

January 2, 2019

Roy Quinn  
TVA Cumberland Fossil Plant  
815 Cumberland City Road  
Cumberland City, TN 37050

RE: John Sevier Fossil Plant Project – Analytical Report  
RJ Lee Group Project Number AOH1052409-0

Dear Mr. Quinn,

RJ Lee Group, Inc. (RJLG) Monroeville laboratory received 22 samples on December 21, 2018 associated with Tennessee Valley Authority (TVA) John Sevier Fossil Plant. The samples were logged into RJ Lee Group project number AOH1052409-0 and assigned RJLG sample numbers as indicated in Appendix A.

The samples were received in good condition with all custody seals in place and intact. Attached in Appendix A is the signed sample receipt confirmation form, COC, revised COC and sample receipt check list.

These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which the results are used or interpreted. Unless notified to return the samples covered in this report, RJ Lee Group will store them for a period of ninety (90) days before discarding.

Should you have any questions regarding this information, please do not hesitate to contact us.

Sincerely,



Bryan R. Bandli, PhD  
Principal Investigator

Attachments: Chain of Custody Forms  
Mineral Identification Report

**Appendix A**  
Chain of Custody Forms

**Chain of Custody**  
**RJ Lee Group Work Order #: AOH1052409-0**  
**Project Name/Case #: John Sevier Fossil Plant**

Received From:	Relinquished To:
Tyler Baker Tennessee Valley Authority TVA Chickamauga Power Service Center 4601 N. Access Road Chattanooga, TN 37415 United States Main: 423-876-6733	RJLee Group, Inc. 350 Hochberg Road Monroeville, PA 15146 United States Main: 724-325-1776 Fax: 724-325-1775

Sample ID	Client Sample ID	Date Received
10459417	JSF-SED-PB03-CORLB-0.0/0.5-20181218	12/21/2018 10:52 AM EST
10459418	JSF-SED-PB03-CORLB-0.5/1.4-20181218	12/21/2018 10:52 AM EST
10459419	JSF-SED-PB03-CORCC-0.0/0.5-20181218	12/21/2018 10:52 AM EST
10459420	JSF-SED-PB03-CORCC-0.5/1.2-20181218	12/21/2018 10:52 AM EST
10459421	JSF-SED-PB03-CORRB-0.0/0.5-20181218	12/21/2018 10:52 AM EST
10459422	JSF-SED-PB03-CORRB-0.5/1.6-20181218	12/21/2018 10:52 AM EST
10459423	JSF-SED-PB02-CORCC-0.0/0.5-20181218	12/21/2018 10:52 AM EST
10459424	JSF-SED-PB02-CORCC-0.5/2.5-20181218	12/21/2018 10:52 AM EST
10459425	JSF-SED-PB01-CORCC-0.0/0.5-20181218	12/21/2018 10:52 AM EST
10459426	JSF-SED-PB04-CORLB-0.0/0.5-20181218	12/21/2018 10:52 AM EST
10459427	JSF-SED-PB04-CORLB-0.5/1.0-20181218	12/21/2018 10:52 AM EST
10459428	JSF-SED-PB04-CORCC-0.0/0.5-20181218	12/21/2018 10:52 AM EST
10459429	JSF-SED-PB04-CORCC-0.5/1.8-20181218	12/21/2018 10:52 AM EST
10459430	JSF-SED-PB04-CORRB-0.0/0.5-20181218	12/21/2018 10:52 AM EST
10459431	JSF-SED-PB04-CORRB-0.5/1.2-20181218	12/21/2018 10:52 AM EST
10459432	JSF-SED-PB03-DUP01-20181218	12/21/2018 10:52 AM EST
10459433	JSF-SED-PB05-CORCC-0.0/0.5-20181219	12/21/2018 10:52 AM EST
10459434	JSF-SED-PB05-CORCC-0.5/0.9-20181219	12/21/2018 10:52 AM EST
10459435	JSF-SED-PB09-CORCC-0.0/0.5-20181219	12/21/2018 10:52 AM EST
10459436	JSF-SED-PB06-CORCC-0.0/0.5-20181219	12/21/2018 10:52 AM EST
10459437	JSF-SED-PB07-CORCC-0.0/0.5-20181219	12/21/2018 10:52 AM EST
10459438	JSF-SED-PB08-CORCC-0.0/0.5-20181219	12/21/2018 10:52 AM EST
10459439	QC01_JS F-SED-PB03-CORRB-0.5/1.6-20181218	12/21/2018 10:52 AM EST
10459440	QC02_JS F-SED-PB09-CORCC-0.0/0.5-20181219	12/21/2018 10:52 AM EST

