

This quality assurance (QA) review is based upon an examination of the data generated from the analyses of the samples collected as part of the:

John Sevier Background Soil

Data Verification was performed in accordance with the Tennessee Valley Authority Environmental Investigation Plan, John Sevier Fossil Plant (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 US EPA, SW-846, and Standard 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 US EPA, SW-846, and Standard Methods utilized by the laboratory. This QA review was performed on the data associated with Job Number:

180862621

The findings offered in this report are based on a review of holding times and preservation, method blank results, field blank results, filter blank results, equipment blank results, tubing blank results, matrix spike/matrix spike duplicate recoveries and precision, laboratory control sample/laboratory control sample duplicate recoveries and precision, laboratory and field duplicate precision, total and dissolved results comparisons, and/or positive results between the method detection limit and quantitation limit.

The following results were qualified based on the data verification effort:

Sample	Location	Sample Type	Method	Anayte	T/D	Result	Qual	Reason Code(s)	MDL	QL	Unit
JSF-BS-BG04ALT-0.9/2.9-20190130	JSF-BG04ALT	N	SW-846 6020A	Antimony	T	0.208	J	RL	0.0783	0.252	MG/KG
JSF-BS-BG04ALT-0.9/2.9-20190130	JSF-BG04ALT	N	SW-846 6020A	Boron	T	1.52	J	RL	0.963	10.1	MG/KG
JSF-BS-BG04ALT-0.9/2.9-20190130	JSF-BG04ALT	N	SW-846 6020A	Cadmium	T		UJ	M-	0.0215	0.126	MG/KG
JSF-BS-BG04ALT-0.9/2.9-20190130	JSF-BG04ALT	N	SW-846 6020A	Selenium	T	0.807	J	M-	0.0757	0.631	MG/KG
JSF-BS-BG04ALT-0.9/2.9-20190130	JSF-BG04ALT	N	SW-846 6020A	Vanadium	T	38.9	J	M-	0.0770	0.126	MG/KG
JSF-BS-BG04ALT-0.9/2.9-20190130	JSF-BG04ALT	N	SW-846 9056A	Fluoride	N		UJ	M-	0.841	1.24	MG/KG
JSF-BS-BG04ALT-7.2/9.2-20190130	JSF-BG04ALT	N	SW-846 6020A	Antimony	T	0.112	J	RL	0.0704	0.227	MG/KG
JSF-BS-BG04ALT-7.2/9.2-20190130	JSF-BG04ALT	N	SW-846 6020A	Boron	T	1.35	J	RL	0.867	9.09	MG/KG
JSF-BS-BG04ALT-7.2/9.2-20190130	JSF-BG04ALT	N	SW-846 6020A	Cadmium	T	0.0361	J	M-	0.0193	0.114	MG/KG
JSF-BS-BG04ALT-7.2/9.2-20190130	JSF-BG04ALT	N	SW-846 6020A	Calcium	T	48.6	J	RL	10.2	56.8	MG/KG
JSF-BS-BG04ALT-7.2/9.2-20190130	JSF-BG04ALT	N	SW-846 6020A	Selenium	T	0.375	J	M-	0.0682	0.568	MG/KG
JSF-BS-BG04ALT-7.2/9.2-20190130	JSF-BG04ALT	N	SW-846 6020A	Vanadium	T	11.1	J	M-	0.0693	0.114	MG/KG
JSF-BS-BG04ALT-7.2/9.2-20190130	JSF-BG04ALT	N	SW-846 9056A	Fluoride	N		UJ	M-	0.768	1.13	MG/KG
JSF-BS-BG04ALT-7.2/9.2-20190130	JSF-BG04ALT	N	SW-846 9056A	Sulfate	N	8.90	J	RL	7.67	11.3	MG/KG
JSF-BS-BG04ALT-15.5/18.5-20190130	JSF-BG04ALT	N	SW-846 6020A	Antimony	T	0.185	J	RL	0.0823	0.266	MG/KG
JSF-BS-BG04ALT-15.5/18.5-20190130	JSF-BG04ALT	N	SW-846 6020A	Boron	T	3.30	J	RL	1.01	10.6	MG/KG
JSF-BS-BG04ALT-15.5/18.5-20190130	JSF-BG04ALT	N	SW-846 6020A	Cadmium	T	0.0608	J	M-	0.0226	0.133	MG/KG
JSF-BS-BG04ALT-15.5/18.5-20190130	JSF-BG04ALT	N	SW-846 6020A	Molybdenum	T	0.322	J	RL	0.0823	0.664	MG/KG
JSF-BS-BG04ALT-15.5/18.5-20190130	JSF-BG04ALT	N	SW-846 6020A	Selenium	T	0.927	J	M-	0.0797	0.664	MG/KG
JSF-BS-BG04ALT-15.5/18.5-20190130	JSF-BG04ALT	N	SW-846 6020A	Thallium	T	0.114	J	RL	0.0173	0.133	MG/KG

