NA
	Beryllium	7440-41-7	T	MG/L		U		0.0000570	0.0000570	0.00100	N	Yes	1	NA
	Boron	7440-42-8	T	MG/L		U		0.0303	0.0303	0.0800	N	Yes	1	NA
	Cadmium	7440-43-9	T	MG/L		U		0.000125	0.000125	0.00100	N	Yes	1	NA
	Calcium	7440-70-2	T	MG/L		U		0.116	0.116	0.500	N	Yes	1	NA
	Chromium	7440-47-3	T	MG/L	0.00137	J	RL	0.000631	0.000631	0.00200	Y	Yes	1	NA
	Cobalt	7440-48-4	T	MG/L		U		0.0000750	0.0000750	0.000500	N	Yes	1	NA
	Copper	7440-50-8	T	MG/L		U		0.00130	0.00130	0.00200	N	Yes	1	NA
	Lead	7439-92-1	T	MG/L		U		0.0000940	0.0000940	0.00100	N	Yes	1	NA
	Lithium	7439-93-2	T	MG/L		U		0.00256	0.00256	0.00500	N	Yes	1	NA
	Molybdenum	7439-98-7	T	MG/L		U		0.000474	0.000474	0.00500	N	Yes	1	NA
	Nickel	7440-02-0	T	MG/L		U		0.000312	0.000312	0.00100	N	Yes	1	NA
	Selenium	7782-49-2	T	MG/L		U		0.000813	0.000813	0.00500	N	Yes	1	NA
	Silver	7440-22-4	T	MG/L	0.000579	J	RL	0.000121	0.000121	0.00100	Y	Yes	1	NA
	Thallium	7440-28-0	T	MG/L		U		0.0000630	0.0000630	0.00100	N	Yes	1	NA
	Vanadium	7440-62-2	T	MG/L		U		0.000899	0.000899	0.00100	N	Yes	1	NA
	Zinc	7440-66-6	T	MG/L		U		0.00242	0.00242	0.00500	N	Yes	1	NA
SW-846 7470A	Mercury	7439-97-6	T	MG/L		U		0.000101	0.000101	0.000200	N	Yes	1	NA
SW-846 9056A	Chloride	16887-00-6	N	MG/L		U		0.715	0.715	1.00	N	Yes	1	NA
	Fluoride	16984-48-8	N	MG/L		U		0.0263	0.0263	0.100	N	Yes	1	NA
	Sulfate	14808-79-8	N	MG/L		U		0.380	0.380	1.00	N	Yes	1	NA

TVA TDEC Program
Facility: John Sevier Fossil Plant
SDG: 180861091

Lab Sample ID	180-86109-14
Sys Sample Code	JSF-BS-BG10-1.4/3.4-20190124
Sample Name	JSF-BS-BG10-1.4/3.4-20190124
Sample Date	1/24/2019 3:07:00 PM
Location	JSF-BG10
Sample Type	N
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
	Percent Moisture:			%	24.4									
SW-846 6020A	Antimony	7440-36-0	T	MG/KG	0.258	J	RL	0.0829	0.0829	0.267	Y	Yes	1	DRY
	Arsenic	7440-38-2	T	MG/KG	6.06			0.0348	0.0348	0.134	Y	Yes	1	DRY
	Barium	7440-39-3	T	MG/KG	31.3			0.0762	0.0762	1.34	Y	Yes	1	DRY
	Beryllium	7440-41-7	T	MG/KG	0.856			0.0100	0.0100	0.134	Y	Yes	1	DRY
	Boron	7440-42-8	T	MG/KG	2.42	J	RL	1.02	1.02	10.7	Y	Yes	1	DRY
	Cadmium	7440-43-9	T	MG/KG		U		0.0227	0.0227	0.134	N	Yes	1	DRY
	Calcium	7440-70-2	T	MG/KG	1000			12.0	12.0	66.8	Y	Yes	1	DRY
	Chromium	7440-47-3	T	MG/KG	15.5			0.0882	0.0882	0.267	Y	Yes	1	DRY
	Cobalt	7440-48-4	T	MG/KG	4.47			0.0111	0.0111	0.0668	Y	Yes	1	DRY
	Copper	7440-50-8	T	MG/KG	20.2			0.151	0.151	0.267	Y	Yes	1	DRY
	Lead	7439-92-1	T	MG/KG	25.3			0.0468	0.0468	0.134	Y	Yes	1	DRY
	Lithium	7439-93-2	T	MG/KG	16.1			0.369	0.369	0.668	Y	Yes	1	DRY
	Molybdenum	7439-98-7	T	MG/KG	0.543	J	RL	0.0829	0.0829	0.668	Y	Yes	1	DRY
	Nickel	7440-02-0	T	MG/KG	14.1			0.0816	0.0816	0.134	Y	Yes	1	DRY
	Selenium	7782-49-2	T	MG/KG	0.718			0.0802	0.0802	0.668	Y	Yes	1	DRY
	Silver	7440-22-4	T	MG/KG		U		0.0187	0.0187	0.134	N	Yes	1	DRY
	Thallium	7440-28-0	T	MG/KG	0.126	J	RL	0.0174	0.0174	0.134	Y	Yes	1	DRY
	Vanadium	7440-62-2	T	MG/KG	21.8			0.0816	0.0816	0.134	Y	Yes	1	DRY
	Zinc	7440-66-6	T	MG/KG	36.0			0.447	0.447	0.668	Y	Yes	1	DRY
SW-846 7471B	Mercury	7439-97-6	T	MG/KG	0.0342	J	RL	0.0214	0.0214	0.0494	Y	Yes	1	DRY
SW-846 9045D	pH at 25 Degrees C	PH	N	SU	6.4			0.1	0.1	0.1	Y	Yes	1	WET
SW-846 9056A	Chloride	16887-00-6	N	MG/KG		U		5.02	5.02	12.9	N	Yes	1	DRY
	Fluoride	16984-48-8	N	MG/KG		UJ	M-	0.880	0.880	1.29	N	Yes	1	DRY
	Sulfate	14808-79-8	N	MG/KG	29.6			8.79	8.79	12.9	Y	Yes	1	DRY

TVA TDEC Program
Facility: John Sevier Fossil Plant
SDG: 180861091

Lab Sample ID	180-86109-15
Sys Sample Code	JSF-BS-BG10-6.5/8.5-20190124
Sample Name	JSF-BS-GB10-6.5/8.5-20190124
Sample Date	1/24/2019 3:27:00 PM
Location	JSF-BG10
Sample Type	N
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
	Percent Moisture:			%	27.3									
SW-846 6020A	Antimony	7440-36-0	T	MG/KG	0.135	J	RL	0.0836	0.0836	0.270	Y	Yes	1	DRY
	Arsenic	7440-38-2	T	MG/KG	4.57			0.0351	0.0351	0.135	Y	Yes	1	DRY
	Barium	7440-39-3	T	MG/KG	36.6			0.0769	0.0769	1.35	Y	Yes	1	DRY
	Beryllium	7440-41-7	T	MG/KG	1.39			0.0101	0.0101	0.135	Y	Yes	1	DRY
	Boron	7440-42-8	T	MG/KG	2.36	J	RL	1.03	1.03	10.8	Y	Yes	1	DRY
	Cadmium	7440-43-9	T	MG/KG	0.0442	J	RL	0.0229	0.0229	0.135	Y	Yes	1	DRY
	Calcium	7440-70-2	T	MG/KG	33.8	J	RL	12.1	12.1	67.4	Y	Yes	1	DRY
	Chromium	7440-47-3	T	MG/KG	18.2			0.0890	0.0890	0.270	Y	Yes	1	DRY
	Cobalt	7440-48-4	T	MG/KG	12.4			0.0112	0.0112	0.0674	Y	Yes	1	DRY
	Copper	7440-50-8	T	MG/KG	26.6			0.152	0.152	0.270	Y	Yes	1	DRY
	Lead	7439-92-1	T	MG/KG	20.9			0.0472	0.0472	0.135	Y	Yes	1	DRY
	Lithium	7439-93-2	T	MG/KG	25.8			0.372	0.372	0.674	Y	Yes	1	DRY
	Molybdenum	7439-98-7	T	MG/KG	0.223	J	RL	0.0836	0.0836	0.674	Y	Yes	1	DRY
	Nickel	7440-02-0	T	MG/KG	27.0			0.0823	0.0823	0.135	Y	Yes	1	DRY
	Selenium	7782-49-2	T	MG/KG	0.999			0.0809	0.0809	0.674	Y	Yes	1	DRY
	Silver	7440-22-4	T	MG/KG		U		0.0189	0.0189	0.135	N	Yes	1	DRY
	Thallium	7440-28-0	T	MG/KG	0.0908	J	RL	0.0175	0.0175	0.135	Y	Yes	1	DRY
	Vanadium	7440-62-2	T	MG/KG	18.7			0.0823	0.0823	0.135	Y	Yes	1	DRY
	Zinc	7440-66-6	T	MG/KG	66.9			0.450	0.450	0.674	Y	Yes	1	DRY
SW-846 7471B	Mercury	7439-97-6	T	MG/KG		U		0.0223	0.0223	0.0514	N	Yes	1	DRY
SW-846 9045D	pH at 25 Degrees C	PH	N	SU	5.3			0.1	0.1	0.1	Y	Yes	1	WET
SW-846 9056A	Chloride	16887-00-6	N	MG/KG		U		5.14	5.14	13.3	N	Yes	1	DRY
	Fluoride	16984-48-8	N	MG/KG		UJ	M-	0.901	0.901	1.33	N	Yes	1	DRY
	Sulfate	14808-79-8	N	MG/KG		U		9.00	9.00	13.3	N	Yes	1	DRY

TVA TDEC Program
Facility: John Sevier Fossil Plant
SDG: 180861091

Lab Sample ID	180-86109-16
Sys Sample Code	JSF-BS-BG10-10.5/12.5-20190124
Sample Name	JSF-BS-BG10-10.5/12.5-20190124
Sample Date	1/24/2019 3:48:00 PM
Location	JSF-BG10
Sample Type	N
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
	Percent Moisture:			%	27.1									
SW-846 6020A	Antimony	7440-36-0	T	MG/KG	0.0976	J	RL	0.0867	0.0867	0.280	Y	Yes	1	DRY
	Arsenic	7440-38-2	T	MG/KG	3.52			0.0364	0.0364	0.140	Y	Yes	1	DRY
	Barium	7440-39-3	T	MG/KG	48.4			0.0797	0.0797	1.40	Y	Yes	1	DRY
	Beryllium	7440-41-7	T	MG/KG	1.80			0.0105	0.0105	0.140	Y	Yes	1	DRY
	Boron	7440-42-8	T	MG/KG	2.44	J	RL	1.07	1.07	11.2	Y	Yes	1	DRY
	Cadmium	7440-43-9	T	MG/KG	0.0635	J	RL	0.0238	0.0238	0.140	Y	Yes	1	DRY
	Calcium	7440-70-2	T	MG/KG	271			12.5	12.5	69.9	Y	Yes	1	DRY
	Chromium	7440-47-3	T	MG/KG	22.8			0.0923	0.0923	0.280	Y	Yes	1	DRY
	Cobalt	7440-48-4	T	MG/KG	14.2			0.0116	0.0116	0.0699	Y	Yes	1	DRY
	Copper	7440-50-8	T	MG/KG	25.4			0.158	0.158	0.280	Y	Yes	1	DRY
	Lead	7439-92-1	T	MG/KG	14.8			0.0490	0.0490	0.140	Y	Yes	1	DRY
	Lithium	7439-93-2	T	MG/KG	37.4			0.386	0.386	0.699	Y	Yes	1	DRY
	Molybdenum	7439-98-7	T	MG/KG	0.197	J	RL	0.0867	0.0867	0.699	Y	Yes	1	DRY
	Nickel	7440-02-0	T	MG/KG	30.8			0.0853	0.0853	0.140	Y	Yes	1	DRY
	Selenium	7782-49-2	T	MG/KG	1.26			0.0839	0.0839	0.699	Y	Yes	1	DRY
	Silver	7440-22-4	T	MG/KG		U		0.0196	0.0196	0.140	N	Yes	1	DRY
	Thallium	7440-28-0	T	MG/KG	0.0995	J	RL	0.0182	0.0182	0.140	Y	Yes	1	DRY
	Vanadium	7440-62-2	T	MG/KG	18.3			0.0853	0.0853	0.140	Y	Yes	1	DRY
	Zinc	7440-66-6	T	MG/KG	91.4			0.467	0.467	0.699	Y	Yes	1	DRY
SW-846 7471B	Mercury	7439-97-6	T	MG/KG		U		0.0193	0.0193	0.0445	N	Yes	1	DRY
SW-846 9045D	pH at 25 Degrees C	PH	N	SU	5.4			0.1	0.1	0.1	Y	Yes	1	WET
SW-846 9056A	Chloride	16887-00-6	N	MG/KG		U		5.27	5.27	13.6	N	Yes	1	DRY
	Fluoride	16984-48-8	N	MG/KG		UJ	M-	0.924	0.924	1.36	N	Yes	1	DRY
	Sulfate	14808-79-8	N	MG/KG		U		9.23	9.23	13.6	N	Yes	1	DRY

TVA TDEC Program
Facility: John Sevier Fossil Plant
SDG: 180861091

Lab Sample ID	180-86109-17
Sys Sample Code	JSF-BS-BG10-0.0/0.5-20190124
Sample Name	JSF-BS-BG10-0.0/0.5-20190124
Sample Date	1/24/2019 3:56:00 PM
Location	JSF-BG10
Sample Type	N
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
	Percent Moisture:			%	26.0									
SW-846 6020A	Antimony	7440-36-0	T	MG/KG	0.179	J	RL	0.0846	0.0846	0.273	Y	Yes	1	DRY
	Arsenic	7440-38-2	T	MG/KG	4.11			0.0355	0.0355	0.136	Y	Yes	1	DRY
	Barium	7440-39-3	T	MG/KG	32.5			0.0778	0.0778	1.36	Y	Yes	1	DRY
	Beryllium	7440-41-7	T	MG/KG	0.521			0.0102	0.0102	0.136	Y	Yes	1	DRY
	Boron	7440-42-8	T	MG/KG	5.89	J	RL	1.04	1.04	10.9	Y	Yes	1	DRY
	Cadmium	7440-43-9	T	MG/KG	0.0860	J	RL	0.0232	0.0232	0.136	Y	Yes	1	DRY
	Calcium	7440-70-2	T	MG/KG	48400			12.2	12.2	68.2	Y	Yes	1	DRY
	Chromium	7440-47-3	T	MG/KG	9.59			0.0900	0.0900	0.273	Y	Yes	1	DRY
	Cobalt	7440-48-4	T	MG/KG	4.00			0.0113	0.0113	0.0682	Y	Yes	1	DRY
	Copper	7440-50-8	T	MG/KG	7.45			0.154	0.154	0.273	Y	Yes	1	DRY
	Lead	7439-92-1	T	MG/KG	16.5			0.0478	0.0478	0.136	Y	Yes	1	DRY
	Lithium	7439-93-2	T	MG/KG	11.7			0.377	0.377	0.682	Y	Yes	1	DRY
	Molybdenum	7439-98-7	T	MG/KG	0.634	J	RL	0.0846	0.0846	0.682	Y	Yes	1	DRY
	Nickel	7440-02-0	T	MG/KG	6.75			0.0832	0.0832	0.136	Y	Yes	1	DRY
	Selenium	7782-49-2	T	MG/KG	0.618	J	RL	0.0819	0.0819	0.682	Y	Yes	1	DRY
	Silver	7440-22-4	T	MG/KG		U*	BE,BF	0.108	0.108	0.136	N	Yes	1	DRY
	Thallium	7440-28-0	T	MG/KG	0.119	J	RL	0.0177	0.0177	0.136	Y	Yes	1	DRY
	Vanadium	7440-62-2	T	MG/KG	14.8			0.0832	0.0832	0.136	Y	Yes	1	DRY
	Zinc	7440-66-6	T	MG/KG	22.0			0.456	0.456	0.682	Y	Yes	1	DRY
SW-846 7471B	Mercury	7439-97-6	T	MG/KG	0.107			0.0170	0.0170	0.0393	Y	Yes	1	DRY
SW-846 9045D	pH at 25 Degrees C	PH	N	SU	7.9			0.1	0.1	0.1	Y	Yes	1	WET
SW-846 9056A	Chloride	16887-00-6	N	MG/KG		U		5.12	5.12	13.2	N	Yes	1	DRY
	Fluoride	16984-48-8	N	MG/KG		UJ	M-	0.898	0.898	1.32	N	Yes	1	DRY
	Sulfate	14808-79-8	N	MG/KG		U		8.97	8.97	13.2	N	Yes	1	DRY