	<b>Received From:</b> Tyler Baker	<i>Method of Shipment:</i> Federal Express
	<b>Company:</b> Tennessee Valley Authority	<b>Date:</b> 12/21/2018
	<b>Received By:</b> Monica Carse	<i>Package Condition Upon Receipt:</i> Sealed
	<b>Company:</b> RJ Lee Group, Inc.	<b>Date:</b> 12/21/2018

	<b>Relinquished</b>	<i>Method of Shipment:</i>
	<b>Company:</b>	<b>Date:</b>
	<b>Received By:</b>	<i>Package Condition Upon Receipt:</i>
	<b>Company:</b>	<b>Date:</b>

	<b>Relinquished</b>	<i>Method of Shipment:</i>
	<b>Company:</b>	<b>Date:</b>
	<b>Received By:</b>	<i>Package Condition Upon Receipt:</i>
	<b>Company:</b>	<b>Date:</b>

**RJ Lee Group**  
**Sample Receipt and Log in Check List**

Client:	TVA	Date Received:	12/21/2018	Log in Date:	12/21/2018
Time Received:	10:52 AM	By:	Monica Carse	COC# :	JSF_SED_20181218_1C
Project:	AOH1052409-0	# Coolers Received	1	Means of Shipment:	FedEx
Air Bill:	7845 8532 3427				

As Received Screen	Yes	No	Comments
Were the Coolers received in good condition?	✓		
Was there evidence of tampering?		✓	
Are Custody Seals intact and in good condition?	✓		
Were Coolers received between 2 and 4 degrees C?		N/A	
Were all samples intact?	✓		
Were all samples accurately labeled?	✓		
Was the COC received in good condition?		✓	
Did the sample ID on COC match the ID on the sample jars?	✓		
Were there any discrepancies among samples and COC?		✓	
Is the COC completely filled out?	✓		
Was the COC relinquished properly?	✓		

List any anomalies associated with Sample Receipt

N/A

Analyst Signature: M. Carse 12-21-18

Manager Signature: [Signature] 12/21/18



A041052409-0

## 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.:		of	
COC No.:	JSF_SED_20181218_1C		
1 of 2 Pages			
Task Desc:	JSF_SED		