Sample	Location	Sample Type	Method	Anayte	T/D	Result	Qual	Reason Code(s)	MDL	QL	Unit
JSF-BS-BG04ALT-15.5/18.5-20190130	JSF-BG04ALT	N	SW-846 6020A	Vanadium	T	17.1	J	M-	0.0810	0.133	MG/KG
JSF-BS-BG04ALT-15.5/18.5-20190130	JSF-BG04ALT	N	SW-846 7471B	Mercury	T	0.0163	J	RL	0.0152	0.0352	MG/KG
JSF-BS-BG04ALT-15.5/18.5-20190130	JSF-BG04ALT	N	SW-846 9056A	Fluoride	N		UJ	M-	0.886	1.30	MG/KG
JSF-BS-FD02-20190130	JSF-BG04ALT	FD	SW-846 6020A	Antimony	T	0.114	J	RL	0.0835	0.269	MG/KG
JSF-BS-FD02-20190130	JSF-BG04ALT	FD	SW-846 6020A	Boron	T	2.54	J	RL	1.03	10.8	MG/KG
JSF-BS-FD02-20190130	JSF-BG04ALT	FD	SW-846 6020A	Cadmium	T	0.0451	J	M-	0.0229	0.135	MG/KG
JSF-BS-FD02-20190130	JSF-BG04ALT	FD	SW-846 6020A	Molybdenum	T	0.261	J	RL	0.0835	0.673	MG/KG
JSF-BS-FD02-20190130	JSF-BG04ALT	FD	SW-846 6020A	Selenium	T	0.639	J	M-	0.0808	0.673	MG/KG
JSF-BS-FD02-20190130	JSF-BG04ALT	FD	SW-846 6020A	Thallium	T	0.0938	J	RL	0.0175	0.135	MG/KG
JSF-BS-FD02-20190130	JSF-BG04ALT	FD	SW-846 6020A	Vanadium	T	16.5	J	M-	0.0821	0.135	MG/KG
JSF-BS-FD02-20190130	JSF-BG04ALT	FD	SW-846 9056A	Fluoride	N		UJ	M-	0.883	1.30	MG/KG
JSF-BS-BG04ALT-0.0/0.5-20190130	JSF-BG04ALT	N	SW-846 6020A	Antimony	T	0.0964	J	RL	0.0881	0.284	MG/KG
JSF-BS-BG04ALT-0.0/0.5-20190130	JSF-BG04ALT	N	SW-846 6020A	Boron	T	3.76	J	RL	1.08	11.4	MG/KG
JSF-BS-BG04ALT-0.0/0.5-20190130	JSF-BG04ALT	N	SW-846 6020A	Cadmium	T	3.09	J	M-	0.0242	0.142	MG/KG
JSF-BS-BG04ALT-0.0/0.5-20190130	JSF-BG04ALT	N	SW-846 6020A	Molybdenum	T	0.624	J	RL	0.0881	0.711	MG/KG
JSF-BS-BG04ALT-0.0/0.5-20190130	JSF-BG04ALT	N	SW-846 6020A	Selenium	T	0.828	J	M-	0.0853	0.711	MG/KG
JSF-BS-BG04ALT-0.0/0.5-20190130	JSF-BG04ALT	N	SW-846 6020A	Thallium	T	0.111	J	RL	0.0185	0.142	MG/KG
JSF-BS-BG04ALT-0.0/0.5-20190130	JSF-BG04ALT	N	SW-846 6020A	Vanadium	T	9.05	J	M-	0.0867	0.142	MG/KG
JSF-BS-BG04ALT-0.0/0.5-20190130	JSF-BG04ALT	N	SW-846 7471B	Mercury	T	0.0434	J	RL	0.0195	0.0450	MG/KG
JSF-BS-BG04ALT-0.0/0.5-20190130	JSF-BG04ALT	N	SW-846 9056A	Fluoride	N	1.42	J	M-	0.903	1.33	MG/KG
JSF-BS-BG04ALT-0.0/0.5-20190130	JSF-BG04ALT	N	SW-846 9056A	Sulfate	N	11.1	J	RL	9.02	13.3	MG/KG
JSF-BS-FB07-20190130	JSF-BG04ALT	FB	SW-846 6020A	Boron	T	0.0387	J	RL	0.0303	0.0800	MG/L
JSF-BS-FB07-20190130	JSF-BG04ALT	FB	SW-846 6020A	Calcium	T	0.229	J	RL	0.116	0.500	MG/L
JSF-BS-FB07-20190130	JSF-BG04ALT	FB	SW-846 6020A	Molybdenum	T	0.00115	J	RL	0.000474	0.00500	MG/L

