Agreement Log #: KRP-11-005

Non-Time-Critical Concurrence

Area: The North Embayment Grids 4-H, 4-J, 4-K, 4-L, 5-G, 5-F, 5-E, 5-D, 5-K, 5-L, 5-M,6-D, 6-K, 6-L and eastern portion of 6-E.

Agreement:

All practical ash removal has been completed or was not required in the North Embayment area delineated by the portions of North Embayment Grids 4-H, 4-J, 4-K, 4-L, 5-G, 5-F, 5-E, 5-D, 5-K, 5-L, 5-M, 6-D, 6-K, 6-L and eastern portion of 6-E.

During ash removal operations, daily quality assurance was performed to visually determine the removal of the ash, progress was photo documented and operational soil sampling was conducted prior to releasing the area for concurrence sampling and removing the area from excavation and cleaning operations. Concurrence samples were submitted to RJ Lee Laboratory for determination of ash content by polarized light microscopy. Sample results ranged from non-detect to a maximum of 20% ash content and are attached as an EQuIS Summary table and two Level 4 reports. The Level 4 reports cover the sample results not entered into the site database yet and as an example of the transmittal details and PLM photo record.

The location of the samples and the boundary of the area cleared are shown on the attached Figure 1.

No further action is needed to remove ash from this area.

Attachments:
Attachment 1, North Embayment Sampling Status Table
Attachment 2, Polarized Light Microscopy Results from RJ Lee Laboratory, EQuIS Summary Table
Attachment 3, RJ Lee laboratory Level 4 Report # TOH1009545-125
Attachment 4, RJ Lee laboratory Level 4 Report # TOH1009545-127

Attachment 5, Daily Quality Assurance Reports
Attachment 6, RSI Sampling Field Logs
Figures:
Figure 1, North Embayment Grids - Cleared
Figure 2, Area Photo Log and Representative Photos
FIG-NESAM-02, North Embayment Sample Grid Locations

Concurrence Comments:

Jacobs Project Manager	10-25-2011 Date
Tennessee Valley Authority	10-26-11 Date
U. S. Environmental Protection Agency	10/27/11 Date

Attachment 1

North Embayment Sampling Status Table

North Embayment Sampling

Sample ID	Grid Point	CP Released	Cell Sample date	TVA Lab	RJ Lee Lab	Clean
KIF-NEMBAY_4H1-SED-082411-B	4H1	Y	08/24/2011	<50%	<50%	Passed
KIF-NEMBAY_4H2_A-SED-082411-B	4H2	Y	08/24/2011	<50%	<50%	Passed
KIF-NEMBAY_4H2-SED-082411-B	4H2	Y	08/24/2011	<50%	<50%	Passed
KIF-NEMBAY_4H3_A-SED-082911-B	4H3	Y	08/29/2011	<50%	<50%	Passed
KIF-NEMBAY_4H3-SED-082911-B	4H3	Y	08/29/2011	<50%	<50%	Passed
KIF-NEMBAY_4H4-SED-082911-B	4H4	Y	08/29/2011	<50%	<50%	Passed
KIF-NEMBAY_4J1_A-SED-082211-B	4J1	Y	08/22/2011	<50%	<50%	Passed
KIF-NEMBAY_4J1-SED-082211-B	4J1	Y	08/22/2011	<50%	<50%	Passed
KIF-NEMBAY_4J2-SED-082211-B	4J2	Y	08/22/2011	<50%	<50%	Passed
KIF-NEMBAY_4J3-SED-082211-B	4J3	N	08/22/2011	>50%	N/A	Failed
KIF-NEMBAY_4J3-SED-082411-B	**4J3**	**Y**	**08/24/2011**	**<50%**	**<50%**	**Passed**
KIF-NEMBAY_4J4-SED-082211-B	4J4	Y	08/22/2011	<50%	<50%	Passed
KIF-NEMBAY_4K1-SED-081611-B	4K1	Y	08/16/2011	<50%	<50%	Passed
KIF-NEMBAY_4K2-SED-082211-B	4K2	Y	08/22/2011	<50%	<50%	Passed
KIF-NEMBAY_4K3_A-SED-082211-B	4K3	Y	08/22/2011	<50%	<50%	Passed
KIF-NEMBAY_4K3-SED-082211-B	4K3	Y	08/22/2011	<50%	<50%	Passed
KIF-NEMBAY_4K4-SED-081611-B	4K4	Y	08/16/2011	<50%	<50%	Passed
KIF-NEMBAY_4L1-SED-071911-A	4L1	Y	07/19/2011	<50%	<50%	Passed
KIF-NEMBAY_4L2-SED-081611-B	4L2	Y	08/16/2011	<50%	<50%	Passed
KIF-NEMBAY_4L3-SED-081611-B	4L3	Y	08/16/2011	<50%	<50%	Passed
KIF-NEMBAY_4L4-SED-071911-A	4L4	Y	07/19/2011	<50%	<50%	Passed
KIF-NEMBAY_5D1_A-SED-092011-B	5D1	Y	09/20/2011	<50%	<50%	Passed
KIF-NEMBAY_5D1-SED-092011-B	5D1	Y	09/20/2011	<50%	<50%	Passed
KIF-NEMBAY_5D2-SED-091311-B	5D2	Y	09/13/2011	<50%	<50%	Passed
KIF-NEMBAY_5D3-SED-091311-B	5D3	Y	09/13/2011	<50%	<50%	Passed
KIF-NEMBAY_5D4_A-SED-092011-B	5D4	Y	09/20/2011	<50%	<50%	Passed
KIF-NEMBAY_5D4-SED-092011-B	5D4	Y	09/20/2011	<50%	<50%	Passed
KIF-NEMBAY_5E1-SED-082911-B	5E1	Y	08/29/2011	<50%	<50%	Passed
KIF-NEMBAY_5E2-SED-082911-B	5E2	Y	08/29/2011	<50%	<50%	Passed
KIF-NEMBAY_5E3-SED-082911-B	5E3	Y	08/29/2011	<50%	<50%	Passed
KIF-NEMBAY_5E4-SED-082911-B	5E4	Y	08/29/2011	<50%	<50%	Passed
KIF-NEMBAY_5F1-SED-081611-B	5F1	N	08/16/2011	>50%	N/A	Failed
KIF-NEMBAY_5F1-SED-082211-B	**5F1**	**Y**	**08/22/2011**	**<50%**	**<50%**	**Passed**
KIF-NEMBAY_5F2-SED-082911-B	5F2	Y	08/29/2011	<50%	<50%	Passed
KIF-NEMBAY_5F3-SED-082911-B	5F3	Y	08/29/2011	<50%	<50%	Passed
KIF-NEMBAY_5F4-SED-081611-B	5F4	Y	08/16/2011	<50%	<50%	Passed
KIF-NEMBAY_5G1_A-SED-071911-A	5G1	Y	07/19/2011	<50%	<50%	Passed
KIF-NEMBAY_5G1-SED-071911-A	5G1	Y	07/19/2011	<50%	<50%	Passed
KIF-NEMBAY_5G2-SED-081611-B	5G2	Y	08/16/2011	<50%	<50%	Passed
KIF-NEMBAY_5G3-SED-081611-B	5G3	N	08/16/2011	>50%	N/A	Failed
KIF-NEMBAY_5G3-SED-082211-B	**5G3**	**Y**	**08/22/2011**	**<50%**	**<50%**	**Passed**
KIF-NEMBAY_5G4-SED-071911-A	5G4	Y	07/19/2011	<50%	<50%	Passed
KIF-NEMBAY_5K1-SED-091311-B	5K1	Y	09/13/2011	<50%	<50%	Passed
KIF-NEMBAY_5K2_A-SED-091311-B	5K2	Y	09/13/2011	<50%	<50%	Passed
KIF-NEMBAY_5K2-SED-091311-B	5K2	Y	09/13/2011	<50%	<50%	Passed
KIF-NEMBAY_5K3-SED-092011-B	5K3	Y	09/20/2011	<50%	<50%	Passed
KIF-NEMBAY_5K4-SED-092011-B	5K4	N	09/20/2011	>50%	N/A	Failed
KIF-NEMBAY_5K4-SED-100311-B	**5K4**	**Y**	**10/03/2011**	**<50%**	**<50%**	**Passed**
KIF-NEMBAY_5L1-SED-083011-B	5L1	Y	08/30/2011	<50%	<50%	Passed
KIF-NEMBAY_5L2-SED-083011-B	5L2	Y	08/30/2011	<50%	<50%	Passed
KIF-NEMBAY_5L3_A-SED-083011-B	5L3	Y	08/30/2011	<50%	<50%	Passed
KIF-NEMBAY_5L3-SED-083011-B	5L3	N	08/30/2011	>50%	N/A	Failed

North Embayment Sampling

Sample ID	Grid Point	CP Released	Cell Sample date	TVA Lab	RJ Lee Lab	Clean
KIF-NEMBAY_5L3-SED-090111-B	**5L3**	**Y**	**09/01/2011**	**<50%**	**<50%**	**Passed**
KIF-NEMBAY_5L4_A-SED-092011-B	5L4	Y	09/20/2011	<50%	<50%	Passed
KIF-NEMBAY_5L4-SED-083011-B	5L4	N	08/30/2011	>50%	N/A	Failed
KIF-NEMBAY_5L4-SED-090111-B	5L4	N	09/01/2011	>50%	Failed	N/A
KIF-NEMBAY_5L4-SED-092011-B	**5L4**	**Y**	**09/20/2011**	**<50%**	**<50%**	**Passed**
KIF-NEMBAY_5M1-SED-082311-B	5M1	Y	08/23/2011	<50%	<50%	Passed
KIF-NEMBAY_5M1-SED-082511-B	5M1	Y	08/25/2011	<50%	<50%	Passed
KIF-NEMBAY_5M2_A-SED-082311-B	5M2	Y	08/23/2011	<50%	<50%	Passed
KIF-NEMBAY_5M2-SED-082311-B	5M2	Y	08/23/2011	<50%	<50%	Passed
KIF-NEMBAY_5M2-SED-082511-B	5M2	Y	08/25/2011	<50%	<50%	Passed
KIF-NEMBAY_5M3-SED-082311-B	5M3	Y	08/23/2011	<50%	<50%	Passed
KIF-NEMBAY_6D1_A-SED-092211-B	6D1	Y	09/22/2011	<50%	<50%	Passed
KIF-NEMBAY_6D1-SED-092211-B	6D1	Y	09/22/2011	<50%	<50%	Passed
KIF-NEMBAY_6D2_A-SED-092211-B	6D2	Y	09/22/2011	<50%	<50%	Passed
KIF-NEMBAY_6D2-SED-092211-B	6D2	Y	09/22/2011	<50%	<50%	Passed
KIF-NEMBAY_6D3_A-SED-092211-B	6D3	Y	09/22/2011	<50%	<50%	Passed
KIF-NEMBAY_6D3-SED-092211-B	6D3	Y	09/22/2011	<50%	<50%	Passed
KIF-NEMBAY_6D4-SED-092211-B	6D4	Y	09/22/2011	<50%	<50%	Passed
KIF-NEMBAY_6E1-SED-082311-B	6E1	Y	08/23/2011	<50%	<50%	Passed
KIF-NEMBAY_6E2_A-SED-083011-B	6E2	Y	08/30/2011	<50%	<50%	Passed
KIF-NEMBAY_6E2-SED-083011-B	6E2	Y	08/30/2011	<50%	<50%	Passed
KIF-NEMBAY_6E3-SED-082311-B	6E3	Y	08/23/2011	<50%	<50%	Passed
KIF-NEMBAY_6K1_A-SED-090111-B	6K1	Y	09/01/2011	<50%	<50%	Passed
KIF-NEMBAY_6K1-SED-090111-B	6K1	N	09/01/2011	>50%	Failed	N/A
KIF-NEMBAY_6K1-SED-092011-B	**6K1**	**Y**	**09/20/2011**	**<50%**	**<50%**	**Passed**
KIF-NEMBAY_6K2-SED-100411-B	6K2	Y	10/04/2011	<50%	<50%	Passed
KIF-NEMBAY_6K3-SED-100411-B	6K3	Y	10/04/2011	<50%	<50%	Passed
KIF-NEMBAY_6K4_A-SED-090111-B	6K4	Y	09/01/2011	<50%	<50%	Passed
KIF-NEMBAY_6K4-SED-090111-B	6K4	Y	09/01/2011	<50%	<50%	Passed
KIF-NEMBAY_6L2_A-SED-082511-B	6L2	Y	08/25/2011	<50%	<50%	Passed
KIF-NEMBAY_6L2-SED-082311-B	6L2	N	08/23/2011	>50%	N/A	Failed
KIF-NEMBAY_6L2-SED-082511-B	6L2	N	08/25/2011	>50%	N/A	Failed
KIF-NEMBAY_6L2-SED-090111-B	**6L2**	**Y**	**09/01/2011**	**<50%**	**<50%**	**Passed**
KIF-NEMBAY_6L3-SED-082311-B	6L3	Y	08/23/2011	<50%	<50%	Passed

Results from resampling of hot spots after additional cleaning are shown in **BOLD**.