Required Ship to Lab:			Required Project Information:				Required Sampler Information:				Filtered	Preserve	Analysis	
Lab Name:	Lab Address:	Lab Manager Contact Information:	Site ID #:	Project #:	Site Address:	City:	State:	Zip:	Sampler:	Sampling Company:				Address:
RJ Lee Group, Inc.	350 Hochberg Road Monroeville, PA 15146	Lab PM: Monica Carse Phone/Fax: 724.325.1776 Lab Email: MCarse@rjleegroup.com	JOHN SEVIER FOSSIL PLANT	426800	611 Old Highway 70 S	Rogersville	TN	37857	Tyler Baker	TVA	TVA Chickamauga Power Service Center, 4601 N. Access Road	Chattanooga, TN	423-876-6733	
Site PM Name: Roy Quinn			Site PM Email: jrquinn@tva.gov				Site PM Phone/Fax: 423-751-3753				Sampling Team Number: 1			
							Send EDD/Hard Copy to: tva-ei@envstd.com							
							Analysis Turnaround Time							
							<input type="checkbox"/> CALENDAR DAYS <input checked="" type="checkbox"/> WORKING DAYS TAT if different from Below _____							
							<input type="checkbox"/> 24 Hours <input type="checkbox"/> 3 Business Days <input type="checkbox"/> 5 Business Days <input checked="" type="checkbox"/> 10 Business Days (Standard)							
ITEMS #	SAMPLE ID Samples IDs MUST BE UNIQUE	SAMPLE LOCATION	Sample Depth Depth Unit	Feet	MATRIX CODE	G = GRAB C = COMP	SAMPLE TYPE	SAMPLE DATE	SAMPLE TIME	# OF CONTAINERS	Comments/ Lab Sample I.D.	MS/MSD	Analysis	
1	JSF-SED-PB03-CORLB-0.0/0.5-20181218	PB03	0	0.5	SED	G	N	12/18/2018	1050	1			X	
2	JSF-SED-PB03-CORLB-0.5/1.4-20181218	PB03	0.5	1.4	SED	G	N	12/18/2018	1050	1			X	
3	JSF-SED-PB03-CORCC-0.0/0.5-20181218	PB03	0	0.5	SED	G	N	12/18/2018	1105	1			X	
4	JSF-SED-PB03-CORCC-0.5/1.2-20181218	PB03	0.5	1.2	SED	G	N	12/18/2018	1105	1			X	
5	JSF-SED-PB03-CORRB-0.0/0.5-20181218	PB03	0	0.5	SED	G	N	12/18/2018	1125	1			X	
6	JSF-SED-PB03-CORRB-0.5/1.6-20181218	PB03	0.5	1.6	SED	G	N	12/18/2018	1125	2			X	
7	JSF-SED-PB02-CORCC-0.0/0.5-20181218	PB02	0	0.5	SED	G	N	12/18/2018	1140	1			X	
8	JSF-SED-PB02-CORCC-0.5/2.5-20181218	PB02	0.5	2.5	SED	G	N	12/18/2018	1140	1			X	
9	JSF-SED-PB01-CORCC-0.0/0.5-20181218	PB01	0	0.5	SED	G	N	12/18/2018	1235	1			X	
10	JSF-SED-PB04-CORLB-0.0/0.5-20181218	PB04	0	0.5	SED	G	N	12/18/2018	1540	1			X	
11	JSF-SED-PB04-CORLB-0.5/1.0-20181218	PB04	0.5	1	SED	G	N	12/18/2018	1540	1			X	
12														
13														

Additional Comments/Special Instructions:

Additional volume can be used for Laboratory Duplicate.

Samples designated "Hold" should not be analyzed until directed otherwise.

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	Sample Receipt Conditions			
Tyler Baker / TVA	12-20-18	1400	M. Carre / RJ Lee Group	12-21-18	10:52	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> Yes
						<input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> No	<input type="checkbox"/> No	<input checked="" type="checkbox"/> No
						<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
						<input type="checkbox"/> No	<input type="checkbox"/> No	<input type="checkbox"/> No	<input type="checkbox"/> No
						<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
						<input type="checkbox"/> No	<input type="checkbox"/> No	<input type="checkbox"/> No	<input type="checkbox"/> No
						<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes
						<input type="checkbox"/> No	<input type="checkbox"/> No	<input type="checkbox"/> No	<input type="checkbox"/> No

SHIPPING METHOD:	SAMPLER NAME AND SIGNATURE	Temperature in °C	Sample on Ice?	Sample Intact?	Trip Blank?
Fed-EX	Tyler Baker				



## 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.:		of	
COC No:	JSF_SED 20181218_1C		
2 of 2 Pages			
Task Desc:	JSF_SED		