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

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."
FD	Field duplicate imprecision.

FG	Total versus Dissolved Imprecision.
H	Holding time exceeded.
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.
Q	Chemical Preservation issue.
RL	Reported Results between the MDL and RL.
T	Temperature preservation issue.
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.

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:			%	20.0									
SW-846 6020A	Antimony	7440-36-0	T	MG/KG	0.208	J	RL	0.0783	0.0783	0.252	Y	Yes	1	DRY
	Arsenic	7440-38-2	T	MG/KG	6.03			0.0328	0.0328	0.126	Y	Yes	1	DRY
	Barium	7440-39-3	T	MG/KG	26.9			0.0719	0.0719	1.26	Y	Yes	1	DRY
	Beryllium	7440-41-7	T	MG/KG	0.314			0.00947	0.00947	0.126	Y	Yes	1	DRY
	Boron	7440-42-8	T	MG/KG	1.52	J	RL	0.963	0.963	10.1	Y	Yes	1	DRY
	Cadmium	7440-43-9	T	MG/KG		UJ	M-	0.0215	0.0215	0.126	N	Yes	1	DRY
	Calcium	7440-70-2	T	MG/KG	450			11.3	11.3	63.1	Y	Yes	1	DRY
	Chromium	7440-47-3	T	MG/KG	20.8			0.0833	0.0833	0.252	Y	Yes	1	DRY
	Cobalt	7440-48-4	T	MG/KG	2.45			0.0105	0.0105	0.0631	Y	Yes	1	DRY
	Copper	7440-50-8	T	MG/KG	9.95			0.143	0.143	0.252	Y	Yes	1	DRY
	Lead	7439-92-1	T	MG/KG	8.83			0.0442	0.0442	0.126	Y	Yes	1	DRY
	Lithium	7439-93-2	T	MG/KG	9.86			0.348	0.348	0.631	Y	Yes	1	DRY
	Molybdenum	7439-98-7	T	MG/KG	1.26			0.0783	0.0783	0.631	Y	Yes	1	DRY
	Nickel	7440-02-0	T	MG/KG	5.91			0.0770	0.0770	0.126	Y	Yes	1	DRY
	Selenium	7782-49-2	T	MG/KG	0.807	J	M-	0.0757	0.0757	0.631	Y	Yes	1	DRY
	Silver	7440-22-4	T	MG/KG		U		0.0177	0.0177	0.126	N	Yes	1	DRY
	Thallium	7440-28-0	T	MG/KG	0.201			0.0164	0.0164	0.126	Y	Yes	1	DRY
	Vanadium	7440-62-2	T	MG/KG	38.9	J	M-	0.0770	0.0770	0.126	Y	Yes	1	DRY
	Zinc	7440-66-6	T	MG/KG	20.4			0.422	0.422	0.631	Y	Yes	1	DRY
SW-846 7471B	Mercury	7439-97-6	T	MG/KG	0.0435			0.0143	0.0143	0.0330	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		4.80	4.80	12.4	N	Yes	1	DRY
	Fluoride	16984-48-8	N	MG/KG		UJ	M-	0.841	0.841	1.24	N	Yes	1	DRY
	Sulfate	14808-79-8	N	MG/KG	105			8.40	8.40	12.4	Y	Yes	1	DRY