TVA TDEC Program
Facility: John Sevier Fossil Plant
SDG: 180861091

Lab Sample ID	180-86109-2
Sys Sample Code	JSF-BS-BG12-5.0/10.0-20190123
Sample Name	JSF-BS-BG12-5.0/10.0-20190123
Sample Date	1/23/2019 12:05:00 PM
Location	JSF-BG12
Sample Type	N
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
	Percent Moisture:			%	16.0									
SW-846 6020A	Antimony	7440-36-0	T	MG/KG	0.0802	J	RL	0.0724	0.0724	0.233	Y	Yes	1	DRY
	Arsenic	7440-38-2	T	MG/KG	1.21			0.0303	0.0303	0.117	Y	Yes	1	DRY
	Barium	7440-39-3	T	MG/KG	83.7			0.0665	0.0665	1.17	Y	Yes	1	DRY
	Beryllium	7440-41-7	T	MG/KG	0.739			0.00875	0.00875	0.117	Y	Yes	1	DRY
	Boron	7440-42-8	T	MG/KG	1.41	J	RL	0.890	0.890	9.34	Y	Yes	1	DRY
	Cadmium	7440-43-9	T	MG/KG	0.0212	J	RL	0.0198	0.0198	0.117	Y	Yes	1	DRY
	Calcium	7440-70-2	T	MG/KG	1350			10.4	10.4	58.3	Y	Yes	1	DRY
	Chromium	7440-47-3	T	MG/KG	10.5			0.0770	0.0770	0.233	Y	Yes	1	DRY
	Cobalt	7440-48-4	T	MG/KG	3.73			0.00969	0.00969	0.0583	Y	Yes	1	DRY
	Copper	7440-50-8	T	MG/KG	5.98			0.132	0.132	0.233	Y	Yes	1	DRY
	Lead	7439-92-1	T	MG/KG	8.62			0.0408	0.0408	0.117	Y	Yes	1	DRY
	Lithium	7439-93-2	T	MG/KG	9.47			0.322	0.322	0.583	Y	Yes	1	DRY
	Molybdenum	7439-98-7	T	MG/KG		U*	BF,BL	0.266	0.266	0.583	N	Yes	1	DRY
	Nickel	7440-02-0	T	MG/KG	7.04			0.0712	0.0712	0.117	Y	Yes	1	DRY
	Selenium	7782-49-2	T	MG/KG	0.869			0.0700	0.0700	0.583	Y	Yes	1	DRY
	Silver	7440-22-4	T	MG/KG		U		0.0163	0.0163	0.117	N	Yes	1	DRY
	Thallium	7440-28-0	T	MG/KG	0.132			0.0152	0.0152	0.117	Y	Yes	1	DRY
	Vanadium	7440-62-2	T	MG/KG	16.9			0.0712	0.0712	0.117	Y	Yes	1	DRY
	Zinc	7440-66-6	T	MG/KG	26.2			0.390	0.390	0.583	Y	Yes	1	DRY
SW-846 7471B	Mercury	7439-97-6	T	MG/KG	0.0472			0.0176	0.0176	0.0406	Y	Yes	1	DRY
SW-846 9045D	pH at 25 Degrees C	PH	N	SU	7.3			0.1	0.1	0.1	Y	Yes	1	WET
SW-846 9056A	Chloride	16887-00-6	N	MG/KG		U		4.47	4.47	11.5	N	Yes	1	DRY
	Fluoride	16984-48-8	N	MG/KG	1.36	J	M-,MP	0.783	0.783	1.15	Y	Yes	1	DRY
	Sulfate	14808-79-8	N	MG/KG	231			7.82	7.82	11.5	Y	Yes	1	DRY

TVA TDEC Program
Facility: John Sevier Fossil Plant
SDG: 180861091

Lab Sample ID	180-86109-3
Sys Sample Code	JSF-BS-BG12-10.75/12.75-20190123
Sample Name	JSF-BS-BG12-10.75/12.75-20190123
Sample Date	1/23/2019 12:32:00 PM
Location	JSF-BG12
Sample Type	N
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
	Percent Moisture:			%	24.8									
SW-846 6020A	Antimony	7440-36-0	T	MG/KG	0.0899	J	RL	0.0841	0.0841	0.271	Y	Yes	1	DRY
	Arsenic	7440-38-2	T	MG/KG	1.75			0.0353	0.0353	0.136	Y	Yes	1	DRY
	Barium	7440-39-3	T	MG/KG	92.0			0.0773	0.0773	1.36	Y	Yes	1	DRY
	Beryllium	7440-41-7	T	MG/KG	1.13			0.0102	0.0102	0.136	Y	Yes	1	DRY
	Boron	7440-42-8	T	MG/KG	2.23	J	RL	1.03	1.03	10.9	Y	Yes	1	DRY
	Cadmium	7440-43-9	T	MG/KG	0.0925	J	RL	0.0231	0.0231	0.136	Y	Yes	1	DRY
	Calcium	7440-70-2	T	MG/KG	1690			12.1	12.1	67.8	Y	Yes	1	DRY
	Chromium	7440-47-3	T	MG/KG	12.8			0.0895	0.0895	0.271	Y	Yes	1	DRY
	Cobalt	7440-48-4	T	MG/KG	7.30			0.0113	0.0113	0.0678	Y	Yes	1	DRY
	Copper	7440-50-8	T	MG/KG	10.5			0.153	0.153	0.271	Y	Yes	1	DRY
	Lead	7439-92-1	T	MG/KG	9.57			0.0475	0.0475	0.136	Y	Yes	1	DRY
	Lithium	7439-93-2	T	MG/KG	11.5			0.374	0.374	0.678	Y	Yes	1	DRY
	Molybdenum	7439-98-7	T	MG/KG		U*	BF	0.580	0.580	0.678	N	Yes	1	DRY
	Nickel	7440-02-0	T	MG/KG	11.6			0.0827	0.0827	0.136	Y	Yes	1	DRY
	Selenium	7782-49-2	T	MG/KG	1.14			0.0814	0.0814	0.678	Y	Yes	1	DRY
	Silver	7440-22-4	T	MG/KG		U*	BE,BF	0.0209	0.0209	0.136	N	Yes	1	DRY
	Thallium	7440-28-0	T	MG/KG	0.151			0.0176	0.0176	0.136	Y	Yes	1	DRY
	Vanadium	7440-62-2	T	MG/KG	20.4			0.0827	0.0827	0.136	Y	Yes	1	DRY
	Zinc	7440-66-6	T	MG/KG	42.1			0.453	0.453	0.678	Y	Yes	1	DRY
SW-846 7471B	Mercury	7439-97-6	T	MG/KG	0.0320	J	RL	0.0144	0.0144	0.0333	Y	Yes	1	DRY
SW-846 9045D	pH at 25 Degrees C	PH	N	SU	8.0			0.1	0.1	0.1	Y	Yes	1	WET
SW-846 9056A	Chloride	16887-00-6	N	MG/KG	6.51	J	RL	5.09	5.09	13.1	Y	Yes	1	DRY
	Fluoride	16984-48-8	N	MG/KG	2.63	J	M-,MP	0.893	0.893	1.31	Y	Yes	1	DRY
	Sulfate	14808-79-8	N	MG/KG	77.7			8.92	8.92	13.1	Y	Yes	1	DRY

TVA TDEC Program
Facility: John Sevier Fossil Plant
SDG: 180861091

Lab Sample ID	180-86109-4
Sys Sample Code	JSF-BS-BG12-13.5/15.0-20190123
Sample Name	JSF-BS-BG12-13.5/15.0-20190123
Sample Date	1/23/2019 12:44:00 PM
Location	JSF-BG12
Sample Type	N
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
	Percent Moisture:			%	19.0									
SW-846 6020A	Antimony	7440-36-0	T	MG/KG		U		0.0781	0.0781	0.252	N	Yes	1	DRY
	Arsenic	7440-38-2	T	MG/KG	1.16			0.0327	0.0327	0.126	Y	Yes	1	DRY
	Barium	7440-39-3	T	MG/KG	41.4			0.0718	0.0718	1.26	Y	Yes	1	DRY
	Beryllium	7440-41-7	T	MG/KG	0.478			0.00944	0.00944	0.126	Y	Yes	1	DRY
	Boron	7440-42-8	T	MG/KG	1.17	J	RL	0.961	0.961	10.1	Y	Yes	1	DRY
	Cadmium	7440-43-9	T	MG/KG	0.0695	J	RL	0.0214	0.0214	0.126	Y	Yes	1	DRY
	Calcium	7440-70-2	T	MG/KG	623			11.3	11.3	63.0	Y	Yes	1	DRY
	Chromium	7440-47-3	T	MG/KG	7.24			0.0831	0.0831	0.252	Y	Yes	1	DRY
	Cobalt	7440-48-4	T	MG/KG	3.57			0.0105	0.0105	0.0630	Y	Yes	1	DRY
	Copper	7440-50-8	T	MG/KG	4.05			0.142	0.142	0.252	Y	Yes	1	DRY
	Lead	7439-92-1	T	MG/KG	4.02			0.0441	0.0441	0.126	Y	Yes	1	DRY
	Lithium	7439-93-2	T	MG/KG	4.86			0.347	0.347	0.630	Y	Yes	1	DRY
	Molybdenum	7439-98-7	T	MG/KG		U*	BF,BL	0.209	0.209	0.630	N	Yes	1	DRY
	Nickel	7440-02-0	T	MG/KG	4.65			0.0768	0.0768	0.126	Y	Yes	1	DRY
	Selenium	7782-49-2	T	MG/KG	0.576	J	RL	0.0755	0.0755	0.630	Y	Yes	1	DRY
	Silver	7440-22-4	T	MG/KG		U		0.0176	0.0176	0.126	N	Yes	1	DRY
	Thallium	7440-28-0	T	MG/KG	0.0630	J	RL	0.0164	0.0164	0.126	Y	Yes	1	DRY
	Vanadium	7440-62-2	T	MG/KG	8.96			0.0768	0.0768	0.126	Y	Yes	1	DRY
	Zinc	7440-66-6	T	MG/KG	16.4			0.421	0.421	0.630	Y	Yes	1	DRY
SW-846 7471B	Mercury	7439-97-6	T	MG/KG		U		0.0176	0.0176	0.0407	N	Yes	1	DRY
SW-846 9045D	pH at 25 Degrees C	PH	N	SU	7.6			0.1	0.1	0.1	Y	Yes	1	WET
SW-846 9056A	Chloride	16887-00-6	N	MG/KG		U		4.77	4.77	12.3	N	Yes	1	DRY
	Fluoride	16984-48-8	N	MG/KG	1.50	J	M-,MP	0.835	0.835	1.23	Y	Yes	1	DRY
	Sulfate	14808-79-8	N	MG/KG	45.6			8.34	8.34	12.3	Y	Yes	1	DRY

TVA TDEC Program
Facility: John Sevier Fossil Plant
SDG: 180861091

Lab Sample ID	180-86109-5
Sys Sample Code	JSF-BS-BG12-0.0/0.5-20190123
Sample Name	JSF-BS-BG12-0.0/0.5-20190123
Sample Date	1/23/2019 12:47:00 PM
Location	JSF-BG12
Sample Type	N
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
	Percent Moisture:			%	30.5									
SW-846 6020A	Antimony	7440-36-0	T	MG/KG	0.541			0.0866	0.0866	0.279	Y	Yes	1	DRY
	Arsenic	7440-38-2	T	MG/KG	4.90			0.0363	0.0363	0.140	Y	Yes	1	DRY
	Barium	7440-39-3	T	MG/KG	41.3			0.0796	0.0796	1.40	Y	Yes	1	DRY
	Beryllium	7440-41-7	T	MG/KG	0.759			0.0105	0.0105	0.140	Y	Yes	1	DRY
	Boron	7440-42-8	T	MG/KG	17.8			1.07	1.07	11.2	Y	Yes	1	DRY
	Cadmium	7440-43-9	T	MG/KG	0.122	J	RL	0.0238	0.0238	0.140	Y	Yes	1	DRY
	Calcium	7440-70-2	T	MG/KG	77300			12.5	12.5	69.9	Y	Yes	1	DRY
	Chromium	7440-47-3	T	MG/KG	8.01			0.0922	0.0922	0.279	Y	Yes	1	DRY
	Cobalt	7440-48-4	T	MG/KG	4.56			0.0116	0.0116	0.0699	Y	Yes	1	DRY
	Copper	7440-50-8	T	MG/KG	13.3			0.158	0.158	0.279	Y	Yes	1	DRY
	Lead	7439-92-1	T	MG/KG	16.6			0.0489	0.0489	0.140	Y	Yes	1	DRY
	Lithium	7439-93-2	T	MG/KG	12.1			0.386	0.386	0.699	Y	Yes	1	DRY
	Molybdenum	7439-98-7	T	MG/KG		U*	BF,BL	0.444	0.444	0.699	N	Yes	1	DRY
	Nickel	7440-02-0	T	MG/KG	9.76			0.0852	0.0852	0.140	Y	Yes	1	DRY
	Selenium	7782-49-2	T	MG/KG	1.42			0.0838	0.0838	0.699	Y	Yes	1	DRY
	Silver	7440-22-4	T	MG/KG		U*	BE,BF	0.0224	0.0224	0.140	N	Yes	1	DRY
	Thallium	7440-28-0	T	MG/KG	0.114	J	RL	0.0182	0.0182	0.140	Y	Yes	1	DRY
	Vanadium	7440-62-2	T	MG/KG	10.4			0.0852	0.0852	0.140	Y	Yes	1	DRY
	Zinc	7440-66-6	T	MG/KG	35.9			0.467	0.467	0.699	Y	Yes	1	DRY
SW-846 7471B	Mercury	7439-97-6	T	MG/KG	0.0369	J	RL	0.0199	0.0199	0.0460	Y	Yes	1	DRY
SW-846 9045D	pH at 25 Degrees C	PH	N	SU	7.7			0.1	0.1	0.1	Y	Yes	1	WET
SW-846 9056A	Chloride	16887-00-6	N	MG/KG		U		5.41	5.41	13.9	N	Yes	1	DRY
	Fluoride	16984-48-8	N	MG/KG		UJ	M-	0.948	0.948	1.39	N	Yes	1	DRY
	Sulfate	14808-79-8	N	MG/KG	27.6			9.47	9.47	13.9	Y	Yes	1	DRY