Required Ship to Lab:			Required Project Information:				Required Sampler Information:									
Lab Name:	RJ Lee Group, Inc.		Site ID #:	JOHN SEVIER FOSSIL PLANT			Sampler:	Tyler Baker								
Lab Address:	350 Hochberg Road Monroeville, PA 15146		Project #:	426800			Sampling Company:	TVA								
Lab Manager Contact Information			Site Address:	611 Old Highway 70 S			Address: TVA Chickamauga Power Service Center, 4601 N. Access Road									
			City:	Rogersville	State, Zip:	TN, 37857		City/State:	Chattanooga, TN		Phone:	423-876-6733				
Lab PM:			Site PM Name:	Roy Quinn			Sampling Team Number:									
Phone/Fax:			Phone/Fax:	423-751-3753			Send EDD/Hard Copy to:									
Lab Email:			Site PM Email:	rquinn@tva.gov			tva-el@envystd.com									
Analysis Turnaround Time																
<input type="checkbox"/> CALENDAR DAYS <input checked="" type="checkbox"/> WORKING DAYS TAT if different from Below _____																
<input type="checkbox"/> 24 Hours <input type="checkbox"/> 3 Business Days <input type="checkbox"/> 5 Business Days <input checked="" type="checkbox"/> 10 Business Days (Standard)																
ITEMS #	SAMPLE ID Samples IDs MUST BE UNIQUE	SAMPLE LOCATION	Sample Depth		MATRIX CODE	G= GRAB C=COMP	SAMPLE TYPE	SAMPLE DATE	SAMPLE TIME	# OF CONTAINERS	Comments/ Lab Sample I.D.	MSMSD	Analysis	Preserve	Filtered	
			Start Depth	End Depth												
1	JSF-SED-PB04-CORCC-0.0/0.5-20181218	PB04	0	0.5	SED	G	N	12/18/2018	1554	1						
2	JSF-SED-PB04-CORCC-0.5/1.8-20181218	PB04	0.5	1.8	SED	G	N	12/18/2018	1554	1						
3	JSF-SED-PB04-CORRB-0.0/0.5-20181218	PB04	0	0.5	SED	G	N	12/18/2018	1615	1						
4	JSF-SED-PB04-CORRB-0.5/1.2-20181218	PB04	0.5	1.2	SED	G	N	12/18/2018	1615	1						
5	JSF-SED-PB03-DUP01-20181218	PB03	NA	NA	SED	G	N	12/18/2018	NA	1	Duplicate					
6	JSF-SED-PB05-CORCC-0.0/0.5-20181219	PB05	0	0.5	SED	G	N	12/19/2018	0920	1						
7	JSF-SED-PB05-CORCC-0.5/0.9-20181219	PB05	0.5	0.9	SED	G	N	12/19/2018	0920	1						
8	JSF-SED-PB09-CORCC-0.0/0.5-20181219	PB09	0	0.5	SED	G	N	12/19/2018	1040	1						
9	JSF-SED-PB06-CORCC-0.0/0.5-20181219	PB06	0	0.5	SED	G	N	12/19/2018	1155	1						
10	JSF-SED-PB07-CORCC-0.0/0.5-20181219	PB07	0	0.5	SED	G	N	12/19/2018	1230	1						
11	JSF-SED-PB08-CORCC-0.0/0.5-20181219	PB08	0	0.5	SED	G	N	12/19/2018	1255	1						
12																
13																

  

RELINQUISHED BY / AFFILIATION		DATE	TIME	ACCEPTED BY / AFFILIATION		DATE	TIME	Sample Receipt Conditions			
Tyler Baker / TVA		12-20-18	1400	M. Carse / RJ Lee Group		12-21-18	10:52	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
								<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
								<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
								<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
								<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No

  

SHIPPING METHOD:	SAMPLER NAME AND SIGNATURE	Temperature in °C	Sample on Ice?	Sample Intact?	Trip Blank?
Fed-ex	Tyler Baker				

## Additional Comments/Special Instructions:

Additional volume can be used for Laboratory Duplicate.

Samples designated "Hold" should not be analyzed until directed otherwise.

A011052409-0

## 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.:		of	1
COC No.:	JSF SED 20181218 1C		
1 of 2 Pages			
Task Desc:	JSF SED		