Attachment 2

Polarized Light Microscopy Results from RJ Lee Laboratory EQuIS Database Summary Table

chain_of_custody	sys_loc_code	sample_name	sample_datetime	sample_type_code	start_depth	end_depth	depth_unit	field_matrix_code	analysis_location	lab_sample_id	lab_name_code	analytic_method	analysis_date	lab_sdg	test_id	cas_rn	report_result_text	report_result_value	report_result_unit	report_result_limit	reportable_result	detect_flag	validator_qualifiers	lab_qualifiers	reporting_detection_limit	result_text	result_numeric	result_unit	result_type_code	sample_reason	EDD_Status	original_start_depth	original_end_depth	original_depth_unit	sample_method
NTCSED0719Y11B	NEMBAY_4L1	KIF-NEMBAY_4L1-SED-071911-B	7/19/2011	N	0	12	in	SED	LB	10161057	RJL	PLM	8/4/2011	TOH1009525-93	380246	%ASH	1	1	%	1	Y	Y			1	1	1	%	TRG	Investigatory	Final-Verified	0	12	in	GRAB
NTCSED0719Y11B	NEMBAY_4L4	KIF-NEMBAY_4L4-SED-071911-B	7/19/2011	N	0	12	in	SED	LB	10161058	RJL	PLM	8/4/2011	TOH1009525-93	380247	%ASH	5	5	%	1	Y	Y			1	5	5	%	TRG	Investigatory	Final-Verified	0	12	in	GRAB
NTCSED0719Y11B	NEMBAY_5G1	KIF-NEMBAY_5G1.A-SED-071911-B	7/19/2011	N	8	12	in	SED	LB	10161059	RJL	PLM	8/4/2011	TOH1009525-93	380248	%ASH	20	20	%	1	Y	Y			1	20	20	%	TRG	Investigatory	Final-Verified	8	12	in	
NTCSED0719Y11B	NEMBAY_5G1	KIF-NEMBAY_5G1-SED-071911-B	7/19/2011	N	0	8	in	SED	LB	10161060	RJL	PLM	8/4/2011	TOH1009525-93	380249	%ASH	16	16	%	1	Y	Y			1	16	16	%	TRG	Investigatory	Final-Verified	0	8	in	GRAB
NTCSED0719Y11B	NEMBAY_5G4	KIF-NEMBAY_5G4-SED-071911-B	7/19/2011	N	0	12	in	SED	LB	10161061	RJL	PLM	8/8/2011	TOH1009525-93	380250	%ASH	< 1	1	%	1	Y	N	U	U	1			%	TRG	Investigatory	Final-Verified	0	12	in	GRAB
NTCSED0816Y11B	NEMBAY_4K1	KIF-NEMBAY_4K1-SED-081611-B	8/16/2011	N	0	12	in	SED	LB	10164204	RJL	PLM	8/31/2011	TOH1009525-109	389283	%ASH	1	1	%	1	Y	Y			1	1	1	%	TRG	Investigatory	Final-Verified	0	12	in	GRAB
NTCSED0816Y11B	NEMBAY_4K4	KIF-NEMBAY_4K4-SED-081611-B	8/16/2011	N	0	12	in	SED	LB	10164203	RJL	PLM	8/31/2011	TOH1009525-109	389284	%ASH	2	2	%	1	Y	Y			1	2	2	%	TRG	Investigatory	Final-Verified	0	12	in	GRAB
NTCSED0816Y11B	NEMBAY_4L2	KIF-NEMBAY_4L2-SED-081611-B	8/16/2011	N	0	12	in	SED	LB	10164199	RJL	PLM	8/31/2011	TOH1009525-109	389285	%ASH	< 1	1	%	1	Y	N	U	U	1			%	TRG	Investigatory	Final-Verified	0	12	in	GRAB
NTCSED0816Y11B	NEMBAY_4L3	KIF-NEMBAY_4L3-SED-081611-B	8/16/2011	N	0	12	in	SED	LB	10164200	RJL	PLM	8/31/2011	TOH1009525-109	389286	%ASH	2	2	%	1	Y	Y			1	2	2	%	TRG	Investigatory	Final-Verified	0	12	in	GRAB
NTCSED0816Y11B	NEMBAY_5F4	KIF-NEMBAY_5F4-SED-081611-B	8/16/2011	N	0	12	in	SED	LB	10164202	RJL	PLM	8/31/2011	TOH1009525-109	389287	%ASH	7	7	%	1	Y	Y			1	7	7	%	TRG	Investigatory	Final-Verified	0	12	in	GRAB
NTCSED0816Y11B	NEMBAY_5G2	KIF-NEMBAY_5G2-SED-081611-B	8/16/2011	N	0	12	in	SED	LB	10164201	RJL	PLM	8/31/2011	TOH1009525-109	389288	%ASH	13	13	%	1	Y	Y			1	13	13	%	TRG	Investigatory	Final-Verified	0	12	in	GRAB
NTCSED0823Y11B	NEMBAY_5M2	KIF-NEMBAY_5M2_A-SED-082311-B	8/23/2011	N	5	12	in	SED	LB	10164230	RJL	PLM	9/1/2011	TOH1009525-111	390301	%ASH	2	2	%	1	Y	Y			1	2	2	%	TRG	Investigatory	Final-Verified	5	12	in	GRAB
NTCSED0823Y11B	NEMBAY_5M3	KIF-NEMBAY_5M3-SED-082311-B	8/23/2011	N	0	12	in	SED	LB	10164231	RJL	PLM	9/6/2011	TOH1009525-111	390302	%ASH	< 1	1	%	1	Y	N	U	U	1			%	TRG	Investigatory	Final-Verified	0	12	in	GRAB
NTCSED0823Y11B	NEMBAY_6E1	KIF-NEMBAY_6E1-SED-082311-B	8/23/2011	N	0	12	in	SED	LB	10164229	RJL	PLM	9/1/2011	TOH1009525-111	390303	%ASH	3	3	%	1	Y	Y			1	3	3	%	TRG	Investigatory	Final-Verified	0	12	in	GRAB
NTCSED0823Y11B	NEMBAY_6E3	KIF-NEMBAY_6E3-SED-082311-B	8/23/2011	N	0	12	in	SED	LB	10164232	RJL	PLM	8/31/2011	TOH1009525-111	390304	%ASH	< 1	1	%	1	Y	N	U	U	1			%	TRG	Investigatory	Final-Verified	0	12	in	GRAB
NTCSED0823Y11B	NEMBAY_6L3	KIF-NEMBAY_6L3-SED-082311-B	8/23/2011	N	0	12	in	SED	LB	10164233	RJL	PLM	9/6/2011	TOH1009525-111	390305	%ASH	1	1	%	1	Y	Y			1	1	1	%	TRG	Investigatory	Final-Verified	0	12	in	GRAB
NTCSED0822Y11B	NEMBAY_4J1	KIF-NEMBAY_4J1_A-SED-082211-B	8/22/2011	N	4	12	in	SED	LB	10164213	RJL	PLM	9/6/2011	TOH1009525-110	390308	%ASH	< 1	1	%	1	Y	N	U	U	1			%	TRG	Investigatory	Final-Verified	4	12	in	GRAB
NTCSED0822Y11B	NEMBAY_4J1	KIF-NEMBAY_4J1-SED-082211-B	8/22/2011	N	0	4	in	SED	LB	10164212	RJL	PLM	9/6/2011	TOH1009525-110	390309	%ASH	1	1	%	1	Y	Y			1	1	1	%	TRG	Investigatory	Final-Verified	0	4	in	GRAB
NTCSED0822Y11B	NEMBAY_4J2	KIF-NEMBAY_4J2-SED-082211-B	8/22/2011	N	0	12	in	SED	LB	10164210	RJL	PLM	9/6/2011	TOH1009525-110	390310	%ASH	2	2	%	1	Y	Y			1	2	2	%	TRG	Investigatory	Final-Verified	0	12	in	GRAB
NTCSED0822Y11B	NEMBAY_4J4	KIF-NEMBAY_4J4-SED-082211-B	8/22/2011	N	0	12	in	SED	LB	10164211	RJL	PLM	9/6/2011	TOH1009525-110	390311	%ASH	2	2	%	1	Y	Y			1	2	2	%	TRG	Investigatory	Final-Verified	0	12	in	GRAB
NTCSED0822Y11B	NEMBAY_4J4	QC1_KIF-NEMBAY_4J4-SED-082211-B	8/22/2011	LR	0	12	in	SED	LB	10164225	RJL	PLM	9/7/2011	TOH1009525-110	390312	%ASH	3	3	%	1	Y	Y			1	3	3	%	TRG		Final-Verified	0	12	in	
NTCSED0822Y11B	NEMBAY_4K2	KIF-NEMBAY_4K2-SED-082211-B	8/22/2011	N	0	12	in	SED	LB	10164216	RJL	PLM	9/6/2011	TOH1009525-110	390313	%ASH	1	1	%	1	Y	Y			1	1	1	%	TRG	Investigatory	Final-Verified	0	12	in	GRAB
NTCSED0822Y11B	NEMBAY_4K3	KIF-NEMBAY_4K3_A-SED-082211-B	8/22/2011	N	4	12	in	SED	LB	10164215	RJL	PLM	9/6/2011	TOH1009525-110	390314	%ASH	2	2	%	1	Y	Y			1	2	2	%	TRG	Investigatory	Final-Verified	4	12	in	GRAB
NTCSED0822Y11B	NEMBAY_4K3	KIF-NEMBAY_4K3-SED-082211-B	8/22/2011	N	0	4	in	SED	LB	10164214	RJL	PLM	9/6/2011	TOH1009525-110	390315	%ASH	1	1	%	1	Y	Y			1	1	1	%	TRG	Investigatory	Final-Verified	0	4	in	GRAB
NTCSED0822Y11B	NEMBAY_5F1	KIF-NEMBAY_5F1-SED-082211-B	8/22/2011	N	0	12	in	SED	LB	10164208	RJL	PLM	9/6/2011	TOH1009525-110	390322	%ASH	2	2	%	1	Y	Y			1	2	2	%	TRG	Investigatory	Final-Verified	0	12	in	GRAB
NTCSED0822Y11B	NEMBAY_5G3	KIF-NEMBAY_5G3-SED-082211-B	8/22/2011	N	0	12	in	SED	LB	10164209	RJL	PLM	9/6/2011	TOH1009525-110	390323	%ASH	1	1	%	1	Y	Y			1	1	1	%	TRG	Investigatory	Final-Verified	0	12	in	GRAB
NTCSED0825Y11B	NEMBAY_5M1	KIF-NEMBAY_5M1-SED-082511-B	8/25/2011	N	0	12	in	SED	LB	10165687	RJL	PLM	9/9/2011	TOH1009525-113	392401	%ASH	7	7	%	1	Y	Y			1	7	7	%	TRG	Investigatory	Final-Verified	0	12	in	GRAB
NTCSED0825Y11B	NEMBAY_5M2	KIF-NEMBAY_5M2-SED-082511-B	8/25/2011	N	0	12	in	SED	LB	10165688	RJL	PLM	9/12/2011	TOH1009525-113	392402	%ASH	9	9	%	1	Y	Y			1	9	9	%	TRG	Investigatory	Final-Verified	0	12	in	GRAB
NTCSED0825Y11B	NEMBAY_6L2	KIF-NEMBAY_6L2_A-SED-082511-B	8/25/2011	N	2	12	in	SED	LB	10165686	RJL	PLM	9/9/2011	TOH1009525-113	392403	%ASH	3	3	%	1	Y	Y			1	3	3	%	TRG	Investigatory	Final-Verified	2	12	in	GRAB
NTCSED0829Y11B	NEMBAY_4H3	KIF-NEMBAY_4H3_A-SED-082911-B	8/29/2011	N	8	12	in	SED	LB	10165701	RJL	PLM	9/9/2011	TOH1009525-114	392412	%ASH	1	1	%	1	Y	Y			1	1	1	%	TRG	Investigatory	Final-Verified	8	12	in	GRAB
NTCSED0829Y11B	NEMBAY_4H3	KIF-NEMBAY_4H3-SED-082911-B	8/29/2011	N	0	8	in	SED	LB	10165700	RJL	PLM	9/9/2011	TOH1009525-114	392413	%ASH	1	1	%	1	Y	Y			1	1	1	%	TRG	Investigatory	Final-Verified	0	8	in	GRAB
NTCSED0829Y11B	NEMBAY_4H3	QC_KIF-NEMBAY_4H3-SED-082911-B	8/29/2011	LR	0	8	in	SED	LB	10165704	RJL	PLM	9/13/2011	TOH1009525-114	392414	%ASH	< 1	1	%	1	Y	N	U	U	1			%	TRG		Final-Verified	0	8	in	
NTCSED0829Y11B	NEMBAY_4H4	KIF-NEMBAY_4H4-SED-082911-B	8/29/2011	N	0	12	in	SED	LB	10165702	RJL	PLM	9/9/2011	TOH1009525-114	392415	%ASH	< 1	1	%	1	Y	N	U	U	1			%	TRG	Investigatory	Final-Verified	0	12	in	GRAB
NTCSED0829Y11B	NEMBAY_5E1	KIF-NEMBAY_5E1-SED-082911-B	8/29/2011	N	0	12	in	SED	LB	10165698	RJL	PLM	9/9/2011	TOH1009525-114	392416	%ASH	< 1	1	%	1	Y	N	U	U	1			%	TRG	Investigatory	Final-Verified	0	12	in	GRAB
NTCSED0829Y11B	NEMBAY_5E2	KIF-NEMBAY_5E2-SED-082911-B	8/29/2011	N	0	12	in	SED	LB	10165703	RJL	PLM	9/9/2011	TOH1009525-114	392417	%ASH	< 1	1	%	1	Y	N	U	U	1			%	TRG	Investigatory	Final-Verified	0	12	in	GRAB
NTCSED0829Y11B	NEMBAY_5E3	KIF-NEMBAY_5E3-SED-082911-B	8/29/2011	N	0	12	in	SED	LB	10165699	RJL	PLM	9/9/2011	TOH1009525-114	392418	%ASH	< 1	1	%	1	Y	N	U	U	1			%	TRG	Investigatory	Final-Verified	0	12	in	GRAB
NTCSED0829Y11B	NEMBAY_5E4	KIF-NEMBAY_5E4-SED-082911-B	8/29/2011	N	0	12	in	SED	LB	10165696	RJL	PLM	9/9/2011	TOH1009525-114	392419	%ASH	< 1	1	%	1	Y	N	U	U	1			%	TRG	Investigatory	Final-Verified	0	12	in	GRAB
NTCSED0829Y11B	NEMBAY_5F2	KIF-NEMBAY_5F2-SED-082911-B	8/29/2011	N	0	12	in	SED	LB	10165695	RJL	PLM	9/9/2011	TOH1009525-114	392420	%ASH	3	3	%	1	Y	Y			1	3	3	%	TRG	Investigatory	Final-Verified	0	12	in	GRAB
NTCSED0829Y11B	NEMBAY_5F3	KIF-NEMBAY_5F3-SED-082911-B	8/29/2011	N	0	12	in	SED	LB	10165697	RJL	PLM	9/9/2011	TOH1009525-114	392421	%ASH	5	5	%	1	Y	Y			1	5	5	%	TRG	Investigatory	Final-Verified	0	12	in	GRAB
NTCSED0830Y11B	NEMBAY_5L1	KIF-NEMBAY_5L1-SED-083011-B	8/30/2011	N	0	12	in	SED	LB	10165705	RJL	PLM	9/9/2011	TOH1009525-115	392424	%ASH	1	1	%	1	Y	Y			1	1	1	%	TRG	Investigatory	Final-Verified	0	12	in	GRAB
NTCSED0830Y11B	NEMBAY_5L2	KIF-NEMBAY_5L2-SED-083011-B	8/30/2011	N	0	12	in	SED	LB	10165706	RJL	PLM	9/9/2011	TOH1009525-115	392425	%ASH	< 1	1	%	1	Y	N	U	U	1			%	TRG	Investigatory	Final-Verified	0	12	in	GRAB
NTCSED0830Y11B	NEMBAY_5L3	KIF-NEMBAY_5L3_A-SED-083011-B	8/30/2011	N	5	12	in	SED	LB	10165708	RJL	PLM	9/9/2011	TOH1009525-115	392426	%ASH	< 1	1	%	1	Y	N	U	U	1			%	TRG	Investigatory	Final-Verified	5	12	in	GRAB
NTCSED0830Y11B	NEMBAY_6E2	KIF-NEMBAY_6E2_A-SED-083011-B	8/30/2011	N	2	12	in	SED	LB	10165710	RJL	PLM	9/9/2011	TOH1009525-115	392427	%ASH	1	1	%	1	Y	Y			1	1	1	%	TRG	Investigatory	Final-Verified	2	12	in	GRAB
NTCSED0830Y11B	NEMBAY_6E2	KIF-NEMBAY_6E2-SED-083011-B	8/30/2011	N	0	2	in	SED	LB	10165709	RJL	PLM	9/8/2011	TOH1009525-115	392428	%ASH	1	1	%	1	Y	Y			1	1	1	%	TRG	Investigatory	Final-Verified	0	2	in	GRAB
NTCSED0824Y11B	NEMBAY_4H1	KIF-NEMBAY_4H1-SED-082411-B	8/24/2011	N	0	12	in	SED	LB	10165675	RJL	PLM	9/8/2011	TOH1009525-112	392430	%ASH	< 1	1	%	1	Y	N	U	U	1			%	TRG	Investigatory	Final-Verified	0	12	in	GRAB
NTCSED0824Y11B	NEMBAY_4H2	KIF-NEMBAY_4H2_A-SED-082411-B	8/24/2011	N	6	12	in	SED	LB	10165678	RJL	PLM	9/8/2011	TOH1009525-112	392431	%ASH	1	1	%	1	Y	Y			1	1	1	%	TRG	Investigatory	Final-Verified	6	12	in	GRAB
NTCSED0824Y11B	NEMBAY_4H2	KIF-NEMBAY_4H2-SED-082411-B	8/24/2011	N	0	12	in	SED	LB	10165676	RJL	PLM	9/8/2011	TOH1009525-112	392432	%ASH	< 1	1	%	1	Y	N	U	U	1			%	TRG	Investigatory	Final-Verified	0	12	in	GRAB