				Lab Sample ID	180-86262-2									
				Sys Sample Code	JSF-BS-BG04ALT-7.2/9.2-20190130									
				Sample Name	JSF-BS-BG04ALT-7.2/9.2-20190130									
				Sample Date	1/30/2019 3:06:00 PM									
				Location	JSF-BG04ALT									
				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:			%	12.9									
SW-846 6020A	Antimony	7440-36-0	T	MG/KG	0.112	J	RL	0.0704	0.0704	0.227	Y	Yes	1	DRY
	Arsenic	7440-38-2	T	MG/KG	5.85			0.0295	0.0295	0.114	Y	Yes	1	DRY
	Barium	7440-39-3	T	MG/KG	248			0.0648	0.0648	1.14	Y	Yes	1	DRY
	Beryllium	7440-41-7	T	MG/KG	0.325			0.00852	0.00852	0.114	Y	Yes	1	DRY
	Boron	7440-42-8	T	MG/KG	1.35	J	RL	0.867	0.867	9.09	Y	Yes	1	DRY
	Cadmium	7440-43-9	T	MG/KG	0.0361	J	M-	0.0193	0.0193	0.114	Y	Yes	1	DRY
	Calcium	7440-70-2	T	MG/KG	48.6	J	RL	10.2	10.2	56.8	Y	Yes	1	DRY
	Chromium	7440-47-3	T	MG/KG	17.4			0.0750	0.0750	0.227	Y	Yes	1	DRY
	Cobalt	7440-48-4	T	MG/KG	8.36			0.00943	0.00943	0.0568	Y	Yes	1	DRY
	Copper	7440-50-8	T	MG/KG	7.92			0.128	0.128	0.227	Y	Yes	1	DRY
	Lead	7439-92-1	T	MG/KG	9.45			0.0398	0.0398	0.114	Y	Yes	1	DRY
	Lithium	7439-93-2	T	MG/KG	3.23			0.314	0.314	0.568	Y	Yes	1	DRY
	Molybdenum	7439-98-7	T	MG/KG	0.853			0.0704	0.0704	0.568	Y	Yes	1	DRY
	Nickel	7440-02-0	T	MG/KG	6.69			0.0693	0.0693	0.114	Y	Yes	1	DRY
	Selenium	7782-49-2	T	MG/KG	0.375	J	M-	0.0682	0.0682	0.568	Y	Yes	1	DRY
	Silver	7440-22-4	T	MG/KG		U		0.0159	0.0159	0.114	N	Yes	1	DRY
	Thallium	7440-28-0	T	MG/KG	0.303			0.0148	0.0148	0.114	Y	Yes	1	DRY
	Vanadium	7440-62-2	T	MG/KG	11.1	J	M-	0.0693	0.0693	0.114	Y	Yes	1	DRY
	Zinc	7440-66-6	T	MG/KG	15.8			0.379	0.379	0.568	Y	Yes	1	DRY
SW-846 7471B	Mercury	7439-97-6	T	MG/KG		U		0.0143	0.0143	0.0329	N	Yes	1	DRY
SW-846 9045D	pH at 25 Degrees C	PH	N	SU	4.8			0.1	0.1	0.1	Y	Yes	1	WET
SW-846 9056A	Chloride	16887-00-6	N	MG/KG		U		4.38	4.38	11.3	N	Yes	1	DRY
	Fluoride	16984-48-8	N	MG/KG		UJ	M-	0.768	0.768	1.13	N	Yes	1	DRY
	Sulfate	14808-79-8	N	MG/KG	8.90	J	RL	7.67	7.67	11.3	Y	Yes	1	DRY