Rev 1

DL 12/20/18

Required Ship to Lab:			Required Project Information:				Required Sampler Information:						
Lab Name:	R.J. Lee Group, Inc.		Site ID #:	JOHN SEVIER FOSSIL PLANT			Sampler:	Tyler Baker					
Lab Address:	350 Hochberg Road Monroeville, PA 15146		Project #:	426800			Sampling Company:	TVA					
Lab Manager Contact Information:			Site Address:	611 Old Highway 70 S			Address:		TVA Chickamauga Power Service Center, 4601 N. Access Road				
			City:	Rogersville		State, Zip:	TN, 37857		City/State:	Chattanooga, TN			
			Site PM Name:	Roy Quinn			City/State:	Chattanooga, TN		Phone:	423-676-6733		
Lab PM:	Monica Carse		Phone/Fax:	423-751-3753			Sampling Team Number:	1					
Phone/Fax:	724.325.1776		Site PM Email:	rquinn@tva.gov			Send EDD/Hard Copy to:	tva-ed@envsvald.com					
Lab Email:	MCarse@rjleegroup.com												
Analysis Turnaround Time													
<input type="checkbox"/> CALENDAR DAYS <input checked="" type="checkbox"/> WORKING DAYS TAT if different from Below:													
<input type="checkbox"/> 24 Hours <input type="checkbox"/> 3 Business Days <input type="checkbox"/> 5 Business Days <input checked="" type="checkbox"/> 10 Business Days (Standard)													
ITEM #	SAMPLE ID Samples IDs MUST BE UNIQUE	SAMPLE LOCATION	Sample Depth		MATRIX CODE	G= GRAB C=COMP	SAMPLE TYPE	SAMPLE DATE	SAMPLE TIME	# OF CONTAINERS	Comments/ Lab Sample I.D.	MSMSD	Analysis Statement File
			Start Depth	End Depth									
1	JSF-SED-PB03-CORLB-0.0/0.5-20181218	PB03	0	0.5	SED	G	N	12/18/2018	1050	1			
2	JSF-SED-PB03-CORLB-0.5/1.4-20181218	PB03	0.5	1.4	SED	G	N	12/18/2018	1050	1			
3	JSF-SED-PB03-CORCC-0.0/0.5-20181218	PB03	0	0.5	SED	G	N	12/18/2018	1105	1			
4	JSF-SED-PB03-CORCC-0.5/1.2-20181218	PB03	0.5	1.2	SED	G	N	12/18/2018	1105	1			
5	JSF-SED-PB03-CORRB-0.0/0.5-20181218	PB03	0	0.5	SED	G	N	12/18/2018	1125	1			
6	JSF-SED-PB03-CORRB-0.5/1.6-20181218	PB03	0.5	1.6	SED	G	N	12/18/2018	1125	2			
7	JSF-SED-PB02-CORCC-0.0/0.5-20181218	PB02	0	0.5	SED	G	N	12/18/2018	1140	1			
8	JSF-SED-PB02-CORCC-0.5/2.5-20181218	PB02	0.5	2.5	SED	G	N	12/18/2018	1140	1			
9	JSF-SED-PB01-CORCC-0.0/0.5-20181218	PB01	0	0.5	SED	G	N	12/18/2018	1235	1			
10	JSF-SED-PB04-CORLB-0.0/0.5-20181218	PB04	0	0.5	SED	G	N	12/18/2018	1540	1			
11	JSF-SED-PB04-CORLB-0.5/1.0-20181218	PB04	0.5	1	SED	G	N	12/18/2018	1540	1			
12													
13													

Additional Comments/Special Instructions:

Additional volume can be used for Laboratory Duplicate.

Samples designated "Hold" should not be analyzed until directed otherwise.

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	Sample Receipt Conditions			
Tyler Baker / TVA	12-20-18	1400	M. Carse / R.J. Lee Group	12-21-18	10:52	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
						<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
						<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
						<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No

SHIPPING METHOD:

Fed-EX

SAMPLER NAME AND SIGNATURE

Tyler Baker *Tyler Baker*

Temperature in °C

Sample on ice?

Sample Intact?

Trip Blank?



A041052409-0

## 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.:		of	
COC No.:	JSF_SED 20181218 1C		
2 of 2 Pages			
Task Desc:	JSF_SED		