chain_of_custody	sys_loc_code	sample_name	sample_datetime	sample_type_code	start_depth	end_depth	depth_unit	field_matrix_code	analysis_location	lab_sample_id	lab_name_code	analytic_method	analysis_date	lab_sdg	test_id	cas_rn	report_result_text	report_result_value	report_result_unit	report_result_limit	reportable_result	detect_flag	validator_qualifiers	lab_qualifiers	reporting_detection_limit	result_text	result_numeric	result_unit	result_type_code	sample_reason	EDD_Status	original_start_depth	original_end_depth	original_depth_unit	sample_method
NTCSED0824Y11B	NEMBAY_4J3	KIF-NEMBAY_4J3-SED-082411-B	8/24/2011	N	0	12	in	SED	LB	10165677	RJL	PLM	9/8/2011	TOH1009525-112	392433	%ASH	1	1	%	1	Y	Y			1	1	1	%	TRG	Investigatory	Final-Verified	0	12	in	GRAB
NTCSED0901Y11B	NEMBAY_5L3	KIF-NEMBAY_5L3-AED-090111-B	9/1/2011	FD	0	2	in	SED	LB	10166215	RJL	PLM	9/15/2011	TOH1009525-116	392801	%ASH	< 1	1	%	1	Y	N	U	U	1			%	TRG		Final-Verified	0	2	in	GRAB
NTCSED0901Y11B	NEMBAY_5L3	KIF-NEMBAY_5L3-SED-090111-B	9/1/2011	N	0	12	in	SED	LB	10166214	RJL	PLM	9/15/2011	TOH1009525-116	392802	%ASH	1	1	%	1	Y	Y			1	1	1	%	TRG		Final-Verified	0	12	in	GRAB
NTCSED0901Y11B	NEMBAY_6K1	KIF-NEMBAY_6K1_A-SED-090111-B	9/1/2011	N	3	12	in	SED	LB	10166212	RJL	PLM	9/15/2011	TOH1009525-116	392803	%ASH	2	2	%	1	Y	Y			1	2	2	%	TRG		Final-Verified	3	12	in	GRAB
NTCSED0901Y11B	NEMBAY_6K4	KIF-NEMBAY_6K4_A-SED-090111-B	9/1/2011	N	5	12	in	SED	LB	10166213	RJL	PLM	9/15/2011	TOH1009525-116	392804	%ASH	< 1	1	%	1	Y	N	U	U	1			%	TRG		Final-Verified	5	12	in	GRAB
NTCSED0901Y11B	NEMBAY_6K4	KIF-NEMBAY_6K4-SED-090111-B	9/1/2011	N	0	5	in	SED	LB	10166209	RJL	PLM	9/15/2011	TOH1009525-116	392805	%ASH	< 1	1	%	1	Y	N	U	U	1			%	TRG		Final-Verified	0	5	in	GRAB
NTCSED0901Y11B	NEMBAY_6L2	KIF-NEMBAY_6L2-SED-090111-B	9/1/2011	N	0	12	in	SED	LB	10166208	RJL	PLM	9/15/2011	TOH1009525-116	392806	%ASH	< 1	1	%	1	Y	N	U	U	1			%	TRG		Final-Verified	0	12	in	GRAB
NTCSED0913Y11B	NEMBAY_5D2	KIF-NEMBAY_5D2-SED-091311-B	9/13/2011	N	0	12	in	SED	LB	10168397	RJL	PLM	10/3/2011	TOH1009525-118	397801	%ASH	< 1	1	%	1	Y	N	U	U	1			%	TRG		Final-Verified	0	12	in	GRAB
NTCSED0913Y11B	NEMBAY_5D3	KIF-NEMBAY_5D3-SED-091311-B	9/13/2011	N	0	12	in	SED	LB	10168398	RJL	PLM	10/3/2011	TOH1009525-118	397802	%ASH	< 1	1	%	1	Y	N	U	U	1			%	TRG		Final-Verified	0	12	in	GRAB
NTCSED0913Y11B	NEMBAY_5K1	KIF-NEMBAY_5K1-SED-091311-B	9/13/2011	N	0	12	in	SED	LB	10168399	RJL	PLM	10/3/2011	TOH1009525-118	397803	%ASH	6	6	%	1	Y	Y			1	6	6	%	TRG		Final-Verified	0	12	in	GRAB
NTCSED0913Y11B	NEMBAY_5K2	KIF-NEMBAY_5K2_A-SED-091311-B	9/13/2011	N	2	12	in	SED	LB	10168401	RJL	PLM	10/3/2011	TOH1009525-118	397804	%ASH	< 1	1	%	1	Y	N	U	U	1			%	TRG		Final-Verified	2	12	in	GRAB
NTCSED0913Y11B	NEMBAY_5K2	KIF-NEMBAY_5K2-SED-091311-B	9/13/2011	N	0	2	in	SED	LB	10168400	RJL	PLM	10/3/2011	TOH1009525-118	397805	%ASH	25	25	%	1	Y	Y			1	25	25	%	TRG		Final-Verified	0	2	in	GRAB
NTCSED0920Y11B	NEMBAY_5D1	KIF-NEMBAY_5D1_A-SED-092011-B	9/20/2011	N	4	12	in	SED	LB	10168418	RJL	PLM	10/3/2011	TOH1009525-121	397814	%ASH	1	1	%	1	Y	Y			1	1	1	%	TRG		Final-Verified	4	12	in	GRAB
NTCSED0920Y11B	NEMBAY_5D1	KIF-NEMBAY_5D1-SED-092011-B	9/20/2011	N	0	4	in	SED	LB	10168417	RJL	PLM	10/3/2011	TOH1009525-121	397815	%ASH	2	2	%	1	Y	Y			1	2	2	%	TRG		Final-Verified	0	4	in	GRAB
NTCSED0920Y11B	NEMBAY_5D1	QC_KIF-NEMBAY_5D1-SED-092011-B	9/20/2011	LR	0	4	in	SED	LB	10168419	RJL	PLM	10/3/2011	TOH1009525-121	397816	%ASH	4	4	%	1	Y	Y			1	4	4	%	TRG		Final-Verified	0	4	in	
NTCSED0920Y11B	NEMBAY_5D4	KIF-NEMBAY_5D4_A-SED-092011-B	9/20/2011	N	6	12	in	SED	LB	10168416	RJL	PLM	10/3/2011	TOH1009525-121	397817	%ASH	2	2	%	1	Y	Y			1	2	2	%	TRG		Final-Verified	6	12	in	GRAB
NTCSED0920Y11B	NEMBAY_5D4	KIF-NEMBAY_5D4-SED-092011-B	9/20/2011	N	0	6	in	SED	LB	10168415	RJL	PLM	10/3/2011	TOH1009525-121	397818	%ASH	1	1	%	1	Y	Y			1	1	1	%	TRG		Final-Verified	0	6	in	GRAB
NTCSED0920Y11B	NEMBAY_5K3	KIF-NEMBAY_5K3-SED-092011-B	9/20/2011	N	0	12	in	SED	LB	10168414	RJL	PLM	10/3/2011	TOH1009525-121	397819	%ASH	< 1	1	%	1	Y	N	U	U	1			%	TRG		Final-Verified	0	12	in	GRAB
NTCSED0920Y11B	NEMBAY_5L4	KIF-NEMBAY_5L4_A-SED-092011-B	9/20/2011	N	11	12	in	SED	LB	10168412	RJL	PLM	10/3/2011	TOH1009525-121	397820	%ASH	1	1	%	1	Y	Y			1	1	1	%	TRG		Final-Verified	11	12	in	GRAB
NTCSED0920Y11B	NEMBAY_5L4	KIF-NEMBAY_5L4-SED-092011-B	9/20/2011	N	0	11	in	SED	LB	10168410	RJL	PLM	10/3/2011	TOH1009525-121	397821	%ASH	3	3	%	1	Y	Y			1	3	3	%	TRG		Final-Verified	0	11	in	GRAB
NTCSED0920Y11B	NEMBAY_6K1	KIF-NEMBAY_6K1-AED-092011-B	9/20/2011	FD	0	12	in	SED	LB	10168413	RJL	PLM	10/3/2011	TOH1009525-121	397822	%ASH	< 1	1	%	1	Y	N	U	U	1			%	TRG		Final-Verified	0	12	in	GRAB
NTCSED0920Y11B	NEMBAY_6K1	KIF-NEMBAY_6K1-SED-092011-B	9/20/2011	N	0	12	in	SED	LB	10168411	RJL	PLM	10/3/2011	TOH1009525-121	397823	%ASH	2	2	%	1	Y	Y			1	2	2	%	TRG		Final-Verified	0	12	in	GRAB
NTCSED0922Y11B	NEMBAY_6D1	KIF-NEMBAY_6D1_A-SED-092211-B	9/22/2011	N	5	12	in	SED	LB	10168554	RJL	PLM	10/4/2011	TOH1009525-123	397833	%ASH	< 1	1	%	1	Y	N	U	U	1			%	TRG		Final-Verified	5	12	in	GRAB
NTCSED0922Y11B	NEMBAY_6D1	KIF-NEMBAY_6D1-SED-092211-B	9/22/2011	N	0	5	in	SED	LB	10168553	RJL	PLM	10/4/2011	TOH1009525-123	397834	%ASH	2	2	%	1	Y	Y			1	2	2	%	TRG		Final-Verified	0	5	in	GRAB
NTCSED0922Y11B	NEMBAY_6D2	KIF-NEMBAY_6D2_A-SED-092211-B	9/22/2011	N	5	12	in	SED	LB	10168558	RJL	PLM	10/4/2011	TOH1009525-123	397835	%ASH	< 1	1	%	1	Y	N	U	U	1			%	TRG		Final-Verified	5	12	in	GRAB
NTCSED0922Y11B	NEMBAY_6D2	KIF-NEMBAY_6D2-SED-092211-B	9/22/2011	N	0	5	in	SED	LB	10168557	RJL	PLM	10/4/2011	TOH1009525-123	397836	%ASH	29	29	%	1	Y	Y			1	29	29	%	TRG		Final-Verified	0	5	in	GRAB
NTCSED0922Y11B	NEMBAY_6D3	KIF-NEMBAY_6D3_A-SED-092211-B	9/22/2011	N	3	12	in	SED	LB	10168560	RJL	PLM	10/4/2011	TOH1009525-123	397837	%ASH	< 1	1	%	1	Y	N	U	U	1			%	TRG		Final-Verified	3	12	in	GRAB
NTCSED0922Y11B	NEMBAY_6D3	KIF-NEMBAY_6D3-SED-092211-B	9/22/2011	N	0	3	in	SED	LB	10168559	RJL	PLM	10/4/2011	TOH1009525-123	397838	%ASH	1	1	%	1	Y	Y			1	1	1	%	TRG		Final-Verified	0	3	in	GRAB
NTCSED0922Y11B	NEMBAY_6D4	KIF-NEMBAY_6D4-AED-092211-B	9/22/2011	FD	0	12	in	SED	LB	10168556	RJL	PLM	10/4/2011	TOH1009525-123	397839	%ASH	< 1	1	%	1	Y	N	U	U	1			%	TRG		Final-Verified	0	12	in	GRAB
NTCSED0922Y11B	NEMBAY_6D4	KIF-NEMBAY_6D4-SED-092211-B	9/22/2011	N	0	12	in	SED	LB	10168555	RJL	PLM	10/4/2011	TOH1009525-123	397840	%ASH	1	1	%	1	Y	Y			1	1	1	%	TRG		Final-Verified	0	12	in	GRAB
NTCSED0922Y11B	NEMBAY_6D4	QC_KIF-NEMBAY_6D4-AED-092211-B	9/22/2011	LR	0	12	in	SED	LB	10168565	RJL	PLM	10/4/2011	TOH1009525-123	397841	%ASH	< 1	1	%	1	Y	N	U	U	1			%	TRG		Final-Verified	0	12	in	

Attachment 3

Polarized Light Microscopy Results from RJ Lee Laboratory

RJ Lee laboratory Level 4 Report # TOH1009545-125

RJ Lee*Group*, Inc.
350 Hochberg Road, Monroeville, PA 15146
Tel: (724) 325-1776 | Fax: (724) 733-1799

October 19, 2011

Dr. William Rogers
Kingston Fossil Plant
714 Swan Pond Road
Harriman, TN 37748

RE: Tennessee Valley Authority – Analytical Report
RJ Lee Group Project Number TOH1009525-125

The RJ Lee Group, Inc. Monroeville laboratory received seven samples on October 7, 2011 associated with Tennessee Valley Authority (TVA) Chain of Custody (COC) number NTCSED1003Y11B. The samples were logged into RJ Lee Group project number TOH1009525-125 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, and sample receipt check list.

If you have any question or comments regarding the information contained in this report, please feel free to contact us.

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.