TVA TDEC Program
Facility: John Sevier Fossil Plant
SDG: 180861091

Lab Sample ID	180-86109-6
Sys Sample Code	JSF-BS-FB01-20190123
Sample Name	JSF-BS-FB01-20190123
Sample Date	1/23/2019 3:30:00 PM
Location	JSF-BG12
Sample Type	FB
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SW-846 6020A	Antimony	7440-36-0	T	MG/L		U		0.00112	0.00112	0.00200	N	Yes	1	NA
	Arsenic	7440-38-2	T	MG/L	0.000366	J	RL	0.000323	0.000323	0.00100	Y	Yes	1	NA
	Barium	7440-39-3	T	MG/L		U		0.000373	0.000373	0.0100	N	Yes	1	NA
	Beryllium	7440-41-7	T	MG/L		U		0.0000570	0.0000570	0.00100	N	Yes	1	NA
	Boron	7440-42-8	T	MG/L		U		0.0303	0.0303	0.0800	N	Yes	1	NA
	Cadmium	7440-43-9	T	MG/L		U		0.000125	0.000125	0.00100	N	Yes	1	NA
	Calcium	7440-70-2	T	MG/L		U		0.116	0.116	0.500	N	Yes	1	NA
	Chromium	7440-47-3	T	MG/L	0.00622			0.000631	0.000631	0.00200	Y	Yes	1	NA
	Cobalt	7440-48-4	T	MG/L	0.000438	J	RL	0.0000750	0.0000750	0.000500	Y	Yes	1	NA
	Copper	7440-50-8	T	MG/L	0.00399			0.00130	0.00130	0.00200	Y	Yes	1	NA
	Lead	7439-92-1	T	MG/L		U		0.0000940	0.0000940	0.00100	N	Yes	1	NA
	Lithium	7439-93-2	T	MG/L		U		0.00256	0.00256	0.00500	N	Yes	1	NA
	Molybdenum	7439-98-7	T	MG/L	0.000936	J	RL	0.000474	0.000474	0.00500	Y	Yes	1	NA
	Nickel	7440-02-0	T	MG/L	0.00260			0.000312	0.000312	0.00100	Y	Yes	1	NA
	Selenium	7782-49-2	T	MG/L		U		0.000813	0.000813	0.00500	N	Yes	1	NA
	Silver	7440-22-4	T	MG/L	0.00182			0.000121	0.000121	0.00100	Y	Yes	1	NA
	Thallium	7440-28-0	T	MG/L		U		0.0000630	0.0000630	0.00100	N	Yes	1	NA
	Vanadium	7440-62-2	T	MG/L		U		0.000899	0.000899	0.00100	N	Yes	1	NA
	Zinc	7440-66-6	T	MG/L	0.0250			0.00242	0.00242	0.00500	Y	Yes	1	NA
SW-846 7470A	Mercury	7439-97-6	T	MG/L		U		0.000101	0.000101	0.000200	N	Yes	1	NA
SW-846 9056A	Chloride	16887-00-6	N	MG/L		U		0.715	0.715	1.00	N	Yes	1	NA
	Fluoride	16984-48-8	N	MG/L		U		0.0263	0.0263	0.100	N	Yes	1	NA
	Sulfate	14808-79-8	N	MG/L		U		0.380	0.380	1.00	N	Yes	1	NA

TVA TDEC Program
Facility: John Sevier Fossil Plant
SDG: 180861091

Lab Sample ID	180-86109-7
Sys Sample Code	JSF-BS-BG11-1.1/3.1-20190124
Sample Name	JSF-BS-BG11-1.1/3.1-20190124
Sample Date	1/24/2019 11:16:00 AM
Location	JSF-BG11
Sample Type	N
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
	Percent Moisture:			%	17.1									
SW-846 6020A	Antimony	7440-36-0	T	MG/KG	0.154	J	RL	0.0779	0.0779	0.251	Y	Yes	1	DRY
	Arsenic	7440-38-2	T	MG/KG	6.19			0.0327	0.0327	0.126	Y	Yes	1	DRY
	Barium	7440-39-3	T	MG/KG	86.0			0.0717	0.0717	1.26	Y	Yes	1	DRY
	Beryllium	7440-41-7	T	MG/KG	0.910			0.00943	0.00943	0.126	Y	Yes	1	DRY
	Boron	7440-42-8	T	MG/KG	1.92	J	RL	0.959	0.959	10.1	Y	Yes	1	DRY
	Cadmium	7440-43-9	T	MG/KG	0.0688	J	RL	0.0214	0.0214	0.126	Y	Yes	1	DRY
	Calcium	7440-70-2	T	MG/KG	6540			11.3	11.3	62.9	Y	Yes	1	DRY
	Chromium	7440-47-3	T	MG/KG	11.8			0.0830	0.0830	0.251	Y	Yes	1	DRY
	Cobalt	7440-48-4	T	MG/KG	10.1			0.0104	0.0104	0.0629	Y	Yes	1	DRY
	Copper	7440-50-8	T	MG/KG	8.29			0.142	0.142	0.251	Y	Yes	1	DRY
	Lead	7439-92-1	T	MG/KG	15.4			0.0440	0.0440	0.126	Y	Yes	1	DRY
	Lithium	7439-93-2	T	MG/KG	12.3			0.347	0.347	0.629	Y	Yes	1	DRY
	Molybdenum	7439-98-7	T	MG/KG		U*	BL	0.480	0.480	0.629	N	Yes	1	DRY
	Nickel	7440-02-0	T	MG/KG	10.3			0.0767	0.0767	0.126	Y	Yes	1	DRY
	Selenium	7782-49-2	T	MG/KG	0.988			0.0754	0.0754	0.629	Y	Yes	1	DRY
	Silver	7440-22-4	T	MG/KG		U		0.0176	0.0176	0.126	N	Yes	1	DRY
	Thallium	7440-28-0	T	MG/KG	0.0991	J	RL	0.0163	0.0163	0.126	Y	Yes	1	DRY
	Vanadium	7440-62-2	T	MG/KG	16.5			0.0767	0.0767	0.126	Y	Yes	1	DRY
	Zinc	7440-66-6	T	MG/KG	36.6			0.420	0.420	0.629	Y	Yes	1	DRY
SW-846 7471B	Mercury	7439-97-6	T	MG/KG	0.0411			0.0146	0.0146	0.0337	Y	Yes	1	DRY
SW-846 9045D	pH at 25 Degrees C	PH	N	SU	7.3			0.1	0.1	0.1	Y	Yes	1	WET
SW-846 9056A	Chloride	16887-00-6	N	MG/KG		U		4.63	4.63	11.9	N	Yes	1	DRY
	Fluoride	16984-48-8	N	MG/KG	2.18	J	M-,MP	0.811	0.811	1.19	Y	Yes	1	DRY
	Sulfate	14808-79-8	N	MG/KG	629			8.10	8.10	11.9	Y	Yes	1	DRY

TVA TDEC Program
Facility: John Sevier Fossil Plant
SDG: 180861091

Lab Sample ID	180-86109-8
Sys Sample Code	JSF-BS-BG11-5.5/8.5-20190124
Sample Name	JSF-BS-BG11-5.5/8.5-20190124
Sample Date	1/24/2019 11:36:00 AM
Location	JSF-BG11
Sample Type	N
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
	Percent Moisture:			%	19.5									
SW-846 6020A	Antimony	7440-36-0	T	MG/KG		U		0.0786	0.0786	0.254	N	Yes	1	DRY
	Arsenic	7440-38-2	T	MG/KG	3.71			0.0330	0.0330	0.127	Y	Yes	1	DRY
	Barium	7440-39-3	T	MG/KG	33.1			0.0723	0.0723	1.27	Y	Yes	1	DRY
	Beryllium	7440-41-7	T	MG/KG	0.430			0.00951	0.00951	0.127	Y	Yes	1	DRY
	Boron	7440-42-8	T	MG/KG	0.989	J	RL	0.967	0.967	10.1	Y	Yes	1	DRY
	Cadmium	7440-43-9	T	MG/KG		U		0.0215	0.0215	0.127	N	Yes	1	DRY
	Calcium	7440-70-2	T	MG/KG	640			11.3	11.3	63.4	Y	Yes	1	DRY
	Chromium	7440-47-3	T	MG/KG	9.99			0.0837	0.0837	0.254	Y	Yes	1	DRY
	Cobalt	7440-48-4	T	MG/KG	4.40	J	FD	0.0105	0.0105	0.0634	Y	Yes	1	DRY
	Copper	7440-50-8	T	MG/KG	6.26			0.143	0.143	0.254	Y	Yes	1	DRY
	Lead	7439-92-1	T	MG/KG	9.91			0.0444	0.0444	0.127	Y	Yes	1	DRY
	Lithium	7439-93-2	T	MG/KG	10.5			0.350	0.350	0.634	Y	Yes	1	DRY
	Molybdenum	7439-98-7	T	MG/KG		U*	BL	0.312	0.312	0.634	N	Yes	1	DRY
	Nickel	7440-02-0	T	MG/KG	7.25			0.0773	0.0773	0.127	Y	Yes	1	DRY
	Selenium	7782-49-2	T	MG/KG	0.545	J	RL	0.0761	0.0761	0.634	Y	Yes	1	DRY
	Silver	7440-22-4	T	MG/KG		U		0.0177	0.0177	0.127	N	Yes	1	DRY
	Thallium	7440-28-0	T	MG/KG	0.0878	J	RL	0.0165	0.0165	0.127	Y	Yes	1	DRY
	Vanadium	7440-62-2	T	MG/KG	13.0			0.0773	0.0773	0.127	Y	Yes	1	DRY
	Zinc	7440-66-6	T	MG/KG	22.5			0.423	0.423	0.634	Y	Yes	1	DRY
SW-846 7471B	Mercury	7439-97-6	T	MG/KG		U		0.0152	0.0152	0.0351	N	Yes	1	DRY
SW-846 9045D	pH at 25 Degrees C	PH	N	SU	5.4			0.1	0.1	0.1	Y	Yes	1	WET
SW-846 9056A	Chloride	16887-00-6	N	MG/KG		U		4.64	4.64	12.0	N	Yes	1	DRY
	Fluoride	16984-48-8	N	MG/KG		UJ	M-	0.814	0.814	1.20	N	Yes	1	DRY
	Sulfate	14808-79-8	N	MG/KG	370			8.13	8.13	12.0	Y	Yes	1	DRY

TVA TDEC Program
Facility: John Sevier Fossil Plant
SDG: 180861091

Lab Sample ID	180-86109-9
Sys Sample Code	JSF-BS-FD01-20190124
Sample Name	JSF-BS-FD01-20190124
Sample Date	1/24/2019 11:21:00 AM
Location	
Sample Type	FD
Parent Sample	JSF-BS-BG11-5.5/8.5-20190124

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
	Percent Moisture:			%	19.8									
SW-846 6020A	Antimony	7440-36-0	T	MG/KG		U		0.0813	0.0813	0.262	N	Yes	1	DRY
	Arsenic	7440-38-2	T	MG/KG	4.80			0.0341	0.0341	0.131	Y	Yes	1	DRY
	Barium	7440-39-3	T	MG/KG	43.8			0.0748	0.0748	1.31	Y	Yes	1	DRY
	Beryllium	7440-41-7	T	MG/KG	0.619			0.00984	0.00984	0.131	Y	Yes	1	DRY
	Boron	7440-42-8	T	MG/KG		U		1.00	1.00	10.5	N	Yes	1	DRY
	Cadmium	7440-43-9	T	MG/KG	0.0226	J	RL	0.0223	0.0223	0.131	Y	Yes	1	DRY
	Calcium	7440-70-2	T	MG/KG	723			11.7	11.7	65.6	Y	Yes	1	DRY
	Chromium	7440-47-3	T	MG/KG	11.7			0.0866	0.0866	0.262	Y	Yes	1	DRY
	Cobalt	7440-48-4	T	MG/KG	8.20	J	FD	0.0109	0.0109	0.0656	Y	Yes	1	DRY
	Copper	7440-50-8	T	MG/KG	6.17			0.148	0.148	0.262	Y	Yes	1	DRY
	Lead	7439-92-1	T	MG/KG	12.7			0.0459	0.0459	0.131	Y	Yes	1	DRY
	Lithium	7439-93-2	T	MG/KG	9.46			0.362	0.362	0.656	Y	Yes	1	DRY
	Molybdenum	7439-98-7	T	MG/KG		U*	BL	0.383	0.383	0.656	N	Yes	1	DRY
	Nickel	7440-02-0	T	MG/KG	7.37			0.0800	0.0800	0.131	Y	Yes	1	DRY
	Selenium	7782-49-2	T	MG/KG	0.923			0.0787	0.0787	0.656	Y	Yes	1	DRY
	Silver	7440-22-4	T	MG/KG		U		0.0184	0.0184	0.131	N	Yes	1	DRY
	Thallium	7440-28-0	T	MG/KG	0.0943	J	RL	0.0171	0.0171	0.131	Y	Yes	1	DRY
	Vanadium	7440-62-2	T	MG/KG	14.0			0.0800	0.0800	0.131	Y	Yes	1	DRY
	Zinc	7440-66-6	T	MG/KG	23.0			0.438	0.438	0.656	Y	Yes	1	DRY
SW-846 7471B	Mercury	7439-97-6	T	MG/KG	0.0235	J	RL	0.0172	0.0172	0.0398	Y	Yes	1	DRY
SW-846 9045D	pH at 25 Degrees C	PH	N	SU	5.5			0.1	0.1	0.1	Y	Yes	1	WET
SW-846 9056A	Chloride	16887-00-6	N	MG/KG		U		4.76	4.76	12.3	N	Yes	1	DRY
	Fluoride	16984-48-8	N	MG/KG		UJ	M-	0.833	0.833	1.23	N	Yes	1	DRY
	Sulfate	14808-79-8	N	MG/KG	361			8.32	8.32	12.3	Y	Yes	1	DRY