Rev 1  
02/12/2018

Required Ship to Lab:			Required Project Information:				Required Sampler Information:				Analysis Turnaround Time		Sample Receipt Conditions			
Lab Name:	RJ Lee Group, Inc.		Site ID #:	JOHN SEVIER FOSSIL PLANT			Sampler:	Tyler Baker			CALENDAR DAYS		Sample Receipt Conditions			
Lab Address:	350 Hochberg Road Monroeville, PA 15146		Project #:	426800			Sampling Company:	TVA			WORKING DAYS		Sample Receipt Conditions			
Lab Manager Contact Information			Site Address:	611 Old Highway 70 S			Address:			TVA Chickamauga Power Service Center, 4501 N. Access Road			TAT # different from Below		Sample Receipt Conditions	
Lab PM:	Monica Carse		City:	Rogersville	State:	TN	City/State:	Chattanooga, TN	Phone:	423-878-6733			24 Hours		Sample Receipt Conditions	
Phone/Fax:	724.325.1776		Site PM Name:	Roy Quinn			Sampling Team Number:			1			3 Business Days		Sample Receipt Conditions	
Lab Email:	MCarse@rjleegroup.com		Phone/Fax:	423-751-3753			Send EDD/Hard Copy to:			tva-en@envaid.com			5 Business Days		Sample Receipt Conditions	
			Site PM Email:	rquinn@tva.gov									10 Business Days (Standard)		Sample Receipt Conditions	
ITEMS #	SAMPLE ID Samples IDs MUST BE UNIQUE	SAMPLE LOCATION	Start 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	Preservative	Filtered	
1	JSF-SED-PB04-CORCC-0.0/0.5-20181218	PB04	0	0.5	SED	G	N	12/18/2018	1554	1			X			
2	JSF-SED-PB04-CORCC-0.5/1.8-20181218	PB04	0.5	1.8	SED	G	N	12/18/2018	1554	1			X			
3	JSF-SED-PB04-CORRB-0.0/0.5-20181218	PB04	0	0.5	SED	G	N	12/18/2018	1615	1			X			
4	JSF-SED-PB04-CORRB-0.5/1.2-20181218	PB04	0.5	1.2	SED	G	N	12/18/2018	1615	1			X			
5	JSF-SED-PB03-DUP01-20181218	PB03	NA	NA	SED	G	N	12/18/2018	NA	1	Duplicate		X			
6	JSF-SED-PB05-CORCC-0.0/0.5-20181219	PB05	0	0.5	SED	G	N	12/19/2018	0920	1			X			
7	JSF-SED-PB05-CORCC-0.5/0.9-20181219	PB05	0.5	0.9	SED	G	N	12/19/2018	0920	1			X			
8	JSF-SED-PB09-CORCC-0.0/0.5-20181219	PB09	0	0.5	SED	G	N	12/19/2018	1040	1			X			
9	JSF-SED-PB06-CORCC-0.0/0.5-20181219	PB06	0	0.5	SED	G	N	12/19/2018	1155	1			X			
10	JSF-SED-PB07-CORCC-0.0/0.5-20181219	PB07	0	0.5	SED	G	N	12/19/2018	1230	1			X			
11	JSF-SED-PB08-CORCC-0.0/0.5-20181219	PB08	0	0.5	SED	G	N	12/19/2018	1255	1			X			
12																
13																

Additional Comments/Special Instructions:

Additional volume can be used for Laboratory Duplicate.

Samples designated "Hold" should not be analyzed until directed otherwise.

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Tyler Baker / TVA	12-20-18	1400	Monica Carse / RJ Lee Group	12-21-18	10:53

SHIPPING METHOD:		SAMPLER NAME AND SIGNATURE	
Fed-Ex		Tyler Baker	Tyler Baker

## Monica Carse

---

**From:** Danielle Coles <dcoles@envstd.com>  
**Sent:** Friday, December 28, 2018 8:09 AM  
**To:** Monica Carse; TVA-EI; TVA\_Deliverables  
**Cc:** Amanda Cover  
**Subject:** RE: SRC Report AOH1052409-0  
**Attachments:** JSF\_SED\_20181218\_1C\_REV 1.pdf

Hi Monica,

A revised COC is attached to update the sample type for the field duplicate sample on page 2 of 2.

Thanks!

Danielle Coles  
Staff Chemist I  
**Environmental Standards, Inc.**  
1140 Valley Forge Road • PO Box 810 • Valley Forge, PA 19482  
610.935.5577 x419 • [www.envstd.com](http://www.envstd.com) • [dcoles@envstd.com](mailto:dcoles@envstd.com)

**Emergency Response Quality Assurance Hotline: 855.374.7272**



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**From:** Monica Carse [<mailto:MCarse@rjleegroup.com>]  
**Sent:** Wednesday, December 26, 2018 8:49 AM  
**To:** TVA-EI <[tva-ei@envstd.com](mailto:tva-ei@envstd.com)>; TVA\_Deliverables <[tva\\_deliverables@envstd.com](mailto:tva_deliverables@envstd.com)>  
**Subject:** SRC Report AOH1052409-0

Good Morning,

Attached is the sample receipt confirmation report for the samples I received on Friday, December 21<sup>st</sup>. If I can be of further assistance, please don't hesitate to contact me.