				Lab Sample ID	180-86262-3									
				Sys Sample Code	JSF-BS-BG04ALT-15.5/18.5-20190130									
				Sample Name	JSF-BS-BG04ALT-15.5/18.5-20190130									
				Sample Date	1/30/2019 4:26:00 PM									
				Location	JSF-BG04ALT									
				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:			%	23.9									
SW-846 6020A	Antimony	7440-36-0	T	MG/KG	0.185	J	RL	0.0823	0.0823	0.266	Y	Yes	1	DRY
	Arsenic	7440-38-2	T	MG/KG	9.24			0.0345	0.0345	0.133	Y	Yes	1	DRY
	Barium	7440-39-3	T	MG/KG	51.9			0.0757	0.0757	1.33	Y	Yes	1	DRY
	Beryllium	7440-41-7	T	MG/KG	2.16			0.00996	0.00996	0.133	Y	Yes	1	DRY
	Boron	7440-42-8	T	MG/KG	3.30	J	RL	1.01	1.01	10.6	Y	Yes	1	DRY
	Cadmium	7440-43-9	T	MG/KG	0.0608	J	M-	0.0226	0.0226	0.133	Y	Yes	1	DRY
	Calcium	7440-70-2	T	MG/KG	371			11.9	11.9	66.4	Y	Yes	1	DRY
	Chromium	7440-47-3	T	MG/KG	15.5			0.0876	0.0876	0.266	Y	Yes	1	DRY
	Cobalt	7440-48-4	T	MG/KG	31.0			0.0110	0.0110	0.0664	Y	Yes	1	DRY
	Copper	7440-50-8	T	MG/KG	27.3			0.150	0.150	0.266	Y	Yes	1	DRY
	Lead	7439-92-1	T	MG/KG	15.2			0.0465	0.0465	0.133	Y	Yes	1	DRY
	Lithium	7439-93-2	T	MG/KG	38.6			0.366	0.366	0.664	Y	Yes	1	DRY
	Molybdenum	7439-98-7	T	MG/KG	0.322	J	RL	0.0823	0.0823	0.664	Y	Yes	1	DRY
	Nickel	7440-02-0	T	MG/KG	33.8			0.0810	0.0810	0.133	Y	Yes	1	DRY
	Selenium	7782-49-2	T	MG/KG	0.927	J	M-	0.0797	0.0797	0.664	Y	Yes	1	DRY
	Silver	7440-22-4	T	MG/KG		U		0.0186	0.0186	0.133	N	Yes	1	DRY
	Thallium	7440-28-0	T	MG/KG	0.114	J	RL	0.0173	0.0173	0.133	Y	Yes	1	DRY
	Vanadium	7440-62-2	T	MG/KG	17.1	J	M-	0.0810	0.0810	0.133	Y	Yes	1	DRY
	Zinc	7440-66-6	T	MG/KG	96.3			0.443	0.443	0.664	Y	Yes	1	DRY
SW-846 7471B	Mercury	7439-97-6	T	MG/KG	0.0163	J	RL	0.0152	0.0152	0.0352	Y	Yes	1	DRY
SW-846 9045D	pH at 25 Degrees C	PH	N	SU	4.5			0.1	0.1	0.1	Y	Yes	1	WET
SW-846 9056A	Chloride	16887-00-6	N	MG/KG	26.4			5.05	5.05	13.0	Y	Yes	1	DRY
	Fluoride	16984-48-8	N	MG/KG		UJ	M-	0.886	0.886	1.30	N	Yes	1	DRY
	Sulfate	14808-79-8	N	MG/KG		U		8.85	8.85	13.0	N	Yes	1	DRY