SECTION 3

SUPPORTING DOCUMENTATION FOR QUALIFIERS

ENVIRONMENTAL STANDARDS

INORGANIC ANALYSIS SUPPORT DOCUMENTATION

ESI project name:	TVA JSF	Reviewed by:	Allison Felix
Sample Collection Dates:	1/23 and 24/2019	Approved by:	AC
Job Number:	20188396.A, Task 4	Completion Date:	2/2019
Project Manager:	Andrew Piasecki		
Laboratory:	TestAmerica Pittsburgh, TestAmerica NAshville		

Applicable Sample No's (X) — Refer to Table 1 in the Quality Assurance Review

Deliverable:			Sample No.	Lab Control No.
	CLP (Full)	( )		
	Level IV (Full)	(X)	All	180-86109-1
	Limited	( )		
	Other:			

The following table indicates criteria that were examined, the identified problems, and support documentation attachments

	Criteria Examined in Detail (Check (√) if Yes or Footnote Letter for Comments Below)					Problems Identified (Check (√) if Yes or Footnote Letter for Comments Below)					Support Documentation Attachments (Check (√) if Yes or Footnote Letter for Comments Below)				
	Metals	Hg	Anions	pH		Metals	Hg	Anions	pH		Metals	Hg	Anions	pH	
Holding Times	X	X	X	X					X		X	X	X	X	
Blank Analysis Results	X	X	X			X					X	X	X		
Matrix Spike (Predigestion) Results		X	X			X						X	X		
Duplicate Analysis: (x) Field (X) Lab	X	X	X	X							X	X	X	X	
Quantitation of Results	X	X	X	X							X	X	X	X	
Detection Limit/Sensitivity	X	X	X	X							X	X	X	X	
Initial Calibrations	X	X	X								X	X	X		
Continuing Calibrations	X	X	X	X							X	X	X	X	
Laboratory Control Standard (LCS)	X	X	X	X							X	X	X	X	
ICP Linear Range Analysis															
ICP Interference Checks															
ICP Serial Dilutions	X										X				
ICP Post-Digestion Spike	X										X				
GFAA Post Digestion Spikes															
GFAA Duplicate Injections															
ICP Multiple Exposures															
GFAA Standard Additions															
CRDL Standards	X	X	X								X	X	X		
Condition on Receipt	X	X	X	X							X	X	X	X	
Others: ICP-MS Tune and IS	X										X				

Comments:

ENVIRONMENTAL STANDARDS

BLANK ANALYSIS RESULTS FOR INORGANIC PARAMETERS

	Blank Type									
	Method									
Matrix (Aq., S.)	ICB	CCB	Prep.	Trip	Equip	Field	Blank Sample Number	Contaminant	Concentration (mg/kg or ug/L)	Qualification limit (5×)
Aq			X				MB180-269328/37	None present		0
S			X				MB 180-269400/1-A	None present		0
S			X				MB 180-269404/1-A	None present		0
Aq, S	X	X					IC ICB/CCB	None present		0
Aq	X	X					ICP-MS ICB/CCBs	None present		0
S	X	X					ICP-MS ICB/CCBs	Mo	0.841	4.205
S	X	X					ICP-MS ICB/CCBs	Ni	0.83	4.15
Aq, S	X	X					Hg ICB/CCBs	None present		0
Aq, S	X	X					Hg ICB/CCBs	None present		0
S			X				MB 180-269015/1-A	None present		0
Aq			X				MB 180-268975/1-A	Ca	0.757	3.785
Aq			X				MB 180-268975/1-A	Ni	0.575	2.875
Aq			X				MB 180-269599/1-A (Hg)	None present		0
S			X				MB 180-269472/1-A (Hg)	None present		0
										0
										0
										0
										0
										0
										0
										0
										0
										0
										0
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										0
										0
										0
										0
										0

Aq = Aqueous; S = Solid

Notes:

ENVIRONMENTAL STANDARDS

BLANK ANALYSIS RESULTS FOR INORGANIC PARAMETERS

	Blank Type									
	Method									
Matrix (Aq., S.)	ICB	CCB	Prep.	Filter	Equip	Field	Blank Sample Number	Contaminant	Concentration (mg/L)	Qualification limit (5×)
Aq						X	JSF-BS-FB01-20190123	As	0.366	1.83
Aq						X	JSF-BS-FB01-20190123	Cr	6.22	31.1
Aq						X	JSF-BS-FB01-20190123	Co	0.438	2.19
Aq						X	JSF-BS-FB01-20190123	Cu	3.99	19.95
Aq						X	JSF-BS-FB01-20190123	Mo	0.936	4.68
Aq						X	JSF-BS-FB01-20190123	Ni	2.6	13
Aq						X	JSF-BS-FB01-20190123	Ag	1.82	9.1
Aq						X	JSF-BS-FB01-20190123	Zn	25	125
Aq						X	JSF-BS-FB02-20190124	Cr	1.37	6.85
Aq						X	JSF-BS-FB02-20190124	Ag	0.579	2.895
Aq					X		JSF-BS-EB01-20190124	Cr	1.42	7.1
Aq					X		JSF-BS-EB01-20190124	Ag	1.16	5.8
Aq					X		JSF-BS-EB02-20190124	Cr	1.44	7.2
Aq					X		JSF-BS-EB02-20190124	Ag	2.61	13.05
Aq					X		JSF-BS-EB03-20190129	Ba	0.742	3.71
Aq					X		JSF-BS-EB03-20190129	Cr	1.34	6.7
Aq					X		JSF-BS-EB03-20190129	Pb	0.29	1.45
Aq					X		JSF-BS-EB03-20190129	Zn	6.07	30.35
Aq					X		JSF-BS-EB04-20190131	Ca	0.171	0.855
Aq					X		JSF-BS-EB04-20190131	Cr	1.13	5.65
Aq					X		JSF-BS-EB04-20190131	Pb	0.131	0.655
Aq					X		JSF-BS-EB04-20190131	V	0.924	4.62
										0
										0
										0
										0
										0
										0
										0
										0
										0
										0
										0
										0
										0
										0
										0
										0
										0

Aq = Aqueous; S = Solid

Notes: Shaded cells were the highest value for the type blank and applied to sample results.

ENVIRONMENTAL STANDARDS, INC.
EVALUATION OF DUPLICATE RESULTS

Effective Date: 11/23/2015
Revision: 0

Matrix: ○ Aqueous ◉ Non-aq.
Reporting Level: ◉ MDL ○ QL
Units: mg/kg

PRECISION OBJECTIVES:
If Both Results ≥ 5 × Their QL, RPD ≤: 35
If Either Result < 5 × Its QL, Dif. ≤: 2 **× Highest QL**

Sample ID: JSF-BS-BG11-5.5/8.5-20190124 **Duplicate Sample ID:** JSF-BS-FD01-20190124

Analyte	Sample Concentration	Qual	QL	MDL	Duplicate Concentration	Qual	QL	MDL	Difference	RPD	Flag
pH at 25 Degrees C	5.4		0.1	0.1	5.5		0.1	0.1	NA	2%	
Sulfate	370		12	8.13	361		12.3	8.32	NA	2%	
Fluoride	0.814	U	1.2	0.814	0.833	U	1.23	0.833	NA	NA	
Chloride	4.64	U	12	4.64	4.76	U	12.3	4.76	NA	NA	
Mercury	0.0152	U	0.0351	0.0152	0.0235	J	0.0172	0.0398	0.0083	NA	
Calcium	640		63.4	11.3	723		65.5	11.7	NA	12%	
Cadmium	0.0215	U	0.127	0.0215	0.0226	J	0.131	0.0223	NA	NA	
Chromium	9.99		0.254	0.0837	11.7		0.262	0.0886	NA	16%	
Copper	6.26		0.254	0.143	6.17		0.262	0.148	NA	1%	
Cobalt	4.4		0.0634	0.0105	8.22		0.0656	0.0109	NA	61%	J
Arsenic	3.71		0.127	0.033	4.8		0.131	0.0341	NA	26%	
Antimony	0.0786	U	0.254	0.0786	0.0813	U	0.262	0.0813	NA	NA	
Barium	33.1		1.27	0.0723	43.8		1.31	0.0748	NA	28%	
Boron	0.989	J	10.1	0.967	1	U	10.5	1	NA	NA	
Beryllium	0.43		0.127	0.00951	0.619		0.131	0.0984	0.189	NA	
Lead	9.91		0.127	0.0444	12.7		0.131	0.08	NA	25%	
Zinc	22.5		0.634	0.423	23		0.656	0.438	NA	2%	
Silver	0.0177	U	0.127	0.0177	0.0184	U	0.131	0.0184	NA	NA	
Thallium	0.0878	J	0.127	0.0165	0.0943	J	0.131	0.0171	NA	NA	
Vanadium	13		0.127	0.0773	14		0.131	0.08	NA	7%	
Molybdenum	0.312	J	0.634	0.0786	0.383		0.656	0.0813	NA	NA	
Lithium	10.5		0.634	0.35	9.46		0.656	0.362	NA	10%	
Nickel	7.25		0.127	0.0773	7.37		0.131	0.0787	NA	2%	
Selenium	0.545	J	0.634	0.0761	0.923	J	0.656	0.0787	0.378	NA	

NOTES:

Qual: Qualifier(s) based on evaluation(s) other than Total/ vs. Dissolved comparison, if applicable (J, U, U* or B)
RPD: Relative Percent Difference
QL: Quantitation Limit
MDL: Method Detection Limit
RL: Reporting Limit. RL = QL for QL reporting and MDL for MDL reporting
J: The analyte concentration should be considered estimated
U: The analyte was not detected in the sample at or above the RL indicated. The RL will be used for comparison purposes.
UJ: The analyte was not detected in the sample at or above the Reporting Limit Indicated. The RL is approximate.
R: The analyte was analyzed for and detected, but sample results are unreliable. The presence or absence of the analyte cannot be verified.
UR: The analyte was analyzed for and not detected, but the determination that the analyte was not present in the sample is unreliable. The presence or absence of the analyte cannot be verified.
U* The result was blank qualified. The RL will be used for comparison purposes.
NA: The MDL (for QL reporting), RPD or Difference is not applicable

Comments:

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_BS_20190124_1A

TestAmerica Job ID: 180-86109-1

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

Client Sample ID: JSF-BS-FB01-20190123
Date Collected: 01/23/19 15:30
Date Received: 01/26/19 09:30

Lab Sample ID: 180-86109-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200	0.00112	mg/L		01/29/19 07:54	02/06/19 13:52	1
Arsenic	**0.000366**	**J**	0.00100	0.000323	mg/L		01/29/19 07:54	02/06/19 13:52	1
Barium	ND		0.0100	0.000373	mg/L		01/29/19 07:54	02/06/19 13:52	1
Beryllium	ND		0.00100	0.0000570	mg/L		01/29/19 07:54	02/06/19 13:52	1
Boron	ND		0.0800	0.0303	mg/L		01/29/19 07:54	02/06/19 13:52	1
Cadmium	ND		0.00100	0.000125	mg/L		01/29/19 07:54	02/06/19 13:52	1
Calcium	ND		0.500	0.116	mg/L		01/29/19 07:54	02/06/19 13:52	1
Chromium	**0.00622**	**B**	0.00200	0.000631	mg/L		01/29/19 07:54	02/06/19 13:52	1
Cobalt	**0.000438**	**J**	0.000500	0.0000750	mg/L		01/29/19 07:54	02/06/19 13:52	1
Copper	**0.00399**		0.00200	0.00130	mg/L		01/29/19 07:54	02/06/19 13:52	1
Lead	ND		0.00100	0.0000940	mg/L		01/29/19 07:54	02/06/19 13:52	1
Lithium	ND		0.00500	0.00256	mg/L		01/29/19 07:54	02/06/19 13:52	1
Molybdenum	**0.000936**	**J**	0.00500	0.000474	mg/L		01/29/19 07:54	02/06/19 13:52	1
Nickel	**0.00260**	**B**	0.00100	0.000312	mg/L		01/29/19 07:54	02/06/19 13:52	1
Selenium	ND		0.00500	0.000813	mg/L		01/29/19 07:54	02/06/19 13:52	1
Silver	**0.00182**		0.00100	0.000121	mg/L		01/29/19 07:54	02/06/19 13:52	1
Thallium	ND		0.00100	0.0000630	mg/L		01/29/19 07:54	02/06/19 13:52	1
Vanadium	ND		0.00100	0.000899	mg/L		01/29/19 07:54	02/06/19 13:52	1
Zinc	**0.0250**		0.00500	0.00242	mg/L		01/29/19 07:54	02/06/19 13:52	1

Associated with samples collected on 1/23/19.
All associated As, Cr, Co, Cu, Ni and Zn sample results were >5x, no impact,
All associated Mo results <5x, qualified U*,BF.
Ag results for BG12-10.25/12.75 and BG12-0.0-0.5 were <5x, qualified U*,BF.
All other associated Ag results were ND, no impact.

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_BS_20190124_1A

TestAmerica Job ID: 180-86109-1

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

Client Sample ID: JSF-BS-FB02-20190124
Date Collected: 01/24/19 14:34
Date Received: 01/26/19 09:30

Lab Sample ID: 180-86109-13
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200	0.00112	mg/L		01/29/19 07:54	02/06/19 13:59	1
Arsenic	ND		0.00100	0.000323	mg/L		01/29/19 07:54	02/06/19 13:59	1
Barium	ND		0.0100	0.000373	mg/L		01/29/19 07:54	02/06/19 13:59	1
Beryllium	ND		0.00100	0.0000570	mg/L		01/29/19 07:54	02/06/19 13:59	1
Boron	ND		0.0800	0.0303	mg/L		01/29/19 07:54	02/06/19 13:59	1
Cadmium	ND		0.00100	0.000125	mg/L		01/29/19 07:54	02/06/19 13:59	1
Calcium	ND		0.500	0.116	mg/L		01/29/19 07:54	02/06/19 13:59	1
Chromium	**0.00137**	**J B**	0.00200	0.000631	mg/L		01/29/19 07:54	02/06/19 13:59	1
Cobalt	ND		0.000500	0.0000750	mg/L		01/29/19 07:54	02/06/19 13:59	1
Copper	ND		0.00200	0.00130	mg/L		01/29/19 07:54	02/06/19 13:59	1
Lead	ND		0.00100	0.0000940	mg/L		01/29/19 07:54	02/06/19 13:59	1
Lithium	ND		0.00500	0.00256	mg/L		01/29/19 07:54	02/06/19 13:59	1
Molybdenum	ND		0.00500	0.000474	mg/L		01/29/19 07:54	02/06/19 13:59	1
Nickel	ND		0.00100	0.000312	mg/L		01/29/19 07:54	02/06/19 13:59	1
Selenium	ND		0.00500	0.000813	mg/L		01/29/19 07:54	02/06/19 13:59	1
Silver	**0.000579**	**J**	0.00100	0.000121	mg/L		01/29/19 07:54	02/06/19 13:59	1
Thallium	ND		0.00100	0.0000630	mg/L		01/29/19 07:54	02/06/19 13:59	1
Vanadium	ND		0.00100	0.000899	mg/L		01/29/19 07:54	02/06/19 13:59	1
Zinc	ND		0.00500	0.00242	mg/L		01/29/19 07:54	02/06/19 13:59	1

Associated with samples collected 1/24/19.
All associated Cr sample results were >5x, no impact.
Ag result for BG10-0.0/0.5 was a detect <5x, qualified U*,BF. All other associated Ag results were ND, no impact.