Have a Great Day!  
Monica

### Monica Carse

Project Coordinator, TEM Department  
RJ Lee Group

724.325.1776 Office

724.387.1927 Direct

[MCarse@rjleegroup.com](mailto:MCarse@rjleegroup.com)

[Website](#) | [Lab Services](#) | [Shop](#) | [Pay My Bill](#)

350 Hochberg Road | Monroeville, PA 15146

RJ Lee Group will be closed December 24th and 25th for the Christmas holiday, and January 1st New Years Day. Please note this may affect project turnaround times. Have a very happy holiday season!

How are we doing? Take the [Customer Survey](#).

The information contained in this e-mail message, together with any attachments thereto, is intended only for the personal and confidential use of the addressee[s] named above. The message and the attachments are or may be an attorney-client or other privileged or protected communication. If you are not the intended recipient of this message, or authorized to receive it for the intended recipient, you have received this message in error. You are not to review, use, disseminate, distribute or copy this message, any attachments thereto, or their contents. If you have received this message in error, please immediately notify us by return e-mail message, and delete the original message. Thank you for your assistance.



**Appendix B**  
Mineral Identification Report

# Mineral Identification

Polarized Light Microscopy (PLM) Laboratory Report

Roy Quinn  
 TVA Cumberland Fossil Plant  
 815 Cumberland City Road  
 Cumberland City , TN 37050 United States  
 Email: jrquinn@tva.gov  
 Main: 423-751-3753

**Report Date:** 12/26/2018  
**Sample Received Date:** 12/21/2018  
**RJLG Project:** AOH1052409-0  
**Customer COC:** JSF\_SED\_20181218\_1C  
**Purchase Order:**  
**Analytical Method:** Fly Ash Determination by PLM

Customer Sample # :	RJLG ID	Date Analyzed	Date Collected	Area % Fly Ash	Non-Fly Ash Components	Comments
JSF-SED-PB01-CORCC-0.0/0.5-20181218	10459425	12/30/2018	12/18/2018	ND	Carbonate Opaques Quartz	Beige Sediment.
JSF-SED-PB02-CORCC-0.0/0.5-20181218	10459423	12/30/2018	12/18/2018	1%	Carbonate Opaques Quartz	Beige Sediment.
JSF-SED-PB02-CORCC-0.5/2.5-20181218	10459424	12/30/2018	12/18/2018	1%	Carbonate Opaques Quartz	Beige Sediment.
JSF-SED-PB03-CORCC-0.0/0.5-20181218	10459419	12/30/2018	12/18/2018	2%	Carbonate Opaques Quartz	Beige Sediment.
JSF-SED-PB03-CORCC-0.5/1.2-20181218	10459420	12/30/2018	12/18/2018	2%	Opaques Quartz	Beige Sediment.
JSF-SED-PB03-CORLB-0.0/0.5-20181218	10459417	12/30/2018	12/18/2018	2%	Carbonate Opaques Quartz	Beige Sediment.
JSF-SED-PB03-CORLB-0.5/1.4-20181218	10459418	12/30/2018	12/18/2018	ND	Carbonate Opaques Quartz	Beige Sediment.

Customer Sample # :	RJLG ID	Date Analyzed	Date Collected	Area % Fly Ash	Non-Fly Ash Components	Comments
JSF-SED-PB03-CORRB-010459421 .0/0.5-20181218		12/30/2018	12/18/2018	ND	Carbonate Opaques Quartz	Beige Sediment.
JSF-SED-PB03-CORRB-010459422 .5/1.6-20181218		12/30/2018	12/18/2018	ND	Carbonate Opaques Quartz	Beige Sediment.
JSF-SED-PB03-DUP01-2 10459432 0181218		12/30/2018	12/18/2018	ND	Carbonate Opaques Quartz	Beige Sediment.
JSF-SED-PB04-CORCC- 10459428 0.0/0.5-20181218		12/30/2018	12/18/2018	ND	Carbonate Opaques Quartz	Beige Sediment.
JSF-SED-PB04-CORCC- 10459429 0.5/1.8-20181218		12/30/2018	12/18/2018	1%	Carbonate Opaques Quartz	Beige Sediment.
JSF-SED-PB04-CORLB-0 10459426 .0/0.5-20181218		12/30/2018	12/18/2018	ND	Carbonate Opaques Quartz	Beige Sediment.
JSF-SED-PB04-CORLB-0 10459427 .5/1.0-20181218		12/30/2018	12/18/2018	2%	Carbonate Opaques Quartz	Beige Sediment.
JSF-SED-PB04-CORRB-010459430 .0/0.5-20181218		12/30/2018	12/18/2018	ND	Carbonate Opaques Quartz	Beige Sediment.
JSF-SED-PB04-CORRB-010459431 .5/1.2-20181218		12/30/2018	12/18/2018	ND	Carbonate Opaques Quartz	Beige Sediment.
JSF-SED-PB05-CORCC- 10459433 0.0/0.5-20181219		12/30/2018	12/19/2018	ND	Carbonate Opaques Quartz	Beige Sediment.