Sincerely,

J. Craig Huntington

J. Craig Huntington
Scientist

Attachments: Chain of Custody Forms
Mineral Identification Report
Polarized Light Microscopy Images, Bench Sheets,
QC Tabulation (when applicable)

Appendix A

Chain of Custody Forms

RJ LeeGroup, Inc.
www.rjlg.com

Chain Of Custody

RJ Lee Group Work Order #: TOH1009525-125

Project Name / Case #: KIF

Received From:	Relinquished To:
Jesse Morris Kingston Fossil Plant/TVA 189 Lakeshore Drive Harriman, TN 37748 United States Email: accountspayable@tva.gov Main: 304-685-8364	RJLee Group, Inc. 350 Hochberg Road Monroeville, PA 15146 United States Main: 724-325-1776 Fax: 724-325-1775

Delivery Comments:

1-Cooler was received from Kingston Fossil Plant/TVA in good condition with no evidence of tampering. All custody seals were intact and in place.

Sample ID	Customer COC ID	Client Sample ID	Date Received
10170845	NTCSED1003Y11B	KIF-NEMBAY_6C1-SED-100311-B	10/07/2011 8:10 AM EDT
10170846	NTCSED1003Y11B	KIF-NEMBAY_5H1-SED-100311-B	10/07/2011 8:10 AM EDT
10170847	NTCSED1003Y11B	KIF-NEMBAY_5K4-SED-100311-B	10/07/2011 8:10 AM EDT
10170848	NTCSED1003Y11B	KIF-NEMBAY_6C2-SED-100311-B	10/07/2011 8:10 AM EDT
10170849	NTCSED1003Y11B	KIF-NEMBAY_6C2-AED-100311-B	10/07/2011 8:10 AM EDT
10170850	NTCSED1003Y11B	KIF-NEMBAY_6C4-SED-100311-B	10/07/2011 8:10 AM EDT
10170851	NTCSED1003Y11B	KIF-NEMBAY_6C3-SED-100311-B	10/07/2011 8:10 AM EDT

350 Hochberg Road, Monroeville, PA 15146
Phone: (724) 325-1776 | Fax: (724) 733-1799

	Received From: Jesse Morris	*Method of Shipment: UPS*	
	Company: Kingston Fossil Plant/TVA		**Date:** 10/07/2011
	Received By: Monica Carse	*Package Condition Upon Receipt: Sealed*	
	Company: RJ Lee Group, Inc.		**Date:** 10/07/2011

	Relinquished	*Method of Shipment:*	
	Company:		**Date:**
	Received By:	*Package Condition Upon Receipt:*	
	Company:		**Date:**

	Relinquished	*Method of Shipment:*	
	Company:		**Date:**
	Received By:	*Package Condition Upon Receipt:*	
	Company:		**Date:**

350 Hochberg Road, Monroeville, PA 15146
Phone: (724) 325-1776 | Fax: (724) 733-1799

RJ Lee Group
Sample Receipt and Log in Check List

Client:	TVA	**Date Received:**	10/7/2011	**Log in Date:**	10/11/2011
Time Received:	8:10 AM	**By:**	Monica Carse	**COC# :**	NTCSED1003Y11B
Project:	TOH1009525-125	**# Coolers Received**	1	**Means of Shipment:**	UPS
Air Bill:	1Z 939 EX2 15 9740 7500				

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 10-11-11

Manager Signature: Matt S 10-11-11

TOH1009525-125

TENNESSEE VALLEY AUTHORITY

RECORD COPY

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 2
Cooler # 1 of 1 ~~1 of~~ ~~2~~ 1000
AM 100611

B TVA-KIF-NTC-NEMB-003

COC # NTCSED1003Y11 B

Required Ship to Lab:

Lab Name:	RJ Lee Group, Inc.
Address:	350 Hochberg Road Monroeville, PA 15146
Lab PM:	Keith Rickabaugh
Phone/Fax:	(724) 387-1841
Lab PM email	
Applicable Lab Quote #:	

Required Project Information:

Site ID #:	KIF
Project #:	Kingston Fossil Plant
Site Address	714 Swan Pond Rd
City	Harriman
State, Zip	TN, 37748
Site PM Name	Bill Rogers
Phone/Fax:	865.717.1627
Site PM Email:	wjrogers@tva.gov

Required Sampler Information:

Sampler	Ed Arnold
Sampling Company	RSI
Address:	
City/State	
Phone #	
Reimbursement project?	
Non-reimbursement project?	Mark one
Send EDD to	NA
CC Hardcopy report to:	
CC Hardcopy report to:	

TAT: Standard 5 day X Rush Mark One

ITEM #	SAMPLE ID Samples IDs MUST BE UNIQUE EXAMPLE: KIF-NEMBAY_XYZ-SED-MMDDYY-A	SAMPLE LOCATION EXAMPLE: NEMBAY_XYZ	Sample Depth Start Depth (Depth Unit: inches)	Sample Depth End Depth	MATRIX CODE	G=GRAB C=COMP	SAMPLE TYPE	SAMPLE DATE	SAMPLE TIME	#OF CONTAINERS	Comments/Lab Sample I.D.	Filtered NA	Preserve none	Analysis PLM_ASH_B
1	KIF-NEMBAY_GC1-SED-100311-B	NEMBAY_GC1	0.0	12.0	SED	G	N	100311	1011	1				X
2	KIF-NEMBAY_SK1-SED-100311-B	NEMBAY_SK1	0.0	12.0	SED	G	N	100311	1020	1				X
3	KIF-NEMBAY_SK4-SED-100311-B	NEMBAY_SK4	0.0	12.0	SED	G	N	100311	1032	1				X
4	KIF-NEMBAY_GC2-SED-100311-B	NEMBAY_GC2	0.0	12.0	SED	G	N	100311	1050	1				X
5	KIF-NEMBAY_GC2-MED-100311-B	NEMBAY_GC2	0.0	12.0	MED	G	N	100311	1050	1				X
6	KIF-NEMBAY_GC4-SED-100311-B	NEMBAY_GC4	0.0	12.0	SED	G	N	100311	1100	1				X

Additional Comments/Special Instructions:

Sample Team:
Greg Schwartz (RSI)
Russ Vance (RSI)
Ed Arnold (RSI)
Josh Kerr (RSI)

SAMPLE REASON (check only one)

- X Investigatory
- Split Comparison
- Split Legal
- Special Study
- Plant Ops
- Othc

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
G. Schwartz / RSI	100311	0815	Anne Marie / RSI	100311	0815
Anne Marie / RSI	10-06-11	1407	M. Carey / RJ Lee Group	10-07-11	0818 am

Sample Receipt Conditions

	Temp in OC	Samples on Ice?	Sample Intact?	Trip Blank?
		Y/N	Y/N	Y/N
	n/a	Y/N	Y/N	Y/N
		Y/N	Y/N	Y/N
		Y/N	Y/N	Y/N

SHIPPING METHOD: (mark as appropriate) UPS COURIER \ FEDEX US MAIL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Ed Arnold

SIGNATURE of SAMPLER: G. Schwartz

DATE Signed: 100311 Time: 1111

Tracking #: 1Z989E215974075000

TCH1009525_125

RECORD COPY

TENNESSEE VALLEY AUTHORITY

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 2 of 2

Cooler # 1 of 1 ~~2 of 2~~ am 100611

B ~~TA~~ CS 100311 TVA-KIF-NTC-NEMB-003 COC # NTCSED 100311B

Required Ship to Lab:

Lab Name: RJ Lee Group, Inc.
Address: 350 Hochberg Road, Monroeville, PA 15146
Lab PM: Keith Rickabaugh
Phone/Fax: (724) 387-1841
Lab PM email:
Applicable Lab Quote #:

Required Project Information:

Site ID #: KIF
Project #: Kingston Fossil Plant
Site Address: 714 Swan Pond Rd
City: Harriman State, Zip: TN, 37748
Site PM Name: Bill Rogers
Phone/Fax: 865.717.1627
Site PM Email: wjrogers@tva.gov

Required Sampler Information:

Sampler: Ed Arnold
Sampling Company: RSI
Address:
City/State: Phone #:
Reimbursement project? Non-reimbursement project? Mark one
Send EDD to: NA
CC Hardcopy report to:
CC Hardcopy report to:

TAT: Standard 5 day X Rush Mark One

ITEM #	SAMPLE ID (Samples IDs MUST BE UNIQUE; EXAMPLE: KIF-NEMBAY_XYZ-SED-MMDDYY-A)	SAMPLE LOCATION (EXAMPLE: NEMBAY_XYZ)	Sample Depth: Depth Unit: inches — Start Depth	End Depth	MATRIX CODE	G=GRAB C=COMP	SAMPLE TYPE	SAMPLE DATE	SAMPLE TIME	# OF CONTAINERS	Comments/Lab Sample I.D.	Filtered: NA	Preserve: none	Analysis: PLM_ASB
1	KIF-NEMBAY-GC3-SED-100311-B	NEMBAY_GC3	0.0	12.0	SED	G	N	100311	1110	1				x
2														
3														
4														
5														
6														

CS 100311

CS 100311

AM 100611

Additional Comments/Special Instructions:

Sample Team:
Greg Schwartz (RSI)
Josh Kerr (RSI)
Russ Vance (RSI)
Ed Arnold (RSI)

SAMPLE REASON (check only one)

- X Investigatory
- Split Comparison
- Split Legal
- Special Study
- Plant Ops
- Oth:

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[signature] / RSI	100311	0815	Anne Marino / RSI	100311	0815
Anne Marino / RSI	100611	1400	[signature] / RJ Lee Group	10-07-11	0830

SHIPPING METHOD (mark as appropriate): UPS COURIER \ FEDERAL EXPRESS; US MAIL

SAMPLER NAME AND SIGNATURE: PRINT Name of SAMPLER: ED ARNOLD; SIGNATURE of SAMPLER: [signature]; DATE Signed: 100311; Time: 1115

Sample Receipt Conditions

	Temp in OC	Samples on Ice?	Sample intact?	Trip Blank?
		Y/N	Y/N	Y/N
	N/A	Y/N	Y/N	Y/N
		Y/N	Y/N	Y/N
		Y/N	Y/N	Y/N

Tracking #: 1293 9 2159 7407 500

Environmental Standards, Inc-LastUpdated-031609

RJ LeeGroup, Inc.
350 Hochberg Road, Monroeville, PA 15146
Tel: (724) 325-1776 | Fax: (724) 733-1799

Appendix B

Mineral Identification Report

RJ LeeGroup, Inc.

Mineral Identification

Polarized Light Microscopy (PLM) Laboratory Report

Dr. Bill Rogers
Tennessee Valley Authority
Kingston Fossil Plant
714 Swan Pond Road
Harriman, TN 37748 United States
Email: wjrogers@tva.gov
Main: 256-762-6904

Report Date: 10/17/2011
Sample Received Date: 10/07/2011
RJLG Project: TOH1009525-125
Customer COC: NTCSED1003Y11B
Purchase Order: 87083
Analytical Method: Fly Ash Determination by PLM

Customer Sample # :	RJLG ID	Date Analyzed	Date Collected	Area % Fly Ash	Non-Fly Ash Components	Comments
KIF-NEMBAY_5H1-SED-100311-B	10170846	10/14/2011	10/03/2011	7%	Clay Feldspar Misc. Silicates Opaques Organic Particulate Quartz	Tan sediment.
KIF-NEMBAY_5K4-SED-100311-B	10170847	10/14/2011	10/03/2011	ND	Clay Feldspar Misc. Silicates Opaques Organic Particulate Quartz	Tan granular sediment.
KIF-NEMBAY_6C1-SED-100311-B	10170845	10/14/2011	10/03/2011	ND	Clay Feldspar Misc. Silicates Opaques Organic Particulate Quartz	Tan sediment.

Customer Sample # :	RJLG ID	Date Analyzed	Date Collected	Area % Fly Ash	Non-Fly Ash Components	Comments
KIF-NEMBAY_6C2-AED-100311-B	10170849	10/14/2011	10/03/2011	ND	Clay Feldspar Misc. Silicates Opaques Organic Particulate Quartz	Tan granular sediment.
KIF-NEMBAY_6C2-SED-100311-B	10170848	10/14/2011	10/03/2011	ND	Clay Feldspar Misc. Silicates Opaques Organic Particulate Quartz	Tan granular sediment.
KIF-NEMBAY_6C3-SED-100311-B	10170851	10/14/2011	10/03/2011	1%	Clay Feldspar Misc. Silicates Opaques Organic Particulate Quartz	Tan sediment.
KIF-NEMBAY_6C4-SED-100311-B	10170850	10/14/2011	10/03/2011	ND	Clay Feldspar Misc. Silicates Opaques Organic Particulate Quartz	Tan granular sediment.

Authorized Signature: J. Craig Huntington

for Matt Sanchez

Matthew Sanchez
Manager Optical Group

Disclaimer Notes

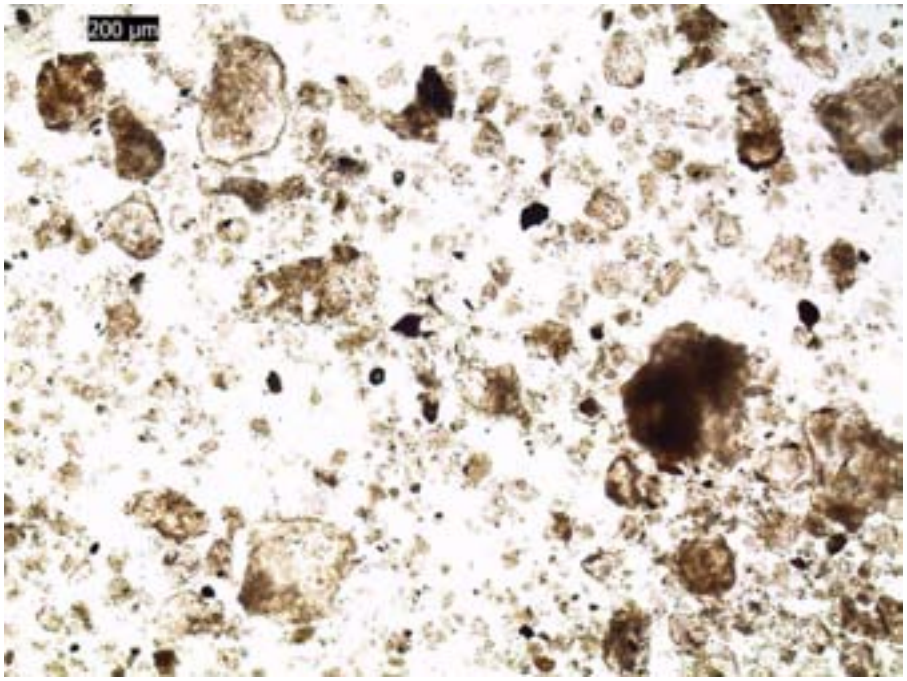
* Samples will be returned to client immediately upon the release of final report.
* These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed 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 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.
Opaques – 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.