Client Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_BS_20190124_1A

TestAmerica Job ID: 180-86109-1

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

Client Sample ID: JSF-BS-EB01-20190124
Date Collected: 01/24/19 12:35
Date Received: 01/26/19 09:30

Lab Sample ID: 180-86109-12
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.00200	0.00112	mg/L		01/29/19 07:54	02/06/19 13:56	1
Arsenic	ND		0.00100	0.000323	mg/L		01/29/19 07:54	02/06/19 13:56	1
Barium	ND		0.0100	0.000373	mg/L		01/29/19 07:54	02/06/19 13:56	1
Beryllium	ND		0.00100	0.0000570	mg/L		01/29/19 07:54	02/06/19 13:56	1
Boron	ND		0.0800	0.0303	mg/L		01/29/19 07:54	02/06/19 13:56	1
Cadmium	ND		0.00100	0.000125	mg/L		01/29/19 07:54	02/06/19 13:56	1
Calcium	ND		0.500	0.116	mg/L		01/29/19 07:54	02/06/19 13:56	1
Chromium	**0.00142**	**J B**	0.00200	0.000631	mg/L		01/29/19 07:54	02/06/19 13:56	1
Cobalt	ND		0.000500	0.0000750	mg/L		01/29/19 07:54	02/06/19 13:56	1
Copper	ND		0.00200	0.00130	mg/L		01/29/19 07:54	02/06/19 13:56	1
Lead	ND		0.00100	0.0000940	mg/L		01/29/19 07:54	02/06/19 13:56	1
Lithium	ND		0.00500	0.00256	mg/L		01/29/19 07:54	02/06/19 13:56	1
Molybdenum	ND		0.00500	0.000474	mg/L		01/29/19 07:54	02/06/19 13:56	1
Nickel	ND		0.00100	0.000312	mg/L		01/29/19 07:54	02/06/19 13:56	1
Selenium	ND		0.00500	0.000813	mg/L		01/29/19 07:54	02/06/19 13:56	1
Silver	**0.00116**		0.00100	0.000121	mg/L		01/29/19 07:54	02/06/19 13:56	1
Thallium	ND		0.00100	0.0000630	mg/L		01/29/19 07:54	02/06/19 13:56	1
Vanadium	ND		0.00100	0.000899	mg/L		01/29/19 07:54	02/06/19 13:56	1
Zinc	ND		0.00500	0.00242	mg/L		01/29/19 07:54	02/06/19 13:56	1

Associated with all samples, and pooled with 3 other EBs. Highest EB value was applied to sample results. All Ca, Cr, Pb, V, and Zn (see also other EB results) sample results were >5x the highest EB. No impact.
Ag results for BG12-10.25/12.75, BG12-0.0/0.5, and BG10-0.0/0.5 were < 5x, qualified U*,BE. All other Ag results were ND, no impact.
Sb results for numerous samples were <5x, qualified U*,BE. All other Sb results were either >5x or were ND, no impact.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-86109-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 180-269897/6 02/06/2019 19:02		CCB1 180-269897/11 02/06/2019 19:26		CCB2 180-269897/23 02/06/2019 20:25		CCB3 180-269897/35 02/06/2019 21:24	
		Found	C	Found	C	Found	C	Found	C
Antimony	2.00	ND		ND		ND		ND	
Arsenic	1.00	ND		ND		ND		ND	
Barium	10.0	ND		ND		ND		ND	
Beryllium	1.00	ND		ND		ND		ND	
Boron	80.0	ND		ND		ND		ND	
Cadmium	1.00	ND		ND		ND		ND	
Calcium	500	ND		ND		ND		ND	
Chromium	2.00	ND		ND		ND		ND	
Cobalt	0.500	ND		ND		ND		ND	
Copper	2.00	ND		ND		ND		ND	
Lead	1.00	ND		ND		ND		ND	
Lithium	5.00	ND		ND		ND		ND	
Molybdenum	5.00	ND		0.8410	J	ND		ND	
Nickel	1.00	ND		ND		0.5270	J	0.8300	J
Selenium	5.00	ND		ND		ND		ND	
Silver	1.00	ND		ND		ND		ND	
Thallium	1.00	ND		ND		ND		ND	
Vanadium	1.00	ND		ND		ND		ND	
Zinc	5.00	ND		ND		ND		ND	

Associated with all solid samples.
See Blank workbook for qualifications.
All Ni sample results were >5x the moisture and prep adjusted blank, no impact.
Numerous Mo results were <5x the moisture and prep adjusted blank, ~~no impact~~.

U* -2, -3, -4, -5, -8, -9, -7

Italicized analytes were not requested for this sequence.

QC Sample Results

Client: Environmental Standards Inc.
Project/Site: JSF_BS_20190124_1A

TestAmerica Job ID: 180-86109-1

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

Lab Sample ID: 180-86104-A-1-B MS Parent sample from another JSF SDG. Applies. **Client Sample ID: Matrix Spike**
Matrix: Solid **Prep Type: Soluble**
Analysis Batch: 269427

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	
Chloride	ND		308	284.8		mg/Kg	☼	92	80 - 120	75 - 125%
Fluoride	ND	F1 F2	15.4	9.831	F1	mg/Kg	☼	64	80 - 120	
Sulfate	75.3		308	363.2		mg/Kg	☼	93	80 - 120	

Lab Sample ID: 180-86104-A-1-C MSD Parent sample from another JSF SDG. Applies. **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid **Prep Type: Soluble**
Analysis Batch: 269427

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit	
Chloride	ND		309	302.4		mg/Kg	☼	98	80 - 120	6	15	35%
Fluoride	ND	F1 F2	15.5	6.815	F1 F2	mg/Kg	☼	44	80 - 120	36	15	
Sulfate	75.3		309	374.8		mg/Kg	☼	97	80 - 120	3	15	

Lab Sample ID: 180-86158-A-1-B MS Parent sample from another JSF SDG. Applies. **Client Sample ID: Matrix Spike**
Matrix: Solid **Prep Type: Soluble**
Analysis Batch: 269427

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	ND		329	316.1		mg/Kg	☼	96	80 - 120
Fluoride	1.21	J F1 F2	16.5	9.190	F1	mg/Kg	☼	48	80 - 120
Sulfate	80.0		329	428.3		mg/Kg	☼	106	80 - 120

Lab Sample ID: 180-86158-A-1-C MSD Parent sample from another JSF SDG. Applies. **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid **Prep Type: Soluble**
Analysis Batch: 269427

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	ND		326	313.9		mg/Kg	☼	96	80 - 120	1	15
Fluoride	1.21	J F1 F2	16.3	6.202	F1 F2	mg/Kg	☼	31	80 - 120	39	15
Sulfate	80.0		326	465.5		mg/Kg	☼	118	80 - 120	8	15

Qualify all F sample results J/UJ, M-,MP

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

Lab Sample ID: MB 180-269015/1-A **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 269897 **Prep Batch: 269015**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.200	0.0620	mg/Kg		01/29/19 12:13	02/06/19 19:30	1
Arsenic	ND		0.100	0.0260	mg/Kg		01/29/19 12:13	02/06/19 19:30	1
Barium	ND		1.00	0.0570	mg/Kg		01/29/19 12:13	02/06/19 19:30	1
Beryllium	ND		0.100	0.00750	mg/Kg		01/29/19 12:13	02/06/19 19:30	1
Boron	ND		8.00	0.763	mg/Kg		01/29/19 12:13	02/06/19 19:30	1
Cadmium	ND		0.100	0.0170	mg/Kg		01/29/19 12:13	02/06/19 19:30	1
Calcium	ND		50.0	8.95	mg/Kg		01/29/19 12:13	02/06/19 19:30	1
Chromium	ND		0.200	0.0660	mg/Kg		01/29/19 12:13	02/06/19 19:30	1
Cobalt	ND		0.0500	0.00830	mg/Kg		01/29/19 12:13	02/06/19 19:30	1
Copper	ND		0.200	0.113	mg/Kg		01/29/19 12:13	02/06/19 19:30	1
Lead	ND		0.100	0.0350	mg/Kg		01/29/19 12:13	02/06/19 19:30	1

No detects, no qual.

SECTION 4

CASE NARRATIVE AND CHAIN-OF-CUSTODY RECORD

Job Narrative
180-86109-1

Comments
No additional comments.

Receipt
The samples were received on 1/26/2019 9:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 5 coolers at receipt time were 0.8° C, 1.8° C, 2.4° C, 2.6° C and 3.1° C.

Receipt Exceptions
The container label for the following sample did not match the information listed on the Chain-of-Custody (COC):
JSF-BS-BG10-0.0/0.5-20190124 (180-86109-17). The container labels list a sample collection time of 1548, while the COC lists 1556. The collection time of 1556 was confirmed by the client.

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

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.

Sample Summary

Client: Environmental Standards Inc.
Project/Site: JSF_BS_20190124_1A

TestAmerica Job ID: 180-86109-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-86109-1	JSF-BS-BG12-0.8/2.8-20190123	Solid	01/23/19 11:19	01/26/19 09:30
180-86109-2	JSF-BS-BG12-5.0/10.0-20190123	Solid	01/23/19 12:05	01/26/19 09:30
180-86109-3	JSF-BS-BG12-10.25/12.75-20190123	Solid	01/23/19 12:32	01/26/19 09:30
180-86109-4	JSF-BS-BG12-13.5/15.0-20190123	Solid	01/23/19 12:44	01/26/19 09:30
180-86109-5	JSF-BS-BG12-0.0/0.5-20190123	Solid	01/23/19 12:47	01/26/19 09:30
180-86109-6	JSF-BS-FB01-20190123	Water	01/23/19 15:30	01/26/19 09:30
180-86109-7	JSF-BS-BG11-1.1/3.1-20190124	Solid	01/24/19 11:16	01/26/19 09:30
180-86109-8	JSF-BS-BG11-5.5/8.5-20190124	Solid	01/24/19 11:36	01/26/19 09:30
180-86109-9	JSF-BS-FD01-20190124	Solid	01/24/19 11:21	01/26/19 09:30
180-86109-10	JSF-BS-BG11-11.3/13.3-20190124	Solid	01/24/19 12:02	01/26/19 09:30
180-86109-11	JSF-BS-BG11-0.0/0.5-20190124	Solid	01/24/19 12:47	01/26/19 09:30
180-86109-12	JSF-BS-EB01-20190124	Water	01/24/19 12:35	01/26/19 09:30
180-86109-13	JSF-BS-FB02-20190124	Water	01/24/19 14:34	01/26/19 09:30
180-86109-14	JSF-BS-BG10-1.4/3.4-20190124	Solid	01/24/19 15:07	01/26/19 09:30
180-86109-15	JSF-BS-BG10-6.5/8.5-20190124	Solid	01/24/19 15:27	01/26/19 09:30
180-86109-16	JSF-BS-BG10-10.5/12.5-20190124	Solid	01/24/19 15:48	01/26/19 09:30
180-86109-17	JSF-BS-BG10-0.0/0.5-20190124	Solid	01/24/19 15:56	01/26/19 09:30

Collection time confirmed with client

Tennessee Valley Authority

Chain-of-Custody / Analytical Request Document

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

COC No: JSF_BS_20190124_1A

Task Order: JSF_BS

Rev. 1 DC 1/29/19

Rev. 2 DC 1/30/19

Lab Name: TestAmerica Nashville

Lab Contact: Cell Large

Site Name: JOHN SEVIER FOSSIL PLANT

Project #: 1198879

Site Address: 600 Old Highway 70 S

Site Contact: Roy Clark

Sampler: Andrew Stevens

Address: 1601 Gallatman Pike

Sampling Complete?: Y

Send Sample Report To: [illegible]

Analysis Turnaround Time: Standard (10 Business Days)

Indicate	SAMPLE ID (Samples IDs MUST BE UNIQUE)	SAMPLE LOCATION	Sample Depth: Start Depth	Sample Depth: End Depth	MATRIX CODE	G=GRAB C=COMP	SAMPLE TYPE	SAMPLE DATE	SAMPLE TIME	# CONTAINERS	Comments/ Lab Sample I.D.	Filtered	Sample Disposal	Sample Preservation Acceptable	Sample Preservation Acceptable
	JSF-BS-BG12-0.5-2.8-20190123	BG12	0.5	2.8	S	G	N	1/23/2019	1118	2				X	X
	JSF-BS-BG12-5.0-10.0-20190123	BG12	5.0	10.0	S	G	N	1/23/2019	1205	2				X	X
	JSF-BS-BG12-10.25-12.75-20190123	BG12	10.25	12.75	S	G	N	1/23/2019	1232	2				X	X
	JSF-BS-BG12-13.5-15.0-20190123	BG12	13.5	15.0	S	G	N	1/23/2019	1244	2				X	X
	JSF-BS-BG12-0.0-0.5-20190123	BG12	0.0	0.5	S	G	N	1/23/2019	1247	2				X	X
	JSF-BS-FB01-20190123	BG12	NA	NA	W	G	FB	1/23/2019	1530	2					X
	JSF-BS-BG11-1.1-3.1-20190124	BG11	1.1	3.1	S	G	N	1/24/2019	1116	2				X	X
	JSF-BS-BG11-5.5-8.5-20190124	BG11	5.5	8.5	S	G	N	1/24/2019	1136	2				X	X
	JSF-BS-FD01-20190124	NA	NA	NA	S	G	FD	1/24/2019	1121	2				X	X
	JSF-BS-BG11-11.3-13.3-20190124	BG11	11.3	13.3	S	G	N	1/24/2019	1202	2				X	X
	JSF-BS-BG11-0.0-0.5-20190124	BG11	0.0	0.5	S	G	N	1/24/2019	1247	2				X	X
	JSF-BS-EB01-20190124	BG11	NA	NA	W	G	EB	1/24/2019	1235	2				X	X
	JSF-BS-FB02-20190124	BG10	NA	NA	W	G	FB	1/24/2019	1434	2				X	X

DC 1/29/19

Additional Comments/Special Instructions

Additional volume collected should be used for MS/MSDs

~~JSF~~_BACKGROUNDSOIL. Perform MS/MSD on sample identified above DC 1/29/19

~~JSF~~_BACKGROUNDSOIL_BLANKS. Anions – unpreserved; Metals – preserved w/ HNO3 to pH<2

Relinquished by (Signature)	Date	Time	Received by (Signature)	Date	Time
[signature]	1/24/19	1130	[signature]		