Customer Sample # :	RJLG ID	Date Analyzed	Date Collected	Area % Fly Ash	Non-Fly Ash Components	Comments
JSF-SED-PB05-CORCC- 0.5/0.9-20181219	10459434	12/30/2018	12/19/2018	4%	Carbonate Opaques Quartz	Beige Sediment.
JSF-SED-PB06-CORCC- 0.0/0.5-20181219	10459436	12/30/2018	12/19/2018	7%	Carbonate Opaques Quartz	Beige Sediment.
JSF-SED-PB07-CORCC- 0.0/0.5-20181219	10459437	12/30/2018	12/19/2018	5%	Carbonate Opaques Quartz	Gray Sediment.
JSF-SED-PB08-CORCC- 0.0/0.5-20181219	10459438	12/30/2018	12/19/2018	2%	Carbonate Opaques Quartz	Tan Sediment.
JSF-SED-PB09-CORCC- 0.0/0.5-20181219	10459435	12/30/2018	12/19/2018	ND	Carbonate Opaques Quartz	Beige Sediment.
QC01_JS-F-SED-PB03-C ORRB-0.5/1.6-20181218	10459439	12/30/2018	12/18/2018	ND	NA	Beige Sediment.
QC02_JS-F-SED-PB09-C ORCC-0.0/0.5-20181219	10459440	12/30/2018	12/19/2018	ND	NA	Beige Sediment.

#### Disclaimer Notes

- \* Samples will be returned to client immediately upon the release of final report.
- \* These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which these results are used or interpreted.
- \* This test report relates to the items tested.
- \* Any reproduction of this document must include the entire document in order for the report to be valid.
- \* This report may not be used to claim product endorsement by NVLAP Lab Code 101208-0 or any agency of the U.S. Government.
- \* Sample(s) for this project were analyzed at our: Monroeville, PA (AIHA # 100364, NVLAP # 101208-0, NY ELAP # 10884) facility.
- \* If RJ Lee Group, Inc. did not collect the samples analyzed, the verifiability of the laboratory's results is limited to the reported values.
- \* For the purposes of this method, Fly Ash is defined as any particle consistent with Coal Ash.
- \* The method reporting level is 1% and anything <1% is considered a not-detected.

Quartz – Angular anisotropic particulate with low relief.

Feldspar – Angular to blocky anisotropic particulate, low to moderate relief, biaxial, can have polysynthetic twinning.

Clay – Sheet silicates with polycrystalline or display non-uniform extinction with low to moderate relief, and zero to low birefringence. Clay also refers to particles that are less than 2.0 microns.

Opakes – Opaque is a generic term for a particle that does not transmit light. Opaque minerals are distinguished from opaque bottom ash based on morphology of fracture.

Fly Ash – Isotropic to opaque spheres, agglomeration of spheres, and angular ash particles.

Organic Particulate – Pollen, plant and insect matter, and carbonaceous matter.

Carbonates – High birefringent, can be rhombohedral, with high relief.

Diatoms – Silica rich isotropic particles with various morphologies.

Mica – Sheet silicate with moderate to high relief and low birefringence, mono-crystalline, and normal extinction.

Miscellaneous Silicate – Isotropic and anisotropic silicates, with low to high relief, identification unsure and beyond the scope of the method to identify.

Amphibole – Elongated anisotropic particulate with moderate to high relief.

Coal – Irregular to angular particles with moderate opacity, edges and thin particles are reddish brown in color.

<1% Fly Ash – Fly Ash observed, none counted.

ND – No Fly Ash detected.