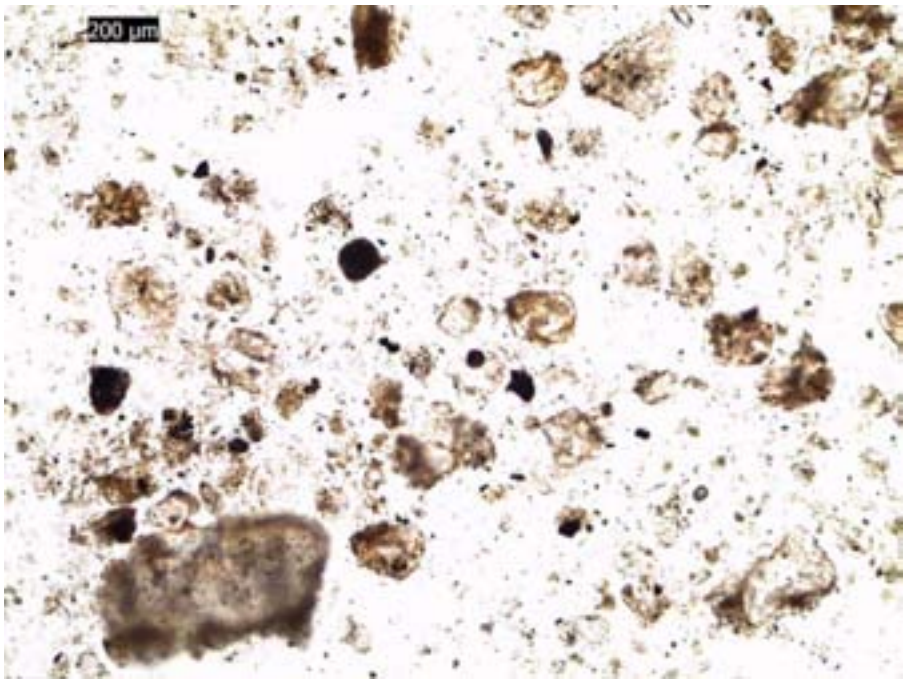
RJ LeeGroup, Inc.
350 Hochberg Road, Monroeville, PA 15146
Tel: (724) 325-1776 | Fax: (724) 733-1799

Appendix C

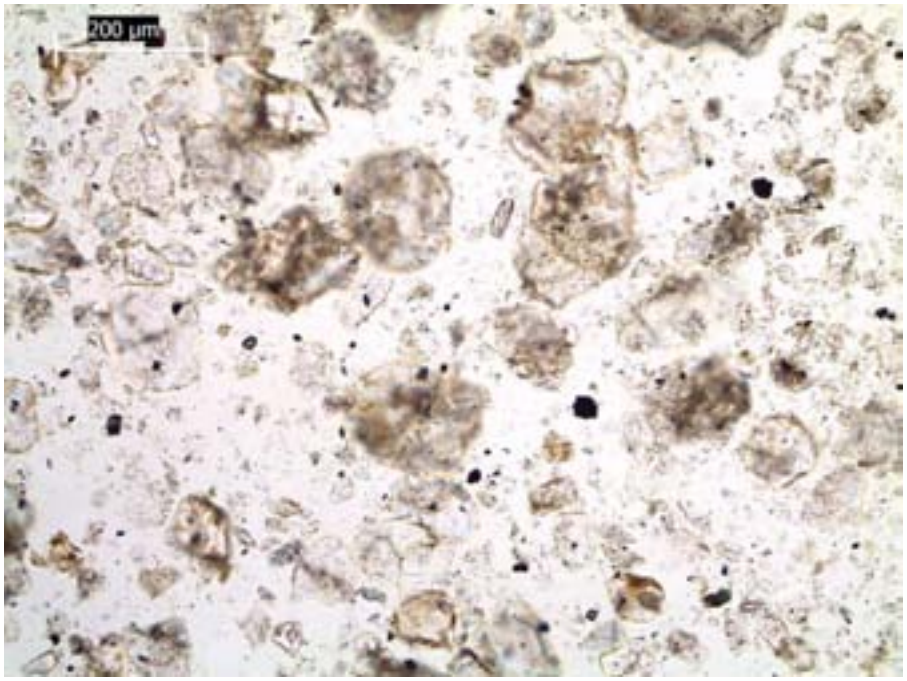
Polarized Light Microscopy Images
Bench Sheets
QC Tabulation



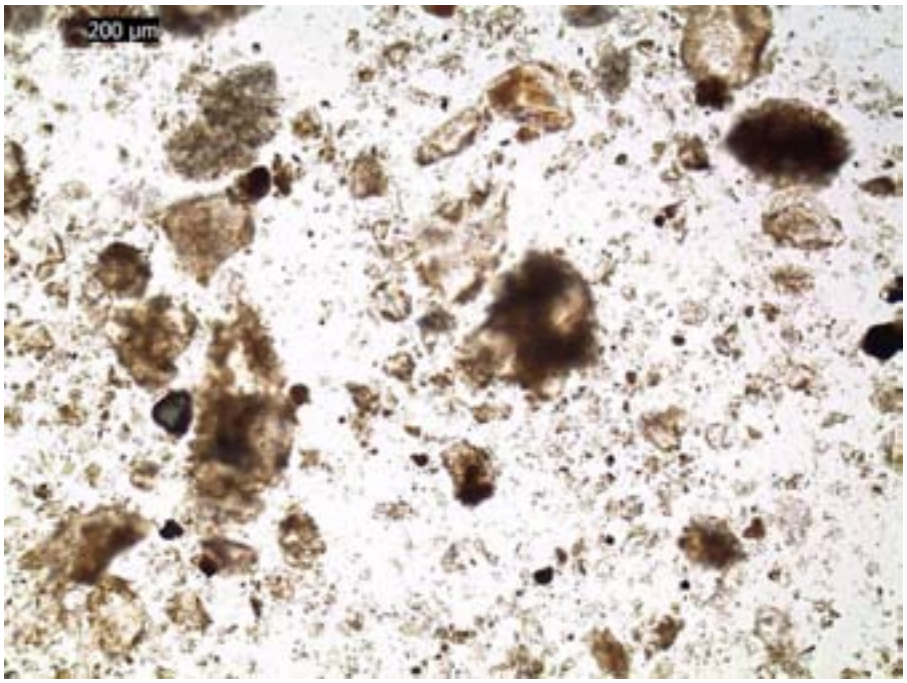
KIF-NEMBAY_6C1-SED-100311-B. RJLG ID 10170845.
Photomicrograph of sample in plane polarized light illustrating overall sample appearance.



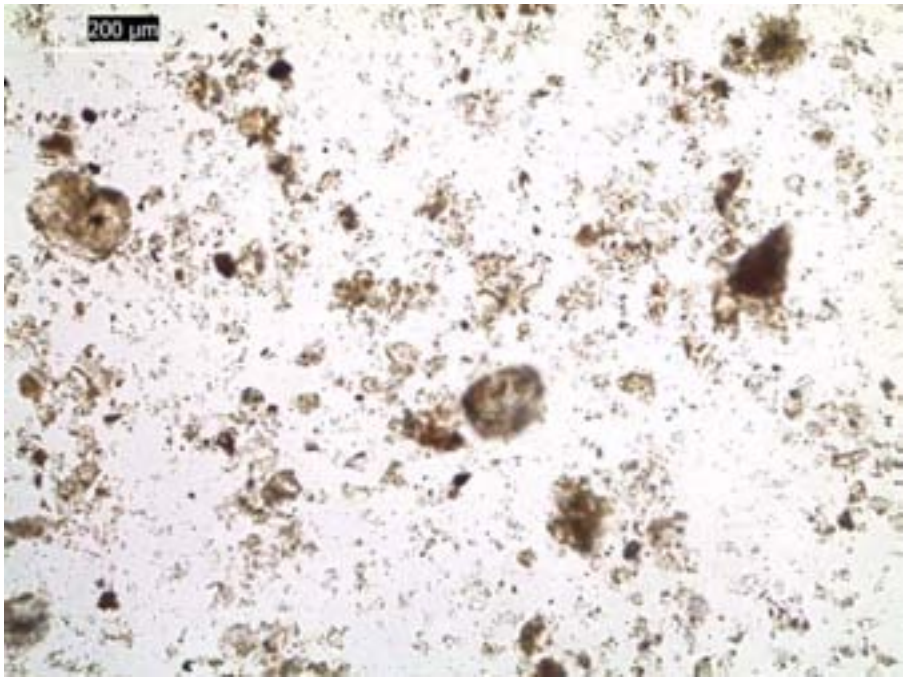
KIF-NEMBAY_5H1-SED-100311-B. RJLG ID 10170846.
Photomicrograph of sample in plane polarized light illustrating overall sample appearance.



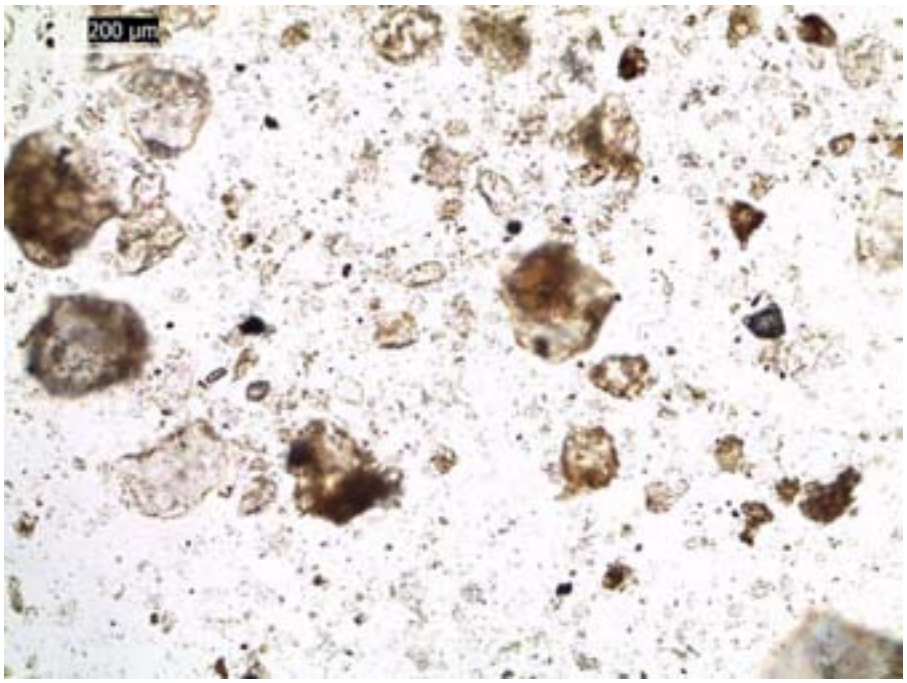
KIF-NEMBAY_5K4-SED-100311-B. RJLG ID 10170847.
Photomicrograph of sample in plane polarized light illustrating overall sample appearance.



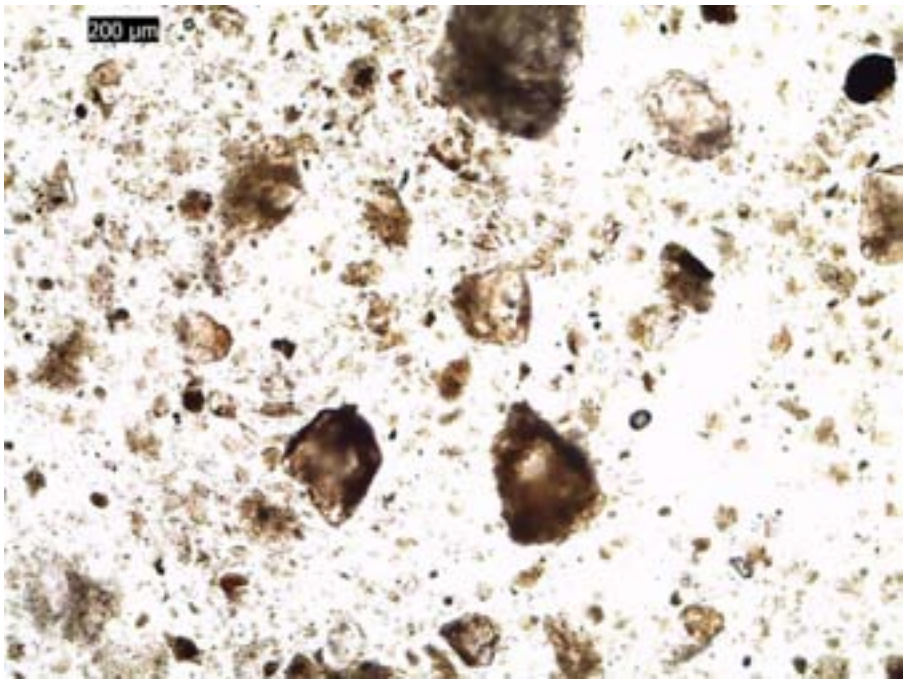
KIF-NEMBAY_6C2-SED-100311-B. RJLG ID 10170848.
Photomicrograph of sample in plane polarized light illustrating overall sample appearance.



KIF-NEMBAY_6C2-AED-100311-B. RJLG ID 10170849.
Photomicrograph of sample in plane polarized light illustrating overall sample appearance.



KIF-NEMBAY_6C4-SED-100311-B. RJLG ID 10170850.
Photomicrograph of sample in plane polarized light illustrating overall sample appearance.



KIF-NEMBAY_6C3-SED-100311-B. RJLG ID 10170851.
Photomicrograph of sample in plane polarized light illustrating overall sample appearance.

RJLG RJ LeeGroup, Inc.

Fly Ash Bench Sheet

RJLG ID: 10170845

Customer Sample # : KIF-NEMBAY_6C1-SED-100311-B

Slide 1:	0	Slide 2:	0	Slide 3:	0	Slide 4:	0	Fly Ash %	0%

Non-Fly Ash Components
- Clay
- Feldspar
- Misc. Silicates
- Opaques
- Organic Particulate
- Quartz

Other Components:

Results Comments:

Tan sediment.

Analysis Date:	2011-10-14	Analysis Time:	09:05
Result Last Modified By:	Craig Huntington	Result Last Modified On:	2011-10-14 09:05:02.36

Images:

Image Path: \\mscluster\litigation\TOHData\1009525\Optical\TOH1009525-125\10170845.jpg

Initials: JCH

Date: 10-14-11

350 Hochberg Road, Monroeville, PA 15146
Phone: (724) 325-1776 | Fax: (724) 733-1799

RJLG RJ LeeGroup, Inc.