Shipping Method: Fedex

Sample Receipt Conditions

180-86109 Chain of Custody

TVA Environmental Investigations

Tennessee Valley Authority

Chain-of-Custody / Analytical Request Document

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

COOLER No.	1 of 5
COC No:	JSF_BS_20190124_1A
2 of 2 Pages	
Task Desc:	JSF_BS

Rev. 1 DC 1/28/19

Required Ship to Lab:

Lab Name:	TestAmerica Nashville
Lab Address:	29360 Foster Creighton Dr Nashville, TN 37204

Lab Manager Contact Information

Lab PM	Gail Lage
Phone/Fax:	615-301-5741/615-726-3404
Lab Email:	[illegible]

Required Project Information:

Site ID #:	JOHN SEVIER FOSSIL PLANT
Project #:	[illegible]
Site Address:	600 Old Highway 70 S
City:	Rogersville State, Zip: TN, 37857
Site PM Name:	Roy Quinn
Phone/Fax:	423-751-3753
Site PM Email:	[illegible]

Required Sampler Information

Sampler:	Brandon Dobbins & Andrew Stevens
Sampling Company:	Stantec
Address:	601 Crossroads Park
City/State:	Nashville/TN Phone: 615-885-1580
Sampling Team Number:	1
Send EDD/field Copy to:	[illegible]

Analysis Turnaround Time

CALENDAR DAYS WORKING DAYS

TAT if different from below

- 14 days
- 7 Business Days
- 3 Business Days
- ✓ 10 Business Days (Standard) DC 1/28/19

Item #	SAMPLE ID Samples IDs MUST BE UNIQUE	SAMPLE LOCATION	Sample Depth: Depth Unit	Sample Depth: Select Unit	MATRIX CODE	G= GRAB C=COMP	SAMPLE TYPE	SAMPLE DATE	SAMPLE TIME	# OF CONTAINERS	Comments/ Lab Sample I.D.	MS/MSD	Analysis: Metals	Analysis: Anions	Analysis: SUP_BACKGROUNDSOIL_GH
1	JSF-BS-BG10-1.4/3.4-20190124	BG10	1.4	3.4	S	G	N	1/24/2019	1507	2			X	X	
2	JSF-BS-BG10-6.5/8.5-20190124	BG10	6.5	8.5	S	G	N	1/24/2019	1527	2			X	X	
3	JSF-BS-BG10-10.5/12.5-20190124	BG10	10.50	12.50	S	G	N	1/24/2019	1548	2			X	X	
4	JSF-BS-BG10-0.0/0.5-20190124	BG10	0.0	0.5	S	G	N	1/24/2019	1556	2			X	X	
5															
6															
7															
8															
9															
10															
11															
12															
13															

AS 1/24/19

DC 1/30/19

Additional Comments/Special Instructions:

Additional volume collected should be used for MS/MSDs.

~~SUP~~_BACKGROUNDSOIL: Perform MS/MSD on sample identified above DC 1/28/19

~~SUP~~_BACKGROUNDSOIL_BLANKS: Anions – unpreserved; Metals – preserved w/ HNO3 to pH<2

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Andrew Stevens	1/24/19	1900	[illegible]	1/24/19	1900

SHIPPING METHOD:	SAMPLER NAME AND SIGNATURE
Fedex	Andrew Stevens

Sample Receipt Conditions: Temperature in °C; Sample on Ice? Sample Intact? Trip Blank?

Page 1 of 1

Form TVA 3000.2A

Tennessee Valley Authority

COOLER No: 1 of 5
COC No: JSF_BS_20190124_1A
1 of 3 Pages
Task Code: JSF_BS

Chain-of-Custody / Analytical Request Document

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

Required Ship to Lab

Lab Name:	TestAmerica Nashville
Lab Address:	2960 Foster Creighton Dr Nashville, TN 37204

Lab Manager Contact Information

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

Required Project Information

Site ID #:	JOHN SEVIER FOSSIL PLANT
Project #:	175666701
Site Address:	906 Old Highway 70 S
City:	Rogersville State, Zip: TN 37857
Site PM Name:	Roy Quinn
Phone/Fax:	423-751-3763
Site PM Email:	rquinn@tva.gov

Required Sampler Information

Sampler:	Elizabeth Dillons & Andrew Stevens
Sampling Company:	Stantec
Address:	801 Grassmere Park
City/State:	Nashville/TN Phone: 615-885-1148
Sampling Team Number:	1
Send EDD/Hard Copy to:	

Analysis Turnaround Time

* CALENDAR DAYS * WORKING DAYS

TAT if different from Below

* 24 Hours
* 2 Business Days
* 3 Business Days
* 10 Business Days (Standard)

ITEMS #	SAMPLE ID Samples IDs MUST BE UNIQUE	SAMPLE LOCATION	Sample Depth Start Depth	Sample Depth End Depth	MATRIX CODE	G= GRAB C=COMP	SAMPLE TYPE	SAMPLE DATE	SAMPLE TIME	# OF CONTAINERS	Comments/ Lab Sample I.D.	REQUIRED	Analysis CUF_BACKGROUNDSOIL	Analysis CUF_BACKGROUNDSOIL_BLANKS	Analysis CUF_BACKGROUNDSOIL_SR
1	JSF-BS-BG12-0.8/2.8-20190123	BG12	0.8	2.8	S	G	N	1/23/2019	1119	2		*	X		
2	JSF-BS-BG12-5.0/10.0-20190123	BG12	5.0	10.0	S	G	N	1/23/2019	1205	2		*	X		
3	JSF-BS-BG12-10.25/12.75-20190123	BG12	10.25	12.75	S	G	N	1/23/2019	1232	2		*	X		
4	JSF-BS-BG12-13.5/15.0-20190123	BG12	13.5	15.0	S	G	N	1/23/2019	1244	2		*	X		
5	JSF-BS-BG12-0.0/0.5-20190123	BG12	0.0	0.5	S	G	N	1/23/2019	1247	2		*	X		
6	JSF-BS-FB01-20190123	BG12	NA	NA	W	G	FB	1/23/2019	1530	2		*		X	
7	JSF-BS-BG11-1.1/3.1-20190124	BG11	1.1	3.1	S	G	N	1/24/2019	1116	2		*	X		
8	JSF-BS-BG11-5.5/8.5-20190124	BG11	5.5	8.5	S	G	N	1/24/2019	1138	2		*	X		
9	JSF-BS-FD01-20190124	NA	NA	NA	S	G	FD	1/24/2019	1121	2		*	X		
10	JSF-BS-BG11-11.3/13.3-20190124	BG11	11.3	13.3	S	G	N	1/24/2019	1202	2		*	X		
11	JSF-BS-BG11-0.0/0.5-20190124	BG11	0.0	0.5	S	G	N	1/24/2019	1247	2		*	X		
12	JSF-BS-EB01-20190124	BG11	NA	NA	W	G	EB	1/24/2019	1235	2		*		X	
13	JSF-BS-FB02-20190124	BG10	NA	NA	W	G	FB	1/24/2019	1434	2		*		X	

Additional Comments/Special Instructions

Additional volume collected should be used for MS/MSDs.

CUF_BACKGROUNDSOIL: Perform MS/MSD on sample identified above

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

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Andrew Stevens	1/24/19	1700	[illegible]	1/24/19	1700

SHIPPED VIA METHOD	SAMPLER NAME AND SIGNATURE
fedex	Andrew Stevens

Sample Receipt Conditions: Temperature in °C; Seals on Box?; Intact?; Temp Blank?; Trip Blank?

AS 1/24/19

180-86109 Chain of Custody

Form TVA 30087A

TVA Environmental Investigations

Tennessee Valley Authority

COOLER No.:	1	of	5
COC No:	JSF_BS_20190124_1A		
2 of 2 Pages			
Task Desc:	JSF_BS		

Chain-of-Custody / Analytical Request Document

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

Required Ship to Lab:

Lab Name:	TestAmerica Nashville
Lab Address:	29360 Foster Creighton Dr Nashville, TN 37204

Lab Manager Contact Information

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

Required Project Information:

Site ID #:	JOHN SEVIER FOSSIL PLANT		
Project #:	175566225		
Site Address	608 Old Highway 70 S		
City	Rogersville	State, Zip:	TN, 37857
Site PM Name:	Roy Quinn		
Phone/Fax:	423-751-3753		
Site PM Email:	rquinn@tva.gov		

Required Sampler Information

Sampler:	Elizabeth Dibone & Andrew Stevens		
Sampling Company:	Stantec		
Address	601 Grassmere Park		
City/State	Nashville/TN	Phone:	615-885-1144
Sampling Team Number:	1		
Send EDD/Hard Copy to:	tva-s@envsid.com		

Analysis Turnaround Time

☐ CALENDAR DAYS ☒ WORKING DAYS

TAT if different from Below _____

☐ 24 Hours
☐ 5 Business Days
☒ 5 Business Days
☐ 10 Business Days (Standard)

ITEMS #	SAMPLE ID Samples IDs MUST BE UNIQUE	SAMPLE LOCATION	Sample Depth Start Depth (Depth Unit)	Sample Depth End Depth (Select Unit)	MATRIX CODE	G= GRAB C=COMP	SAMPLE TYPE	SAMPLE DATE	SAMPLE TIME	# OF CONTAINERS	Comments/ Lab Sample I.D.	MS/MSD	Analysis: CUF_BACKGROUNDSOIL	CUF_BACKGROUNDSOIL_BLANKS	CUF_BACKGROUNDSOIL_pH	Filtered	Preserve: see comments	see comments	None
1	JSF-BS-BG10-1.4/3.4-20190124	BG10	1.4	3.4	S	G	N	1/24/2019	1507	2		☐	X			N			
2	JSF-BS-BG10-6.5/8.5-20190124	BG10	6.5	8.5	S	G	N	1/24/2019	1527	2		☐	X			N			
3	JSF-BS-BG10-10.5/12.5-20190124	BG10	10.50	12.50	S	G	N	1/24/2019	1548	2		☐	X			N			
4	JSF-BS-BG10-0.0/0.5-20190124	BG10	0.0	0.5	S	G	N	1/24/2019	1556	2		☐	X			N			
5												☐							
6												☐							
7												☐							
8												☐							
9												☐							
10												☐							
11												☐							
12												☐							
13												☐							

AS 1/24/19

Additional Comments/Special Instructions:

Additional volume collected should be used for MS/MSDs.

CUF_BACKGROUNDSOIL: Perform MS/MSD on sample identified above

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

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Andrew Stevens	1/24/19	1900	[signature]	1/24/19	930

SHIPPING METHOD:	SAMPLER NAME AND SIGNATURE
fedex	Andrew Stevens

Sample Receipt Conditions

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

Form TVA 30067A

Tennessee Valley Authority

COOLER No:	2	of	5
COC No:	JSF_BS_20190124_1A		
1 of 2 Pages			
Task Desc:	JSF_BS		

Chain-of-Custody / Analytical Request Document

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

Required Ship to Lab:

Lab Name:	TestAmerica Nashville
Lab Address:	2960 Foster Creighton Dr Nashville, TN 37204

Lab Manager Contact Information:

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

Required Project Information:

Site ID #:	JOHN SEVIER FOSSIL PLANT
Project #:	115666295
Site Address:	606 Old Highway 70 S
City:	Rogersville, State, Zip: TN, 37857
Site PM Name:	Roy Quinn
Phone/Fax:	423-751-3753
Site PM E-mail:	[illegible]

Required Sampler Information:

Sampler:	Elizabeth Dillone & Andrew Stevens
Sampling Company:	Stantec
Address:	601 Gateway Park
City/State:	Nashville/TN, Phone: 615-885-1164
Sampling Team Number:	1
Send EDD/Hard Copy to:	[illegible]

Analysis Turnaround Time

X CALENDAR DAYS X WORKING DAYS

TAT if different from below _____

- X 24 Hours
- X 7 Business Days
- X 5 Business Days
- X 30 Indirect Grav (Sandy)

ITEMS #	SAMPLE ID Samples IDs MUST BE UNIQUE	SAMPLE LOCATION	Sample Depth: Start Depth (Depth Unit)	Sample Depth: End Depth (Select Unit)	MATRIX CODE	G= GRAB C=COMP	SAMPLE TYPE	SAMPLE DATE	SAMPLE TIME	# OF CONTAINERS	Comments/ Lab Sample I.D.	MS/MSD	Analysis: CUF_BACKGROUNDSOIL	Analysis: CUF_BACKGROUNDSOIL_BLANKS	Analysis: CUF_BACKGROUNDSOIL_GR
1	JSF-BS-BG12-0.8/2.8-20190123	BG12	0.8	2.8	S	G	N	1/23/2019	1119	2		*	X		
2	JSF-BS-BG12-5.0/10.0-20190123	BG12	5.0	10.0	S	G	N	1/23/2019	1205	2		*	X		
3	JSF-BS-BG12-10.25/12.75-20190123	BG12	10.25	12.75	S	G	N	1/23/2019	1232	2		*	X		
4	JSF-BS-BG12-13.5/15.0-20190123	BG12	13.5	15.0	S	G	N	1/23/2019	1244	2		*	X		
5	JSF-BS-BG12-0.0/0.5-20190123	BG12	0.0	0.5	S	G	N	1/23/2019	1247	2		*	X		
6	JSF-BS-FB01-20190123	BG12	NA	NA	W	G	FB	1/23/2019	1530	2		*		X	
7	JSF-BS-BG11-1.1/3.1-20190124	BG11	1.1	3.1	S	G	N	1/24/2019	1116	2		*	X		
8	JSF-BS-BG11-5.5/8.5-20190124	BG11	5.5	8.5	S	G	N	1/24/2019	1136	2		*	X		
9	JSF-BS-FD01-20190124	NA	NA	NA	S	G	FD	1/24/2019	1121	2		*	X		
10	JSF-BS-BG11-11.3/13.3-20190124	BG11	11.3	13.3	S	G	N	1/24/2019	1202	2		*	X		
11	JSF-BS-BG11-0.0/0.5-20190124	BG11	0.0	0.5	S	G	N	1/24/2019	1247	2		*	X		
12	JSF-BS-EB01-20190124	BG11	NA	NA	W	G	EB	1/24/2019	1235	2		*		X	
13	JSF-BS-FB02-20190124	BG10	NA	NA	W	G	FB	1/24/2019	1434	2		*		X	

AS 1/24/19

AS 1/24/19

AS 1/24/19

AS 1/24/19

Additional Comments/Special Instructions:

Additional volume collected should be used for MS/MSDs.