Lab Sample ID	180-86262-4
Sys Sample Code	JSF-BS-FD02-20190130
Sample Name	JSF-BS-FD02-20190130
Sample Date	1/30/2019 4:11:00 PM
Location	JSF-BG04ALT
Sample Type	FD
Parent Sample	JSF-BS-BG04ALT-15.5/18.5-20190130

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:			%	23.4									
SW-846 6020A	Antimony	7440-36-0	T	MG/KG	0.114	J	RL	0.0835	0.0835	0.269	Y	Yes	1	DRY
	Arsenic	7440-38-2	T	MG/KG	7.51			0.0350	0.0350	0.135	Y	Yes	1	DRY
	Barium	7440-39-3	T	MG/KG	41.5			0.0767	0.0767	1.35	Y	Yes	1	DRY
	Beryllium	7440-41-7	T	MG/KG	1.84			0.0101	0.0101	0.135	Y	Yes	1	DRY
	Boron	7440-42-8	T	MG/KG	2.54	J	RL	1.03	1.03	10.8	Y	Yes	1	DRY
	Cadmium	7440-43-9	T	MG/KG	0.0451	J	M-	0.0229	0.0229	0.135	Y	Yes	1	DRY
	Calcium	7440-70-2	T	MG/KG	286			12.0	12.0	67.3	Y	Yes	1	DRY
	Chromium	7440-47-3	T	MG/KG	13.1			0.0889	0.0889	0.269	Y	Yes	1	DRY
	Cobalt	7440-48-4	T	MG/KG	37.0			0.0112	0.0112	0.0673	Y	Yes	1	DRY
	Copper	7440-50-8	T	MG/KG	25.4			0.152	0.152	0.269	Y	Yes	1	DRY
	Lead	7439-92-1	T	MG/KG	14.8			0.0471	0.0471	0.135	Y	Yes	1	DRY
	Lithium	7439-93-2	T	MG/KG	38.0			0.372	0.372	0.673	Y	Yes	1	DRY
	Molybdenum	7439-98-7	T	MG/KG	0.261	J	RL	0.0835	0.0835	0.673	Y	Yes	1	DRY
	Nickel	7440-02-0	T	MG/KG	30.2			0.0821	0.0821	0.135	Y	Yes	1	DRY
	Selenium	7782-49-2	T	MG/KG	0.639	J	M-	0.0808	0.0808	0.673	Y	Yes	1	DRY
	Silver	7440-22-4	T	MG/KG		U		0.0188	0.0188	0.135	N	Yes	1	DRY
	Thallium	7440-28-0	T	MG/KG	0.0938	J	RL	0.0175	0.0175	0.135	Y	Yes	1	DRY
	Vanadium	7440-62-2	T	MG/KG	16.5	J	M-	0.0821	0.0821	0.135	Y	Yes	1	DRY
	Zinc	7440-66-6	T	MG/KG	86.4			0.450	0.450	0.673	Y	Yes	1	DRY
SW-846 7471B	Mercury	7439-97-6	T	MG/KG		U		0.0167	0.0167	0.0386	N	Yes	1	DRY
SW-846 9045D	pH at 25 Degrees C	PH	N	SU	4.5			0.1	0.1	0.1	Y	Yes	1	WET
SW-846 9056A	Chloride	16887-00-6	N	MG/KG	26.8			5.04	5.04	13.0	Y	Yes	1	DRY
	Fluoride	16984-48-8	N	MG/KG		UJ	M-	0.883	0.883	1.30	N	Yes	1	DRY
	Sulfate	14808-79-8	N	MG/KG		U		8.81	8.81	13.0	N	Yes	1	DRY