Fly Ash Bench Sheet

RJLG ID: 10170846

Customer Sample # : KIF-NEMBAY_5H1-SED-100311-B

Slide 1:	3	Slide 2:	1	Slide 3:	1	Slide 4:	2	Fly Ash %	7%

Non-Fly Ash Components

Clay
Feldspar
Misc. Silicates
Opaques
Organic Particulate
Quartz

Other Components:

Results Comments:

Tan sediment.

Analysis Date:	2011-10-14	Analysis Time:	10:25
Result Last Modified By:	Craig Huntington	Result Last Modified On:	2011-10-14 10:25:49.943

Images:

Image Path: \\mscluster\litigation\TOHData\1009525\Optical\TOH1009525-125\10170846.jpg

Initials: JCH

Date: 10-14-11

350 Hochberg Road, Monroeville, PA 15146
Phone: (724) 325-1776 | Fax: (724) 733-1799

RJLG RJ LeeGroup, Inc.

Fly Ash Bench Sheet

RJLG ID: 10170847

Customer Sample # : KIF-NEMBAY_5K4-SED-100311-B

Slide 1:	0	Slide 2:	0	Slide 3:	0	Slide 4:	0	Fly Ash %	0%

Non-Fly Ash Components
- Clay
- Feldspar
- Misc. Silicates
- Opaques
- Organic Particulate
- Quartz

Other Components:

Results Comments:

Tan granular sediment.

Analysis Date:	2011-10-14	Analysis Time:	10:49
Result Last Modified By:	Craig Huntington	Result Last Modified On:	2011-10-14 10:49:51.17

Images:

Image Path: \\mscluster\litigation\TOHData\1009525\Optical\TOH1009525-125\10170847.jpg

Initials: JCH

Date: 10-14-11

350 Hochberg Road, Monroeville, PA 15146
Phone: (724) 325-1776 | Fax: (724) 733-1799

RJLG RJ LeeGroup, Inc.

Fly Ash Bench Sheet

RJLG ID: 10170848

Customer Sample # : KIF-NEMBAY_6C2-SED-100311-B

Slide 1:	0	Slide 2:	0	Slide 3:	0	Slide 4:	0	Fly Ash %	0%

Non-Fly Ash Components
- Clay
- Feldspar
- Misc. Silicates
- Opaques
- Organic Particulate
- Quartz

Other Components:

Results Comments:

Tan granular sediment.

Analysis Date:	2011-10-14	Analysis Time:	09:24
Result Last Modified By:	Craig Huntington	Result Last Modified On:	2011-10-14 09:24:43.407

Images:

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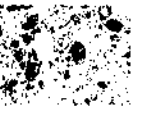


Initials: JCH

Date: 10-14-11

350 Hochberg Road, Monroeville, PA 15146
Phone: (724) 325-1776 | Fax: (724) 733-1799

RJLG RJ LeeGroup, Inc.

Fly Ash Bench Sheet

RJLG ID: 10170849

Customer Sample # : KIF-NEMBAY_6C2-AED-100311-B

Slide 1:	0	Slide 2:	0	Slide 3:	0	Slide 4:	0	Fly Ash %	0%

Non-Fly Ash Components
- Clay
- Feldspar
- Misc. Silicates
- Opaques
- Organic Particulate
- Quartz

Other Components:

Results Comments:

Tan granular sediment.

Analysis Date:	2011-10-14	Analysis Time:	09:51
Result Last Modified By:	Craig Huntington	Result Last Modified On:	2011-10-14 09:52:00.203

Images:

Image Path: \\mscluster\litigation\TOHData\1009525\Optical\TOH1009525-125\10170849.jpg

Initials: JCH

Date: 10-14-11

350 Hochberg Road, Monroeville, PA 15146
Phone: (724) 325-1776 | Fax: (724) 733-1799

RJLG RJ LeeGroup, Inc.

Fly Ash Bench Sheet

RJLG ID: 10170850

Customer Sample # : KIF-NEMBAY_6C4-SED-100311-B

Slide 1:	0	Slide 2:	0	Slide 3:	0	Slide 4:	0	Fly Ash %	0%

Non-Fly Ash Components
- Clay
- Feldspar
- Misc. Silicates
- Opaques
- Organic Particulate
- Quartz

Other Components:

Results Comments:

Tan granular sediment.

Analysis Date:	2011-10-14	Analysis Time:	10:08
Result Last Modified By:	Craig Huntington	Result Last Modified On:	2011-10-14 10:08:08.293

Images:

Image Path: \\mscluster\litigation\TOHData\1009525\Optical\TOH1009525-125\10170850.jpg

Initials: JCH

Date: 10-14-11

350 Hochberg Road, Monroeville, PA 15146
Phone: (724) 325-1776 | Fax: (724) 733-1799

RJLG RJ LeeGroup, Inc.

Fly Ash Bench Sheet

RJLG ID: 10170851

Customer Sample # : KIF-NEMBAY_6C3-SED-100311-B

Slide 1:	1	Slide 2:	0	Slide 3:	0	Slide 4:	0	Fly Ash %	1%

Non-Fly Ash Components
- Clay
- Feldspar
- Misc. Silicates
- Opaques
- Organic Particulate
- Quartz

Other Components:

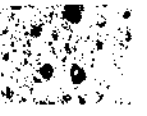
Results Comments:

Tan sediment.

Analysis Date:	2011-10-14	Analysis Time:	11:14
Result Last Modified By:	Craig Huntington	Result Last Modified On:	2011-10-14 11:14:51.47

Images:

Image Path: \\mscluster\litigation\TOHData\1009525\Optical\TOH1009525-125\10170851.jpg



Initials: JCH

Date: 10-14-11

350 Hochberg Road, Monroeville, PA 15146
Phone: (724) 325-1776 | Fax: (724) 733-1799

Attachment 4

Polarized Light Microscopy Results from RJ Lee Laboratory

RJ Lee laboratory Level 4 Report # TOH1009545-127

RJ LeeGroup, Inc.
350 Hochberg Road, Monroeville, PA 15146
Tel: (724) 325-1776 | Fax: (724) 733-1799

October 19, 2011

Dr. William Rogers
Kingston Fossil Plant
714 Swan Pond Road
Harriman, TN 37748

RE: Tennessee Valley Authority – Analytical Report
RJ Lee Group Project Number TOH1009525-127

The RJ Lee Group, Inc. Monroeville laboratory received six samples on October 7, 2011 associated with Tennessee Valley Authority (TVA) Chain of Custody (COC) number NTCSED1004Y11B. The samples were logged into RJ Lee Group project number TOH1009525-127 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, and sample receipt check list.

If you have any question or comments regarding the information contained in this report, please feel free to contact us.

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.

Sincerely,

J. Craig Huntington

J. Craig Huntington
Scientist

Attachments: Chain of Custody Forms
Mineral Identification Report
Polarized Light Microscopy Images, Bench Sheets,
QC Tabulation (when applicable)

Appendix A

Chain of Custody Forms

RJ LeeGroup, Inc.
www.rjlg.com

Chain Of Custody

RJ Lee Group Work Order #: TOH1009525-127

Project Name / Case #: KIF

Received From:	Relinquished To:
Jesse Morris Kingston Fossil Plant/TVA 189 Lakeshore Drive Harriman, TN 37748 United States Email: accountspayable@tva.gov Main: 304-685-8364	RJLee Group, Inc. 350 Hochberg Road Monroeville, PA 15146 United States Main: 724-325-1776 Fax: 724-325-1775

Delivery Comments:

1-Cooler was received from Kingston Fossil Plant/TVA in good condition with no evidence of tampering. All custody seals were intact and in place.

Sample ID	Customer COC ID	Client Sample ID	Date Received
10170863	NTCSED1004Y11B	KIF-NEMBAY_6J1-SED-100411-B	10/07/2011 8:10 AM EDT
10170864	NTCSED1004Y11B	KIF-NEMBAY_6J2-SED-100411-B	10/07/2011 8:10 AM EDT
10170865	NTCSED1004Y11B	KIF-NEMBAY_6J4-SED-100411-B	10/07/2011 8:10 AM EDT
10170866	NTCSED1004Y11B	KIF-NEMBAY_6J3-SED-100411-B	10/07/2011 8:10 AM EDT
10170867	NTCSED1004Y11B	KIF-NEMBAY_6K2-SED-100411-B	10/07/2011 8:10 AM EDT
10170868	NTCSED1004Y11B	KIF-NEMBAY_6K3-SED-100411-B	10/07/2011 8:10 AM EDT

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	Received From: Jesse Morris	*Method of Shipment: UPS*	
	Company: Kingston Fossil Plant/TVA		**Date:** 10/07/2011
	Received By: Monica Carse	*Package Condition Upon Receipt: Sealed*	
	Company: RJ Lee Group, Inc.		**Date:** 10/07/2011

	Relinquished	*Method of Shipment:*	
	Company:		**Date:**
	Received By:	*Package Condition Upon Receipt:*	
	Company:		**Date:**

	Relinquished	*Method of Shipment:*	
	Company:		**Date:**
	Received By:	*Package Condition Upon Receipt:*	
	Company:		**Date:**

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RJ Lee Group
Sample Receipt and Log in Check List

Client:	TVA	**Date Received:**	10/7/2011	**Log in Date:**	10/11/2011
Time Received:	8:10 AM	**By:**	Monica Carse	**COC# :**	NTCSED1004Y11B
Project:	TOH1009525-127	**# Coolers Received**	1	**Means of Shipment:**	UPS
Air Bill:	1Z 939 EX2 15 9740 7500				

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: [illegible] 10-11-11

Manager Signature: [illegible] 10-11-11

TOH 1009525-127

RECORD COPY

TENNESSEE VALLEY AUTHORITY

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1 (1 of 1)

Cooler # 1 of 1 of

B TVA-KIF-NTC-NEMB-003

COC # NTCSED100411B

Required Ship to Lab:

Lab Name: RJ Lee Group, Inc.
Address: 350 Hochberg Road, Monroeville, PA 15146
Lab PM: Keith Rickabaugh
Phone/Fax: (724) 387-1841
Lab PM email:
Applicable Lab Quote #:

Required Project Information:

Site ID #: KIF
Project #: Kingston Fossil Plant
Site Address: 714 Swan Pond Rd
City: Harriman State, Zip: TN, 37748
Site PM Name: Bill Rogers
Phone/Fax: 865.717.1627
Site PM Email: wrogers@tva.gov

Required Sampler Information:

Sampler: Greg Schwartz
Sampling Company: RSI
Address:
City/State: Phone #:
Reimbursement project? Non-reimbursement project? Mark one
Send EDD to: NA
CC Hardcopy report to:
CC Hardcopy report to:

TAT: Standard 5-day X Rush Mark One

ITEM #	SAMPLE ID (Samples IDs MUST BE UNIQUE; EXAMPLE: KIF-NEMBAY_XYZ-SED-MMDDYY-A)	SAMPLE LOCATION (EXAMPLE: NEMBAY_XYZ)	Sample Depth Start Depth (Depth Unit: inches)	Sample Depth End Depth	MATRIX CODE	G=GRAB C=COMP	SAMPLE TYPE	SAMPLE DATE	SAMPLE TIME	#OF CONTAINERS	Comments/Lab Sample I.D.	Preserve: NA	Preserve: none	Analysis: RLM_ASH_B
1	KIF-NEMBAY_GJ1-SED-100411-B	NEMBAY_GJ1	0.0	12.0	SED	G	N	100411	1235	1				X
2	KIF-NEMBAY_GJ2-SED-100411-B	NEMBAY_GJ2	0.0	12.0	SED	G	N	100411	1242 ~~1245~~ 100411	1				X
3	KIF-NEMBAY_GJ4-SED-100411-B	NEMBAY_GJ4	0.0	12.0	SED	G	N	100411	1255	1				X
4	KIF-NEMBAY_GJ3-SED-100411-B	NEMBAY_GJ3	0.0	12.0	SED	G	N	100411	1303	1				X
5	KIF-NEMBAY_GK2-SED-100411-B	NEMBAY_GK2	0.0	12.0	SED	G	N	100411	1323	1				X
6	KIF-NEMBAY_GK3-SED-100411-B	NEMBAY_GK3	0.0	12.0	SED	G	N	100411	1340	1				X

Cy 100411

Additional Comments/Special Instructions:

Sample Team:
Greg Schwartz (RSI)
Ed Arnold (RSI)
G.b Frye (RSI)
Russ Vance (RSI)

SAMPLE REASON (check only one)

- X Investigatory
- Split Comparison
- Split Legal
- Special Study
- Plant Ops
- Oth:

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[signature] / RSI	100411	1550	Joyce Mevio/RSI	100411	1550
Joyce Mevio/RSI	100411	1400	M Barney/Pace Group	10-07-11	08:10 AM

Sample Receipt Conditions

Temp in OC	Samples on Ice?	Sample intact?	Trip Blank?
	Y/N	Y/N	Y/N
N/A	Y (N)	(Y) N	Y (N)
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

SHIPPING METHOD: (mark as appropriate) UPS COURIER \ FEDEX US MAIL

SAMPLER NAME AND SIGNATURE: PRINT Name of SAMPLER: Greg Schwartz; SIGNATURE of SAMPLER: [signature]; DATE Signed: 100411; Time: 1400

Tracking #: 1293 9EX2 1597 4075 00

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Appendix B

Mineral Identification Report

RJ LeeGroup, Inc.

Mineral Identification

Polarized Light Microscopy (PLM) Laboratory Report

Dr. Bill Rogers
Tennessee Valley Authority
Kingston Fossil Plant
714 Swan Pond Road
Harriman, TN 37748 United States
Email: wjrogers@tva.gov
Main: 256-762-6904

Report Date: 10/17/2011
Sample Received Date: 10/07/2011
RJLG Project: TOH1009525-127
Customer COC: NTCSED1004Y11B
Purchase Order: 87083
Analytical Method: Fly Ash Determination by PLM

Customer Sample # :	RJLG ID	Date Analyzed	Date Collected	Area % Fly Ash	Non-Fly Ash Components	Comments
KIF-NEMBAY_6J1-SED-100411-B	10170863	10/13/2011	10/04/2011	ND	Clay Diatoms Feldspar Misc. Silicates Opaques Organic Particulate Quartz	Tan sediment.
KIF-NEMBAY_6J2-SED-100411-B	10170864	10/13/2011	10/04/2011	2%	Clay Feldspar Misc. Silicates Opaques Organic Particulate Quartz	Tan sediment.
KIF-NEMBAY_6J3-SED-100411-B	10170866	10/13/2011	10/04/2011	9%	Clay Feldspar Misc. Silicates Opaques Organic Particulate Quartz Coal	Gray sediment.