CUF_BACKGROUNDSOIL: Perform MS/MSD on sample identified above

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

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Andrew Stevens	1/24/19	1300	[illegible]	1/24/19	1300

SHIPPING METHOD	SAMPLER NAME AND SIGNATURE
fedex	Andrew Stevens

Sample Receipt Conditions

temp in °C	cooler on ice?	cooler intact?	Trip Blank?
°C	Y / N	Y / N	Y / N
°C	Y / N	Y / N	Y / N
°C	Y / N	Y / N	Y / N
°C	Y / N	Y / N	Y / N
°C	Y / N	Y / N	Y / N

Form TVA 30087A

TVA Environmental Investigations

Tennessee Valley Authority

COOLER No.:	2	of	5
COC No:	JSF_BS_20190124_1A		
2 of 2 Pages			
Task Desc:	JSF_BS		

Chain-of-Custody / Analytical Request Document

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

Required Ship to Lab:	
Lab Name:	TestAmerica Nashville
Lab Address:	29360 Foster Creighton Dr Nashville, TN 37204
Lab Manager Contact Information	
Lab PM:	Gail Lage
Phone/Fax:	615-301-5741/615-726-3404
Lab Email:	Gail.Lage@testamericainc.com

Required Project Information:			
Site ID #:	JOHN SEVIER FOSSIL PLANT		
Project #:	175508225		
Site Address	606 Old Highway 70 S		
City	Rogersville	State, Zip:	TN, 37857
Site PM Name:	Roy Quinn		
Phone/Fax:	423-751-3753		
Site PM Email:	rmuinn@tva.gov		

Required Sampler Information			
Sampler:	Elizabeth Dibone & Andrew Stevens		
Sampling Company:	Stantec		
Address	501 Grassmere Park		
City/State	Nashville/TN	Phone:	615-885-1144
Sampling Team Number:	1		
Send EDD/Hard Copy to:	tva-ei@envsid.com		

Analysis Turnaround Time

☐ CALENDAR DAYS ☒ WORKING DAYS

TAT if different from Below _____

☐ 24 Hours
☐ 3 Business Days
☒ 5 Business Days
☐ 10 Business Days (Standard)

ITEMS #	SAMPLE ID Samples IDs MUST BE UNIQUE	SAMPLE LOCATION	Sample Depth: Depth Unit	Sample Depth: Select Unit	MATRIX CODE	G= GRAB C=COMP	SAMPLE TYPE	SAMPLE DATE	SAMPLE TIME	# OF CONTAINERS	Comments/ Lab Sample I.D.	MS/MSD	Analysis: CUF_BACKGROUNDSOIL	Analysis: CUF_BACKGROUNDSOIL_BLANKS	Analysis: CUF_BACKGROUNDSOIL_pH
1	JSF-BS-BG10-1.4/3.4-20190124	BG10	1.4	3.4	S	G	N	1/24/2019	1507	2		☐	X		
2	JSF-BS-BG10-6.5/8.5-20190124	BG10	6.5	8.5	S	G	N	1/24/2019	1527	2		☐	X		
3	JSF-BS-BG10-10.5/12.5-20190124	BG10	10.50	12.50	S	G	N	1/24/2019	1548	2		☐	X		
4	JSF-BS-BG10-0.0/0.5-20190124	BG10	0.0	0.5	S	G	N	1/24/2019	1556	2		☐	X		
5												☐			
6												☐			
7												☐			
8												☐			
9												☐			
10												☐			
11												☐			
12												☐			
13												☐			

Filtered: N N N — AS 1/24/19

Preserve: see comments / see comments / None — AS 1/24/19

AS 1/24/19

AS 1/24/19

AS 1/24/19

Additional Comments/Special Instructions:

Additional volume collected should be used for MS/MSDs.

CUF_BACKGROUNDSOIL: Perform MS/MSD on sample identified above

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

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Andrew Stevens	1/24/19	1900	[illegible]	1/25/19	930

SHIPPING METHOD:	SAMPLER NAME AND SIGNATURE
fedex	Andrew Stevens

Sample Receipt Conditions

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

Form TVA 30067A

Tennessee Valley Authority

Chain-of-Custody / Analytical Request Document

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

COOLER No.: 3 of 5

COC No: JSF_BS_20190124_1A

1 of 2 Pages

Task Desk: JSF_BS

Required Ship to Lab:

Lab Name: TestAmerica Nashville

Lab Address: 2960 Foster Creighton Dr, Nashville, TN 37204

Lab Manager Contact Information

Lab PM: Gail Lage

Phone/Fax: 615-301-5741/615-708-3404

Lab Email: Gail.Lage@testamericainc.com

Required Project Information:

Site ID #: JOHN SEVIER FOSSIL PLANT

Project #: 175468226

Site Address: 606 Old Highway 70 S

City: Rogersville State, Zip: TN 37857

Site PM Name: Roy Quinn

Phone/Fax: 423-751-3753

Site PM Email: [illegible]

Required Sampler Information

Sampler: Elizabeth Dillione & Andrew Stevens

Sampling Company: Stantec

Address: 401 Grassmere Park

City/State: Nashville/TN Phone: 615-885-1164

Sampling Team Number: 1

Send EDD/Hard Copy to: [illegible]

Analysis Turnaround Time

* CALENDAR DAYS * WORKING DAYS

TAT if different from Below

* 24 hours
* 3 Business Days
* 5 Business Days
* 10 Business Days (Standard)

ITEM #	SAMPLE ID Samples IDs MUST BE UNIQUE	SAMPLE LOCATION	Sample Depth Start Depth	Sample Depth End Depth	MATRIX CODE	G= GRAB C=COMP	SAMPLE TYPE	SAMPLE DATE	SAMPLE TIME	# OF CONTAINERS	Comments/ Lab Sample I.D.	MS/MSD	Analysis CUF_BACKGROUNDSOIL	Analysis CUF_BACKGROUNDSOIL_BLANKS	Analysis CUF_BACKGROUNDSOIL_PH	Filtered	Preserve Temperature	Type
1	JSF-BS-BG12-0.8/2.8-20190123	BG12	0.8	2.8	S	G	N	1/23/2019	1119	2		*	X					
2	JSF-BS-BG12-5.0/10.0-20190123	BG12	5.0	10.0	S	G	N	1/23/2019	1205	2		*	X					
3	JSF-BS-BG12-10.25/12.75-20190123	BG12	10.25	12.75	S	G	N	1/23/2019	1232	2		*	X					
4	JSF-BS-BG12-13.5/15.5-20190123	BG12	13.5	15.0	S	G	N	1/23/2019	1244	2		*	X					
5	JSF-BS-BG12-0.0/0.5-20190123	BG12	0.0	0.5	S	G	N	1/23/2019	1247	2		*	X					
6	JSF-BS-FB01-20190123	BG12	NA	NA	W	G	FB	1/23/2019	1530	2		*		X				
7	JSF-BS-BG11-1.1/3.1-20190124	BG11	1.1	3.1	S	G	N	1/24/2019	1116	2		*	X					
8	JSF-BS-BG11-5.5/8.5-20190124	BG11	5.5	8.5	S	G	N	1/24/2019	1136	2		*	X					
9	JSF-BS-FD01-20190124	NA	NA	NA	S	G	FD	1/24/2019	1121	2		*	X					
10	JSF-BS-BG11-11.3/13.3-20190124	BG11	11.3	13.3	S	G	N	1/24/2019	1202	2		*	X					
11	JSF-BS-BG11-0.0/0.5-20190124	BG11	0.0	0.5	S	G	N	1/24/2019	1247	2		*	X					
12	JSF-BS-EB01-20190124	BG11	NA	NA	W	G	EB	1/24/2019	1235	2		*		X				
13	JSF-BS-FB02-20190124	BG10	NA	NA	W	G	FB	1/24/2019	1434	2		*		X				

AS 1/24/19

Additional Comments/Special Instructions:

Additional volume collected should be used for MS/MSDs.

CUF_BACKGROUNDSOIL: Perform MS/MSD on sample identified above

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

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Andrew Stevens	1/24/19	1700	[illegible]	1/24/19	930

SHIPPING METHOD	SAMPLER NAME AND SIGNATURE
fedex	Andrew Stevens

Sample Receipt Conditions

Temperature in °C	Seals on Box?	Seals Intact?	Trip Blanks?
[illegible]	[illegible]	[illegible]	[illegible]

Form TVA 30693A

TVA Environmental Investigations

Tennessee Valley Authority

COOLER No.:	3	of	5
COC No:	JSF_BS_20190124_1A		
2 of 2 Pages			
Task Desc:	JSF_BS		

Chain-of-Custody / Analytical Request Document

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

Required Ship to Lab:		Required Project Information:		Required Sampler Information	
Lab Name:	TestAmerica Nashville	Site ID #:	JOHN SEVIER FOSSIL PLANT	Sampler:	Elizabeth Dibbone & Andrew Stevens
Lab Address:	29360 Foster Creighton Dr	Project #:	175568225	Sampling Company:	Stantec
	Nashville, TN 37204	Site Address	606 Old Highway 70 S	Address	601 Grassmere Park
		City	Rogersville State, Zip: TN, 37857	City/State	Nashville/TN Phone: 615-885-1144
Lab Manager Contact Information		Site PM Name:	Roy Quinn		
Lab PM:	Gail Lage	Phone/Fax:	423-751-3753	Sampling Team Number:	1
Phone/Fax:	615-301-5741/615-726-3404	Site PM Email:	rquinn@tva.gov	Send EDD/Hard Copy to:	tva-ei@esvsfd.com
Lab Email:	Gail.Lage@testamericainc.com				

Analysis Turnaround Time

○ CALENDAR DAYS ● WORKING DAYS

TAT if different from below _____

○ 24 Hours
○ 3 Business Days
● 5 Business Days
○ 10 Business Days (Standard)

ITEMS #	SAMPLE ID Samples IDs MUST BE UNIQUE	SAMPLE LOCATION	Sample Depth: Start Depth (Depth Unit)	Sample Depth: End Depth (Select Unit)	MATRIX CODE	G= GRAB C=COMP	SAMPLE TYPE	SAMPLE DATE	SAMPLE TIME	# OF CONTAINERS	Comments/ Lab Sample I.D.	MS/MSD	Analysis: CUF_BACKGROUNDSOIL	CUF_BACKGROUNDSOIL_BLANKS	CUF_BACKGROUDSOIL_pH
1	JSF-BS-BG10-1.4/3.4-20190124	BG10	1.4	3.4	S	G	N	1/24/2019	1507	2		○	X		
2	JSF-BS-BG10-6.5/8.5-20190124	BG10	6.5	8.5	S	G	N	1/24/2019	1527	2		○	X		
3	JSF-BS-BG10-10.5/12.5-20190124	BG10	10.50	12.50	S	G	N	1/24/2019	1548	2		○	X		
4	JSF-BS-BG10-0.0/0.5-20190124	BG10	0.0	0.5	S	G	N	1/24/2019	1556	2		○	X		
5												○			
6												○			
7												○			
8												○			
9												○			
10												○			
11												○			
12												○			
13												○			

Filtered: N N N

Preserve: Lab comments / Lab comments / None

AS 1/24/19

AS 1/24/19

AS 1/24/19

AS 1/24/19

AS 1/24/19

Additional Comments/Special Instructions:

Additional volume collected should be used for MS/MSDs.

CUF_BACKGROUNDSOIL: Perform MS/MSD on sample identified above

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

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Andrew Stevens	1/24/19	1900	[illegible]	1/24/19	1900

SHIPPING METHOD:	SAMPLER NAME AND SIGNATURE
fedex	Andrew Stevens

Sample Receipt Conditions

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

Form TVA 30067A

Tennessee Valley Authority

COOLER No.: 7 of 5

COC No: JSF_BS_20190124_1A

1 of 2 Pages

Task Desc: JSF_BS

Chain-of-Custody / Analytical Request Document

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

Required Ship to Lab:

Lab Name: TestAmerica Nashville
Lab Address: 20360 Foster Creighton Dr, Nashville, TN 37204

Lab Manager Contact Information

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

Required Project Information:

Site ID #: JOHN SEVIER FOSSIL PLANT
Project #: 17556229
Site Address: 605 Old Highway 70 S
City: Rogersville, State, Zip: TN 37857
Site PM Name: Roy Quinn
Phone/Fax: 423-751-3753
Site PM Email: jrquinn@tva.gov

Required Sampler Information

Sampler: Elizabeth Dillons & Andrew Stevens
Sampling Company: Stantec
Address: 801 Crossmore Park
City/State: Nashville/TN, Phone: 615-886-1148
Sampling Team Number: 1
Send EDD/Hard Copy to: todd.[illegible]

Analysis Turnaround Time

CALENDAR DAYS: 24 Hours; 3 Business Days; 5 Business Days; 10 Business Days (Standard)
WORKING DAYS
TAT if different from Below

ITEMS #	SAMPLE ID Samples IDs MUST BE UNIQUE	SAMPLE LOCATION	Sample Depth Start Depth	Sample Depth End Depth	MATRIX CODE	G= GRAB C=COMP	SAMPLE TYPE	SAMPLE DATE	SAMPLE TIME	# OF CONTAINERS	Comments/ Lab Sample I.D.	MS/MSD	Analysis CUF_BACKGROUNDSOIL_ANIONS	Analysis CUF_BACKGROUNDSOIL_METALS	Analysis CUF_BACKGROUNDSOIL_BLANKS
1	JSF-BS-BG12-0.8/2.8-20190123	BG12	0.8	2.8	S	G	N	1/23/2019	1119	2		*	X		
2	JSF-BS-BG12-5.0/10.0-20190123	BG12	5.0	10.0	S	G	N	1/23/2019	1205	2		*	X		
3	JSF-BS-BG12-10.25/12.75-20190123	BG12	10.25	12.75	S	G	N	1/23/2019	1232	2		*	X		
4	JSF-BS-BG12-13.5/15.0-20190123	BG12	13.5	15.0	S	G	N	1/23/2019	1244	2		*	X		
5	JSF-BS-BG12-0.0/0.5-20190123	BG12	0.0	0.5	S	G	N	1/23/2019	1247	2		*	X		
6	JSF-BS-FB01-20190123	BG12	NA	NA	W	G	FB	1/23/2019	1530	2		*		X	
7	JSF-BS-BG11-1.1/3.1-20190124	BG11	1.1	3.1	S	G	N	1/24/2019	1116	2		*	X		
8	JSF-BS-BG11-5.5/8.5-20190124	BG11	5.5	8.5	S	G	N	1/24/2019	1136	2		*	X		
9	JSF-BS-FD01-20190124	NA	NA	NA	S	G	FD	1/24/2019	1121	2		*	X		
10	JSF-BS-BG11-11.3/13.3-20190124	BG11	11.3	13.3	S	G	N	1/24/2019	1202	2		*	X		
11	JSF-BS-BG11-0.0/0.5-20190124	BG11	0.0	0.5	S	G	N	1/24/2019	1247	2		*	X		
12	JSF-BS-EB01-20190124	BG11	NA	NA	W	G	EB	1/24/2019	1235	2		*		X	
13	JSF-BS-FB02-20190124	BG10	NA	NA	W	G	FB	1/24/2019	1434	2		*		X	

AS 1/24/19

Additional Comments/Special Instructions:

Additional volume collected should be used for MS/MSDs.

CUF_BACKGROUNDSOIL: Perform MS/MSD on sample identified above

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

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Andrew Stevens	1/24/19	1900	MRMT	1/25/19	945

SHIPPING METHOD	SAMPLER NAME AND SIGNATURE
fedex	Andrew Stevens

Sample Receipt Conditions: Intact? Temp on Ice? Sample Intact? Trip Blank?