				Lab Sample ID	180-86262-5									
				Sys Sample Code	JSF-BS-BG04ALT-0.0/0.5-20190130									
				Sample Name	JSF-BS-BG04ALT-0.0/0.5-20190130									
				Sample Date	1/30/2019 4:44:00 PM									
				Location	JSF-BG04ALT									
				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:			%	26.7									
SW-846 6020A	Antimony	7440-36-0	T	MG/KG	0.0964	J	RL	0.0881	0.0881	0.284	Y	Yes	1	DRY
	Arsenic	7440-38-2	T	MG/KG	2.86			0.0370	0.0370	0.142	Y	Yes	1	DRY
	Barium	7440-39-3	T	MG/KG	49.9			0.0810	0.0810	1.42	Y	Yes	1	DRY
	Beryllium	7440-41-7	T	MG/KG	0.393			0.0107	0.0107	0.142	Y	Yes	1	DRY
	Boron	7440-42-8	T	MG/KG	3.76	J	RL	1.08	1.08	11.4	Y	Yes	1	DRY
	Cadmium	7440-43-9	T	MG/KG	3.09	J	M-	0.0242	0.0242	0.142	Y	Yes	1	DRY
	Calcium	7440-70-2	T	MG/KG	52300			12.7	12.7	71.1	Y	Yes	1	DRY
	Chromium	7440-47-3	T	MG/KG	6.35			0.0938	0.0938	0.284	Y	Yes	1	DRY
	Cobalt	7440-48-4	T	MG/KG	1.92			0.0118	0.0118	0.0711	Y	Yes	1	DRY
	Copper	7440-50-8	T	MG/KG	7.70			0.161	0.161	0.284	Y	Yes	1	DRY
	Lead	7439-92-1	T	MG/KG	12.2			0.0498	0.0498	0.142	Y	Yes	1	DRY
	Lithium	7439-93-2	T	MG/KG	2.76			0.392	0.392	0.711	Y	Yes	1	DRY
	Molybdenum	7439-98-7	T	MG/KG	0.624	J	RL	0.0881	0.0881	0.711	Y	Yes	1	DRY
	Nickel	7440-02-0	T	MG/KG	3.53			0.0867	0.0867	0.142	Y	Yes	1	DRY
	Selenium	7782-49-2	T	MG/KG	0.828	J	M-	0.0853	0.0853	0.711	Y	Yes	1	DRY
	Silver	7440-22-4	T	MG/KG		U		0.0199	0.0199	0.142	N	Yes	1	DRY
	Thallium	7440-28-0	T	MG/KG	0.111	J	RL	0.0185	0.0185	0.142	Y	Yes	1	DRY
	Vanadium	7440-62-2	T	MG/KG	9.05	J	M-	0.0867	0.0867	0.142	Y	Yes	1	DRY
	Zinc	7440-66-6	T	MG/KG	704			0.475	0.475	0.711	Y	Yes	1	DRY
SW-846 7471B	Mercury	7439-97-6	T	MG/KG	0.0434	J	RL	0.0195	0.0195	0.0450	Y	Yes	1	DRY
SW-846 9045D	pH at 25 Degrees C	PH	N	SU	7.4			0.1	0.1	0.1	Y	Yes	1	WET
SW-846 9056A	Chloride	16887-00-6	N	MG/KG		U		5.15	5.15	13.3	N	Yes	1	DRY
	Fluoride	16984-48-8	N	MG/KG	1.42	J	M-	0.903	0.903	1.33	Y	Yes	1	DRY
	Sulfate	14808-79-8	N	MG/KG	11.1	J	RL	9.02	9.02	13.3	Y	Yes	1	DRY

	Lab Sample ID	180-86262-6												
	Sys Sample Code	JSF-BS-FB07-20190130												
	Sample Name	JSF-BS-FB07-20190130												
	Sample Date	1/30/2019 4:57:00 PM												
	Location	JSF-BG04ALT												
	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	0.0387	J	RL	0.0303	0.0303	0.0800	Y	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	0.229	J	RL	0.116	0.116	0.500	Y	Yes	1	NA
	Chromium	7440-47-3	T	MG/L		U		0.000631	0.000631	0.00200	N	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	0.00115	J	RL	0.000474	0.000474	0.00500	Y	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		U		0.000121	0.000121	0.00100	N	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	0.00135			0.000899	0.000899	0.00100	Y	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