Customer Sample # :	RJLG ID	Date Analyzed	Date Collected	Area % Fly Ash	Non-Fly Ash Components	Comments
KIF-NEMBAY_6J4-SED-100411-B	10170865	10/13/2011	10/04/2011	ND	Clay Feldspar Misc. Silicates Opaques Organic Particulate Quartz	Tan sediment.
KIF-NEMBAY_6K2-SED-100411-B	10170867	10/13/2011	10/04/2011	ND	Clay Feldspar Misc. Silicates Opaques Organic Particulate Quartz Coal	Tan sediment.
KIF-NEMBAY_6K3-SED-100411-B	10170868	10/13/2011	10/04/2011	12%	Clay Diatoms Feldspar Misc. Silicates Opaques Organic Particulate Quartz slag	Gray sediment.

Authorized Signature: J. Craig Huntington
For Matt Sanchez

Matthew Sanchez
Manager Optical Group

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 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.
Opaques – 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.

RJ LeeGroup, Inc.
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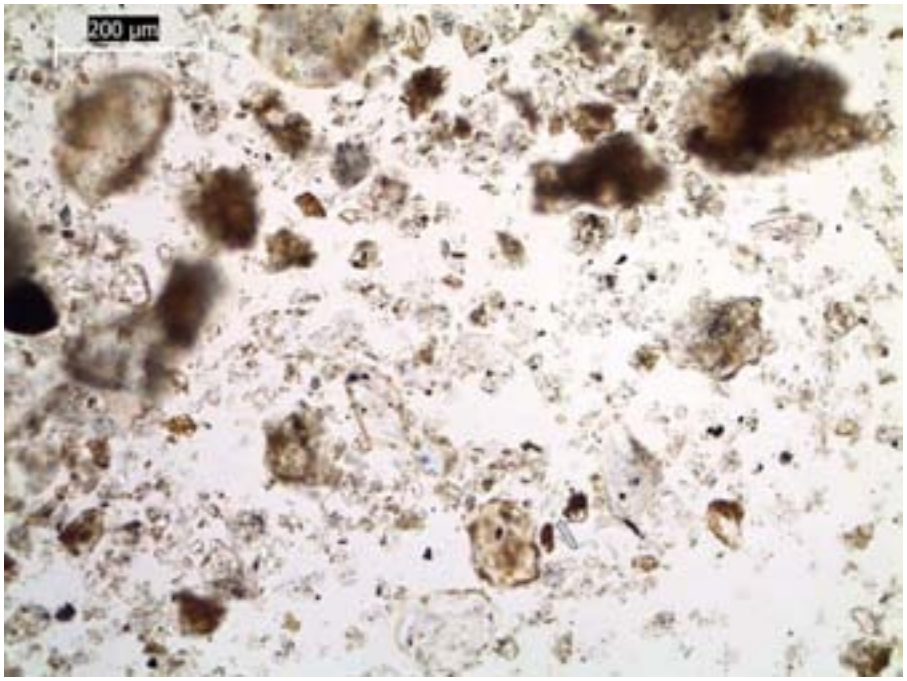
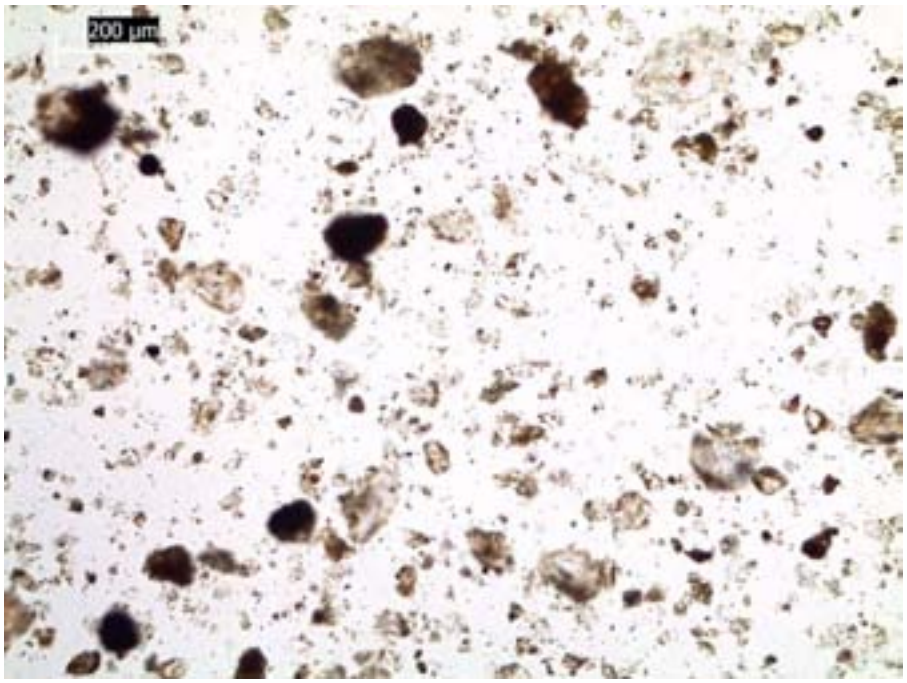
Appendix C

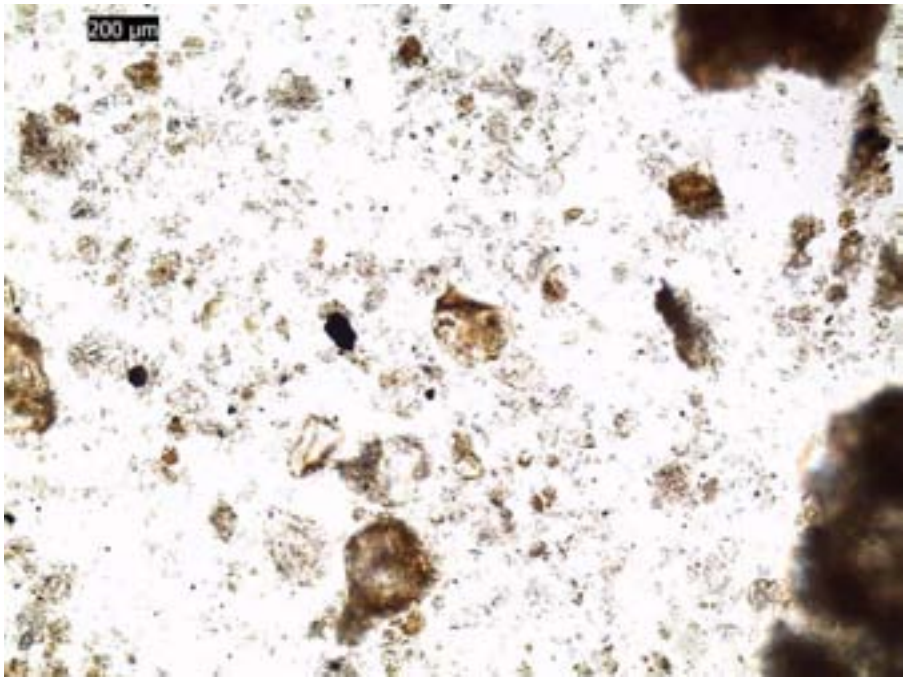
Polarized Light Microscopy Images
Bench Sheets
QC Tabulation



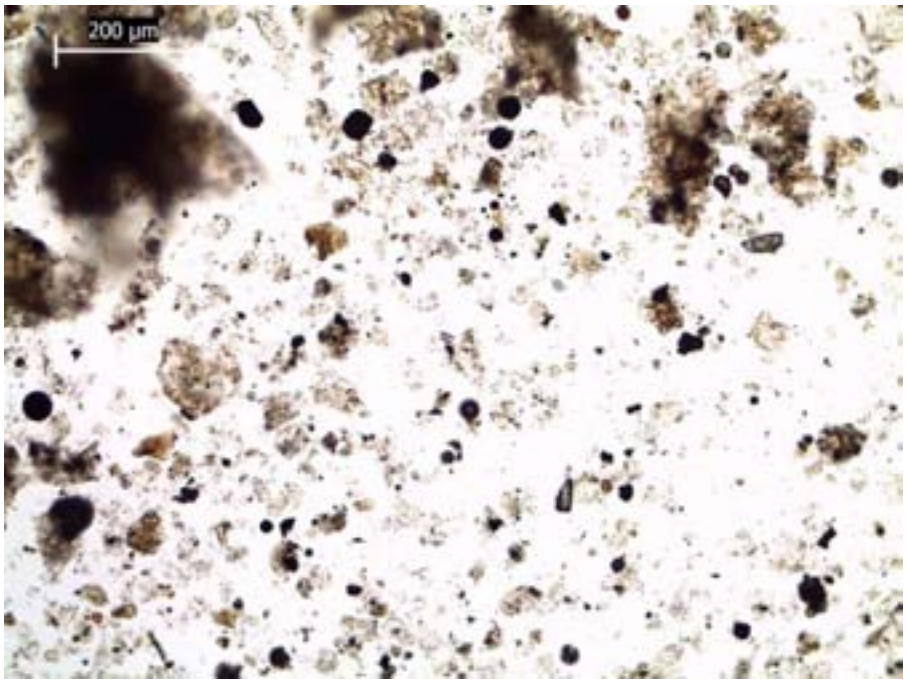
KIF-NEMBAY_6J1-SED-100411-B. RJLG ID 10170863.
Photomicrograph of sample in plane polarized light illustrating overall sample appearance.



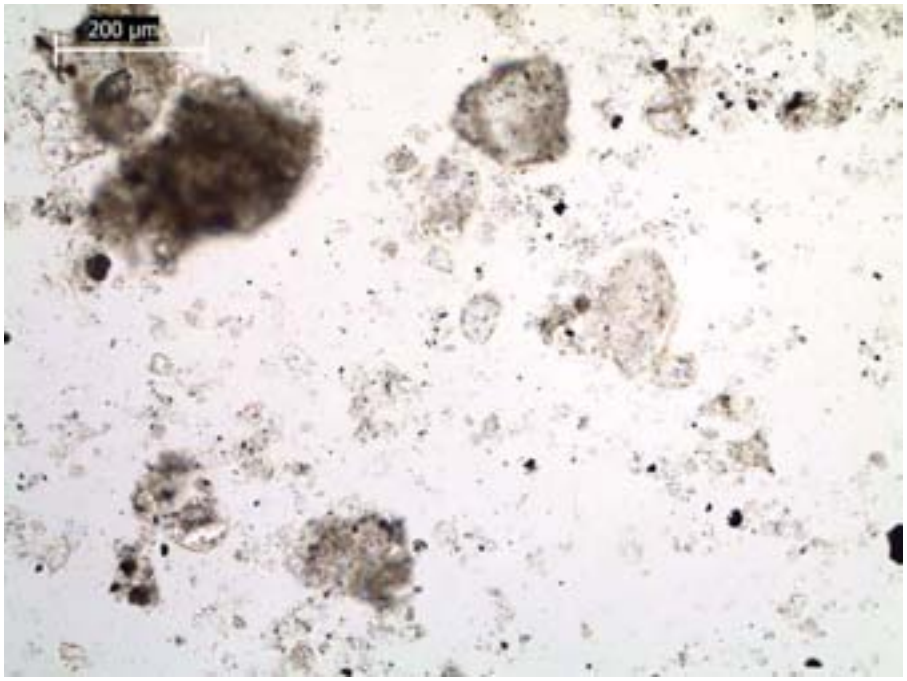
KIF-NEMBAY_6J2-SED-100411-B. RJLG ID 10170864.
Photomicrograph of sample in plane polarized light illustrating overall sample appearance.



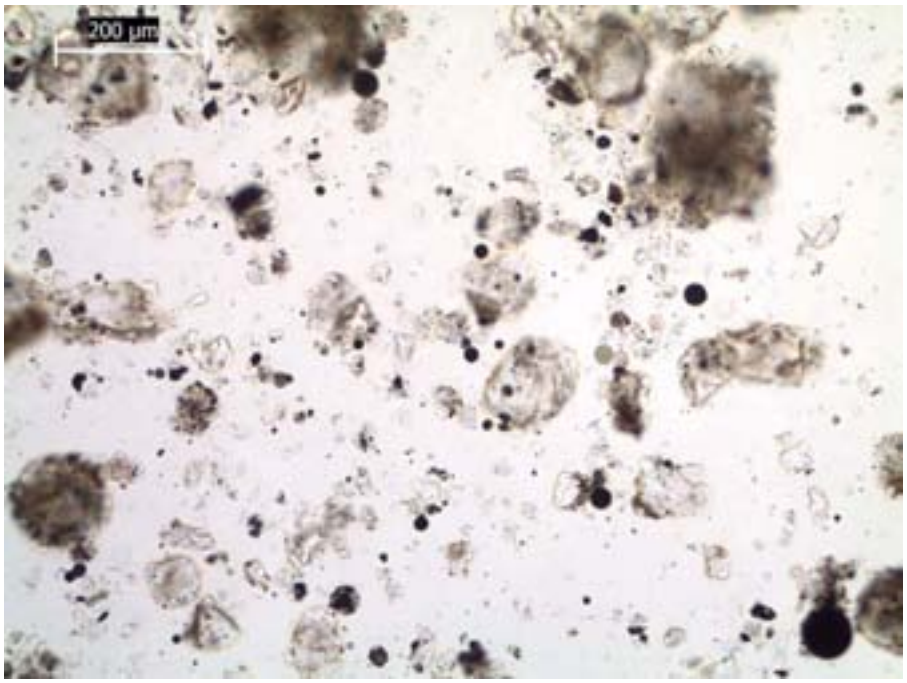
KIF-NEMBAY_6J4-SED-100411-B. RJLG ID 10170865.
Photomicrograph of sample in plane polarized light illustrating overall sample appearance.



KIF-NEMBAY_6J3-SED-100411-B. RJLG ID 10170866.
Photomicrograph of sample in plane polarized light illustrating overall sample appearance.



KIF-NEMBAY_6K2-SED-100411-B. RJLG ID 10170867.
Photomicrograph of sample in plane polarized light illustrating overall sample appearance.



KIF-NEMBAY_6K3-SED-100411-B. RJLG ID 10170868.
Photomicrograph of sample in plane polarized light illustrating overall sample appearance.

RJLG RJ LeeGroup, Inc.

Fly Ash Bench Sheet

RJLG ID: 10170863

Customer Sample # : KIF-NEMBAY_6J1-SED-100411-B

Slide 1:	0	Slide 2:	0	Slide 3:	0	Slide 4:	0	Fly Ash %	0%

Non-Fly Ash Components
- Clay
- Diatoms
- Feldspar
- Misc. Silicates
- Opaques
- Organic Particulate
- Quartz

Other Components:

Results Comments:

Tan sediment.