Form TVA 39061A

TVA Environmental Investigations

Tennessee Valley Authority

COOLER No.:	4	of	5
COC No:	JSF_BS_20190124_1A		
2 of 2 Pages			
Task Desc:	JSF_BS		

Chain-of-Custody / Analytical Request Document

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

Required Ship to Lab:		Required Project Information:		Required Sampler Information	
Lab Name:	TestAmerica Nashville	Site ID #:	JOHN SEVIER FOSSIL PLANT	Sampler:	Elizabeth Dibone & Andrew Stevens
Lab Address:	29360 Foster Creighton Dr Nashville, TN 37204	Project #:	175569225	Sampling Company:	Stantec
		Site Address	606 Old Highway 70 S.	Address	501 Grassmere Park.
		City	Rogersville State, Zip: TN, 37857	City/State	Nashville/TN Phone: 615-885-1144
Lab Manager Contact Information		Site PM Name:	Roy Quinn		
Lab PM:	Gail Lage	Phone/Fax:	423-751-3753	Sampling Team Number:	1
Phone/Fax:	615-301-5741/615-726-3404	Site PM Email:	rquinn@tva.gov	Send EDD/Hard Copy to:	tva-ei@envstd.com
Lab Email:	Gail.Lage@testamericainc.com				

Analysis Turnaround Time

○ CALENDAR DAYS ● WORKING DAYS

TAT if different from Below _____

- ○ 24 Hours
- ○ 3 Business Days
- ● 5 Business Days
- ○ 10 Business Days (Standard)

ITEMS #	SAMPLE ID Samples IDs MUST BE UNIQUE	SAMPLE LOCATION	Sample Depth: Start Depth (Depth Unit)	Sample Depth: End Depth (Select Unit)	MATRIX CODE	G= GRAB C=COMP	SAMPLE TYPE	SAMPLE DATE	SAMPLE TIME	# OF CONTAINERS	Comments/ Lab Sample I.D.	MS/MSD	Analysis: CUF_BACKGROUNDSOIL	CUF_BACKGROUNDSOIL_BLANKS	CUF_BACKGROUNDSOIL_pH
1	JSF-BS-BG10-1.4/3.4-20190124	BG10	1.4	3.4	S	G	N	1/24/2019	1507	2		○	X		
2	JSF-BS-BG10-6.5/8.5-20190124	BG10	6.5	8.5	S	G	N	1/24/2019	1527	2		○	X		
3	JSF-BS-BG10-10.5/12.5-20190124	BG10	10.50	12.50	S	G	N	1/24/2019	1548	2		○	X		
4	JSF-BS-BG10-0.0/0.5-20190124	BG10	0.0	0.5	S	G	N	1/24/2019	1556	2		○	X		
5												○			
6												○			
7												○			
8												○			
9												○			
10												○			
11												○			
12												○			
13												○			

Filtered: N N N

Preserve: see comments, see comments, None

AS 1/24/19

Additional Comments/Special Instructions:

Additional volume collected should be used for MS/MSDs.

CUF_BACKGROUNDSOIL: Perform MS/MSD on sample identified above

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

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Andrew Stevens	1/24/19	1900	TARINN	1/25/19	600

SHIPPING METHOD:	SAMPLER NAME AND SIGNATURE
fedex	Andrew Stevens

Sample Receipt Conditions

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

Form TVA 30067A

Tennessee Valley Authority

Chain-of-Custody / Analytical Request Document

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

COOLER No: 5 of 5
COC No: JSF_BS_20190124_1A
1 of 2 Pages
Task Desc: JSF_BS

Required Site to Lab:
Lab Name: TestAmerica Nashville
Lab Address: 2960 Foster Creighton Dr Nashville, TN 37204

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

Required Project Information:
Site ID #: JOHN SEVIER FOSSIL PLANT
Project #: 17599221
Site Address: 606 Old Highway 70 S
City: Rogersville State, Zip: TN, 37857
Site PM Name: Roy Quinn
Phone/Fax: 423-751-3753
Site PM Email:

Required Sampler Information
Sampler: Elizabeth Dibone & Andrew Stevens
Sampling Company: Ebertec
Address: 601 Grassmere Park
City/State: Nashville/TN Phone: 615-885-1344
Sampling Team Number: 1
Send EDD/Hard Copy to:

Analysis Turnaround Time
CALENDAR DAYS WORKING DAYS
TAT if different from below
24 Hours
3 Business Days
5 Business Days
10 Business Days (Standard)

mpids #	SAMPLE ID Samples IDs MUST BE UNIQUE	SAMPLE LOCATION	Sample Depth Start Depth (Unit)	Sample Depth End Depth (Select Unit)	MATRIX CODE	G= GRAB C=COMP	SAMPLE TYPE	SAMPLE DATE	SAMPLE TIME	# OF CONTAINERS	Comments/ Lab Sample I.D.	MS/MSD	Analysis: CUF_BACKGROUNDSOIL	CUF_BACKGROUNDSOIL_BLANKS	CUF_BACKGROUNDSOIL_pH	Chlorid	Preserve (as needed)	Sulfate	Note
1	JSF-BS-BG12-0.8/2.8-20190123	BG12	0.8	2.8	S	G	N	1/23/2019	1119	2		*	X						
2	JSF-BS-BG12-5.0/10.0-20190123	BG12	5.0	10.0	S	G	N	1/23/2019	1205	2		*	X						
3	JSF-BS-BG12-10.25/12.75-20190123	BG12	10.25	12.75	S	G	N	1/23/2019	1232	2		*	X						
4	JSF-BS-BG12-13.5/15.0-20190123	BG12	13.5	15.0	S	G	N	1/23/2019	1244	2		*	X						
5	JSF-BS-BG12-0.0/0.5-20190123	BG12	0.0	0.5	S	G	N	1/23/2019	1247	2		*	X						
6	JSF-BS-FB01-20190123	BG12	NA	NA	W	G	FB	1/23/2019	1530	2		*		X					
7	JSF-BS-BG11-1.1/3.1-20190124	BG11	1.1	3.1	S	G	N	1/24/2019	1116	2		*	X						
8	JSF-BS-BG11-5.5/8.5-20190124	BG11	5.5	8.5	S	G	N	1/24/2019	1136	2		*	X						
9	JSF-BS-FD01-20190124	NA	NA	NA	S	G	FD	1/24/2019	1121	2		*	X						
10	JSF-BS-BG11-11.3/13.3-20190124	BG11	11.3	13.3	S	G	N	1/24/2019	1202	2		*	X						
11	JSF-BS-BG11-0.0/0.5-20190124	BG11	0.0	0.5	S	G	N	1/24/2019	1247	2		*	X						
12	JSF-BS-EB01-20190124	BG11	NA	NA	W	G	EB	1/24/2019	1235	2		*		X					
13	JSF-BS-FB02-20190124	BG10	NA	NA	W	G	FB	1/24/2019	1434	2		*		X					

AS 1/24/19

Additional Comments/Special Instructions:

Additional volume collected should be used for MS/MSDs.

CUF_BACKGROUNDSOIL: Perform MS/MSD on sample identified above

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

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Andrew Stevens	1/24/19	1900		1/24/19	1930

Sample Receipt Conditions

SHIPPING METHOD	SAMPLER NAME AND SIGNATURE
fedex	Andrew Stevens

Temperature in °C | Ice/Ice Packs? | Seals Intact? | Trip Blank?

Form TVA 30987A

TVA Environmental Investigations

Tennessee Valley Authority

COOLER No.:	5	of	5
COC No:	JSF_BS_20190124_1A		
2 of 2 Pages			
Task Desc:	JSF_BS		

Chain-of-Custody / Analytical Request Document

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

Required Ship to Lab:

Lab Name:	TestAmerica Nashville
Lab Address:	29360 Foster Creighton Dr Nashville, TN 37204
Lab Manager Contact Information	
Lab PM:	Gail Lage
Phone/Fax:	615-301-5741/615-726-3404
Lab Email:	Gail.Lage@testamericainc.com

Required Project Information:

Site ID #:	JOHN SEVIER FOSSIL PLANT		
Project #:	175558225		
Site Address:	606 Old Highway 70 S		
City	Rogersville	State, Zip:	TN, 37857
Site PM Name:	Roy Quinn		
Phone/Fax:	423-751-3753		
Site PM Email:	rquinn@tva.gov		

Required Sampler Information

Sampler:	Elizabeth Dilbone & Andrew Stevens		
Sampling Company:	Stantec		
Address	601 Grassmere Park		
City/State	Nashville/TN	Phone:	615-885-1144
Sampling Team Number:	1		
Send EDD/Hard Copy to:	tva-ei@enxstd.com		

Analysis Turnaround Time

☐ CALENDAR DAYS ☐ WORKING DAYS

TAT if different from Below _____

☐ 24 Hours
☐ 3 Business Days
☐ 5 Business Days
☐ 10 Business Days (Standard)

ITEMS #	SAMPLE ID Samples IDs MUST BE UNIQUE	SAMPLE LOCATION	Sample Depth: Depth Unit Start Depth	Sample Depth: Select Unit End Depth	MATRIX CODE	G= GRAB C=COMP	SAMPLE TYPE	SAMPLE DATE	SAMPLE TIME	# OF CONTAINERS	Comments/ Lab Sample I.D.	MS/MSD	Filtered: N	Filtered: N	Filtered: N	Preserve: see comments	Preserve: see comments	Preserve: None	Analysis: CUF_BACKGROUNDSOIL	Analysis: CUF_BACKGROUNDSOIL_BLANKS	Analysis: CUF_BACKGROUDSOIL_pH
1	JSF-BS-BG10-1.4/3.4-20190124	BG10	1.4	3.4	S	G	N	1/24/2019	1507	2		☐							X		
2	JSF-BS-BG10-6.5/8.5-20190124	BG10	6.5	8.5	S	G	N	1/24/2019	1527	2		☐							X		
3	JSF-BS-BG10-10.5/12.5-20190124	BG10	10.50	12.50	S	G	N	1/24/2019	1548	2		☐							X		
4	JSF-BS-BG10-0.0/0.5-20190124	BG10	0.0	0.5	S	G	N	1/24/2019	1556	2		☐							X		
5												☐									
6												☐									
7												☐									
8												☐									
9												☐									
10												☐									
11												☐									
12												☐									
13												☐									

AS 1/24/19

Additional Comments/Special Instructions:

Additional volume collected should be used for MS/MSDs.

CUF_BACKGROUNDSOIL: Perform MS/MSD on sample identified above

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

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Andrew Stevens	1/24/19	1900	[illegible]	1/24/19	1900

SHIPPING METHOD:	SAMPLER NAME AND SIGNATURE
fedex	Andrew Stevens

Sample Receipt Conditions

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

Form TVA 30067A

TVA Environmental Investigations

Tennessee Valley Authority

Chain-of-Custody / Analytical Request Document

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

JSF_BS_20190124_1A

Task Owner: JSF_BS

Rev 1 DC 1/29/19

Rev 2 DC 1/30/19

Rev 3 CZ 4/9/19

Lab Name: TestAmerica Nashville

Lab Address: 2960 Foster Creighton Dr, Nashville, TN 37204

Lab Manager Contact Information: Gail Lage

Site Name: JOHN SEVIER FOSSIL PLANT

Project #: 1194631

Site Address: 908 Dickson Hwy 70 S

City: Rural Hill

Site PM Name: Greg Owen

Phone/Fax: 423-586-1357

Site PM Email: [illegible]

Sampler: [illegible]

Sampling Company: [illegible]

Address: 1101 Gleaner Rd

City/State: Knoxville, TN

Phone: [illegible]

Sampling Date Received: [illegible]

Sample Delivery Date: [illegible]

Analysis Turnaround Time: [illegible]

All Sample Bottles Intact DC 1/29/19

CZ 10.75

CZ JSF-BS-BG12-10.75/12.75-20190123

Items	SAMPLE ID (Samples IDs MUST BE UNIQUE)	SAMPLE LOCATION	Sample Depth Start Depth	Sample Depth End Depth	MATRIX CODE	G= GRAB C=COMP	SAMPLE TYPE	SAMPLE DATE	SAMPLE TIME	# CONTAINERS	Comments/ Lab Sample ID	RELINQ	Metals	Anions	Radiochemistry	Volatile Organics
1	JSF-BS-BG12-0.8-2.8-20190123	BG12	0.8	2.8	S	G	N	1/23/2019	1110	2			X	X		
2	JSF-BS-BG12-5.0-10.0-20190123	BG12	5.0	10.0	S	G	N	1/23/2019	1205	2			X	X		
3	JSF-BS-BG12-10.75-12.75-20190123	BG12	10.75	12.75	S	G	N	1/23/2019	1232	2			X	X		
4	JSF-BS-BG12-13.5-15.0-20190123	BG12	13.5	15.0	S	G	N	1/23/2019	1244	2			X	X		
5	JSF-BS-BG12-0.0-0.5-20190123	BG12	0.0	0.5	S	G	N	1/23/2019	1247	2			X	X		
6	JSF-BS-BG12-FB-20190123	BG12	NA	NA	W	G	FB	1/23/2019	1530	2			X			
7	JSF-BS-BG11-1.1-3.1-20190124	BG11	1.1	3.1	S	G	N	1/24/2019	1110	2			X	X		
8	JSF-BS-BG11-5.5-6.0-20190124	BG11	5.5	6.0	S	G	N	1/24/2019	1136	2			X	X		
9	JSF-BS-BG11-DUP-20190124	NA	NA	NA	S	G	FD	1/24/2019	1121	2			X	X		
10	JSF-BS-BG11-11.3-12.3-20190124	BG11	11.3	12.3	S	G	N	1/24/2019	1202	2			X	X		
11	JSF-BS-BG11-0.0-0.5-20190124	BG11	0.0	0.5	S	G	N	1/24/2019	1247	2			X	X		
12	JSF-BS-BG11-EB-20190124	BG11	NA	NA	W	G	EB	1/24/2019	1235	2			X	X		
13	JSF-BS-FB02-20190124	BG10	NA	NA	W	G	FB	1/24/2019	1434	2			X	X		

Additional volume collected should be used for MS/MSDs

*BGUF_BACKGROUNDSOIL Perform MS/MSD on sample identified above DC 1/29/19

*BGUP_BACKGROUNDSOIL_BLANKS Anions – unpreserved; Metals – preserved w/ HNO3 to pH<2

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[illegible]	4/9/19	1100	[illegible]	[illegible]	[illegible]

SHIPPING METHOD	SAMPLER NAME AND SIGNATURE
Hand	[illegible]

Sample Receipt Conditions: [illegible]

AS 1/24/19

AS 1/24/19

AS 1/24/19

AS 1/24/19

DC 1/29/19

DC 1/30/19

180-86109 Chain of Custody

Login Sample Receipt Checklist

Client: Environmental Standards Inc.

Job Number: 180-86109-1

Login Number: 86109
List Number: 1
Creator: Kovitch, Christina M

List Source: TestAmerica Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	