Analysis Date:	2011-10-13	Analysis Time:	11:59
Result Last Modified By:	Craig Huntington	Result Last Modified On:	2011-10-13 11:59:17.81

Images:

Image Path: \\mscluster\litigation\TOHData\1009525\Optical\TOH1009525-127\10170863.jpg

Initials: JCH

Date: 10-13-11

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RJLG RJ LeeGroup, Inc.

Fly Ash Bench Sheet

RJLG ID: 10170864

Customer Sample # : KIF-NEMBAY_6J2-SED-100411-B

Slide 1:	0	Slide 2:	1	Slide 3:	0	Slide 4:	1	Fly Ash %	2%

Non-Fly Ash Components
- Clay
- Feldspar
- Misc. Silicates
- Opaques
- Organic Particulate
- Quartz

Other Components:

Results Comments:

Tan sediment.

Analysis Date:	2011-10-13	Analysis Time:	10:53
Result Last Modified By:	Craig Huntington	Result Last Modified On:	2011-10-13 10:53:09.91

Images:

Image Path: \\mscluster\litigation\TOHData\1009525\Optical\TOH1009525-127\10170864.jpg

Initials: JCH

Date: 10-13-11

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RJ LeeGroup, Inc.

Fly Ash Bench Sheet

RJLG ID: 10170865

Customer Sample # : KIF-NEMBAY_6J4-SED-100411-B

Slide 1:	0	Slide 2:	0	Slide 3:	0	Slide 4:	0	Fly Ash %	0%

Non-Fly Ash Components
- Clay
- Feldspar
- Misc. Silicates
- Opaques
- Organic Particulate
- Quartz

Other Components:

Results Comments:

Tan sediment.

Analysis Date:	2011-10-13	Analysis Time:	09:01
Result Last Modified By:	Craig Huntington	Result Last Modified On:	2011-10-13 09:01:58.547

Images:

Image Path: \\mscluster\litigation\TOHData\1009525\Optical\TOH1009525-127\10170865.jpg

Initials: JCH

Date: 10-13-11

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RJLG RJ LeeGroup, Inc.

Fly Ash Bench Sheet

RJLG ID: 10170866

Customer Sample # : KIF-NEMBAY_6J3-SED-100411-B

Slide 1:	2	Slide 2:	1	Slide 3:	2	Slide 4:	4	Fly Ash %	9%

Non-Fly Ash Components
- Clay
- Feldspar
- Misc. Silicates
- Opaques
- Organic Particulate
- Quartz
- Coal

Other Components:

Results Comments:

Gray sediment.

Analysis Date:	2011-10-13	Analysis Time:	11:38
Result Last Modified By:	Craig Huntington	Result Last Modified On:	2011-10-13 11:38:08.067

Images:

Image Path: \\mscluster\litigation\TOHData\1009525\Optical\TOH1009525-127\10170866.jpg

Initials: JCH

Date: 10-13-11

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RJLG RJ LeeGroup, Inc.

Fly Ash Bench Sheet

RJLG ID: 10170867

Customer Sample # : KIF-NEMBAY_6K2-SED-100411-B

Slide 1:	0	Slide 2:	0	Slide 3:	0	Slide 4:	0	Fly Ash %	0%

Non-Fly Ash Components
- Clay
- Feldspar
- Misc. Silicates
- Opaques
- Organic Particulate
- Quartz
- Coal

Other Components:

Results Comments:

Tan sediment.

Analysis Date:	2011-10-13	Analysis Time:	11:10
Result Last Modified By:	Craig Huntington	Result Last Modified On:	2011-10-13 11:10:06.57

Images:

Image Path: \\mscluster\litigation\TOHData\1009525\Optical\TOH1009525-127\10170867.jpg

Initials: JCH

Date: 10-13-11

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RJLG RJ LeeGroup, Inc.

Fly Ash Bench Sheet

RJLG ID: 10170868

Customer Sample # : KIF-NEMBAY_6K3-SED-100411-B

Slide 1:	2	Slide 2:	3	Slide 3:	5	Slide 4:	2	Fly Ash %	12%

Non-Fly Ash Components
- Clay
- Diatoms
- Feldspar
- Misc. Silicates
- Opaques
- Organic Particulate
- Quartz

Other Components: slag

Results Comments:

Gray sediment.

Analysis Date:	2011-10-13	Analysis Time:	09:40
Result Last Modified By:	Craig Huntington	Result Last Modified On:	2011-10-13 09:40:23.453

Images:

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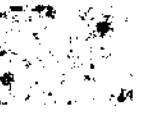

Initials: JCH

Date: 10-13-11

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Attachment 5

Daily Quality Assurance Reports

Kingston Ash Recovery Project (KRP)
Quality Assurance
Daily Report

REPORT DATE & DAY OF WEEK: 8-16-2011

ACTIVITIES OBSERVED IN CONFORMANCE WITH WORK REQUIREMENTS (Safety, SOP, Work Package, QC Plan , Drawings and Specifications, Removal Action Work Plan, etc.): (Identify activities by Contractor and area)

Activities in compliance with work plans.

North Embayment- Civil Projects requested that grids 5-G, 4-K, 5-F and 4-C be sampled; Operational samples were collected, areas of concern were discussed with Civil Projects (clean water ditch); 6 more operational samples were collected in the afternoon grids 6-E and 6-L; RSI collected 8 concurrence samples, 4-L2&3, 5-G2&3, 5-F1&4, and 4-K1&4; RSI collected 4 Geo-probe samples in the Middle Embayment.

MATERIAL / EQUIPMENT RECEIPT INSPECTION: Receipt Form Completed (Reference RIR #)?

N/A

NONCONFORMING WORK: (Identify by Contractor and area). NCR Issued (Reference NCR #)?

N/A

SORs (SAFETY OBSERVATION REPORTS):

QA ISSUES: (Specify if assistance is needed to resolve issue)

No issues

PLANNED ACTIVITIES (Identify activities by Contractor and area)

Continue to excavate ash and sample as requested by CP

SHOP INSPECTIONS: N/A

DOCUMENT REVIEWS: (SOPs, Work Package, QC Plan, Drawings and Specifications, Removal Action Work Plan, etc)

N/A

SUBMITTED BY: Walter R. Burns **DATE: 8-16-11**

[Type text]

Kingston Ash Recovery Project (KRP)
Quality Assurance
Daily Report

REPORT DATE & DAY OF WEEK: 8-22-2011

ACTIVITIES OBSERVED IN CONFORMANCE WITH WORK REQUIREMENTS (Safety, SOP, Work Package, QC Plan , Drawings and Specifications, Removal Action Work Plan, etc.): (Identify activities by Contractor and area)

Activities in compliance with work plans.

North Embayment- RSI sampled 16 grid points, 2 of 16 are retest; 16 operational samples collected today to coincide with concurrence samples; Grids: 5-A, 4-J, 6-A1,2,&3, 6-G2&3, 4-K2&3, 5-F1, and 5-G3; Received Level 4 RJ Lee data from sectors 1-3

MATERIAL / EQUIPMENT RECEIPT INSPECTION: Receipt Form Completed (Reference RIR #)?

N/A

NONCONFORMING WORK: (Identify by Contractor and area). NCR Issued (Reference NCR #)?

N/A

SORs (SAFETY OBSERVATION REPORTS):

QA ISSUES: (Specify if assistance is needed to resolve issue)

No issues

PLANNED ACTIVITIES (Identify activities by Contractor and area)

Continue to excavate ash and sample as requested by CP

SHOP INSPECTIONS: N/A

DOCUMENT REVIEWS: (SOPs, Work Package, QC Plan, Drawings and Specifications, Removal Action Work Plan, etc)

N/A

SUBMITTED BY: Walter R. Burns **DATE: 8-22-11**

[Type text]

Kingston Ash Recovery Project (KRP)
Quality Assurance
Daily Report

REPORT DATE & DAY OF WEEK: 8-23-2011

ACTIVITIES OBSERVED IN CONFORMANCE WITH WORK REQUIREMENTS (Safety, SOP, Work Package, QC Plan , Drawings and Specifications, Removal Action Work Plan, etc.): (Identify activities by Contractor and area)

Activities in compliance with work plans.

North Embayment- Observed North Embayment Excavations; RSI was released to sample 5-M, 5-L6-E and 6-L; RSI collected all 8 concurrence samples; 6 operational samples collected, grid 6-L2 showed 1.5' ash; Civil Projects management was notified of these findings.

MATERIAL / EQUIPMENT RECEIPT INSPECTION: Receipt Form Completed (Reference RIR #)?

N/A

NONCONFORMING WORK: (Identify by Contractor and area). NCR Issued (Reference NCR #)?

N/A

SORs (SAFETY OBSERVATION REPORTS):

None

QA ISSUES: (Specify if assistance is needed to resolve issue)

No issues

PLANNED ACTIVITIES (Identify activities by Contractor and area)

Continue to excavate ash and sample as requested by CP

SHOP INSPECTIONS: N/A

DOCUMENT REVIEWS: (SOPs, Work Package, QC Plan, Drawings and Specifications, Removal Action Work Plan, etc)

N/A

SUBMITTED BY: Walter R. Burns **DATE: 8-23-11**

[Type text]

Kingston Ash Recovery Project (KRP)
Quality Assurance
Daily Report

REPORT DATE & DAY OF WEEK: 8-24-2011

ACTIVITIES OBSERVED IN CONFORMANCE WITH WORK REQUIREMENTS (Safety, SOP, Work Package, QC Plan , Drawings and Specifications, Removal Action Work Plan, etc.): (Identify activities by Contractor and area)

Activities in compliance with work plans.

North Embayment- Observed North Embayment Excavations; 9 operational samples collected; RSI collected 3 concurrence samples, grids 4-H points 1&2/ 4-J3 ; Documented and observed dirty water ditch excavation; 3 samples came back from the TVA lab showing >50% ash, grids 6-L2, 5-M points 1&2.

MATERIAL / EQUIPMENT RECEIPT INSPECTION: Receipt Form Completed (Reference RIR #)?

N/A

NONCONFORMING WORK: (Identify by Contractor and area). NCR Issued (Reference NCR #)?

N/A

SORs (SAFETY OBSERVATION REPORTS):

QA ISSUES: (Specify if assistance is needed to resolve issue)

No issues

PLANNED ACTIVITIES (Identify activities by Contractor and area)

Continue to excavate ash and sample as requested by CP

SHOP INSPECTIONS: N/A

DOCUMENT REVIEWS: (SOPs, Work Package, QC Plan, Drawings and Specifications, Removal Action Work Plan, etc)

N/A

SUBMITTED BY: Walter R. Burns **DATE: 8-24-11**

Kingston Ash Recovery Project (KRP)
Quality Assurance
Daily Report

REPORT DATE & DAY OF WEEK: 8-25-2011

ACTIVITIES OBSERVED IN CONFORMANCE WITH WORK REQUIREMENTS (Safety, SOP, Work Package, QC Plan , Drawings and Specifications, Removal Action Work Plan, etc.): (Identify activities by Contractor and area)

Activities in compliance with work plans.

North Embayment- Observed North Embayment Excavations; RSI collected 10 concurrence samples including 3 retest; CP cleaned grid points 6-L2,5M-1 and 5-M2 per my request; CP was notified that 7-L1 will fail according to field observations, CP continued to clean 7L-1; 4 operational samples collected

MATERIAL / EQUIPMENT RECEIPT INSPECTION: Receipt Form Completed (Reference RIR #)?

N/A

NONCONFORMING WORK: (Identify by Contractor and area). NCR Issued (Reference NCR #)?

N/A

SORs (SAFETY OBSERVATION REPORTS):

QA ISSUES: (Specify if assistance is needed to resolve issue)

No issues

PLANNED ACTIVITIES (Identify activities by Contractor and area)

Continue to excavate ash and sample as requested by CP

SHOP INSPECTIONS: N/A

DOCUMENT REVIEWS: (SOPs, Work Package, QC Plan, Drawings and Specifications, Removal Action Work Plan, etc)

N/A

SUBMITTED BY: Walter R. Burns **DATE: 8-25-11**

Kingston Ash Recovery Project (KRP)
Quality Assurance
Daily Report

REPORT DATE & DAY OF WEEK: 8-29-2011

ACTIVITIES OBSERVED IN CONFORMANCE WITH WORK REQUIREMENTS (Safety, SOP, Work Package, QC Plan , Drawings and Specifications, Removal Action Work Plan, etc.): (Identify activities by Contractor and area)

Activities in compliance with work plans.

North Embayment- Operational samples collected from grids: 5-L 1, 2, 3 and 6-E2 <50% ash was observed; Coordinated with RSI to conduct PLM sampling; RSI collected 5-L and 6-E2 for concurrence sampling.

MATERIAL / EQUIPMENT RECEIPT INSPECTION: Receipt Form Completed (Reference RIR #)?

N/A

NONCONFORMING WORK: (Identify by Contractor and area). NCR Issued (Reference NCR #)?

N/A

SORs (SAFETY OBSERVATION REPORTS):

Sign Pre-job for the North Embayment

QA ISSUES: (Specify if assistance is needed to resolve issue)

No issues

PLANNED ACTIVITIES (Identify activities by Contractor and area)

Continue to excavate ash and sample as requested by CP

SHOP INSPECTIONS: N/A

DOCUMENT REVIEWS: (SOPs, Work Package, QC Plan, Drawings and Specifications, Removal Action Work Plan, etc)

N/A

SUBMITTED BY: Walter R. Burns **DATE: 8-29-11**

[Type text]

Kingston Ash Recovery Project (KRP)
Quality Assurance
Daily Report

REPORT DATE & DAY OF WEEK: 9-13-2011

ACTIVITIES OBSERVED IN CONFORMANCE WITH WORK REQUIREMENTS (Safety, SOP, Work Package, QC Plan , Drawings and Specifications, Removal Action Work Plan, etc.): (Identify activities by Contractor and area)

Activities in compliance with work plans.

North Embayment- 6 Operational samples collected to support excavation operations; 4-A and 4-G; RSI collected 4 concurrence samples grids 5-D points 2&3/ 5-K points 1&2; Communicated with Civil Projects management of grids that still contain ash; Observed cleaning of grid 4-A and 4-G

MATERIAL / EQUIPMENT RECEIPT INSPECTION: Receipt Form Completed (Reference RIR #)?

N/A

NONCONFORMING WORK: (Identify by Contractor and area). NCR Issued (Reference NCR #)?

N/A

SORs (SAFETY OBSERVATION REPORTS):

QA ISSUES: (Specify if assistance is needed to resolve issue)

No issues

PLANNED ACTIVITIES (Identify activities by Contractor and area)

Continue to excavate ash and sample as requested by CP

SHOP INSPECTIONS: N/A

DOCUMENT REVIEWS: (SOPs, Work Package, QC Plan, Drawings and Specifications, Removal Action Work Plan, etc)

N/A

SUBMITTED BY: Walter R. Burns **DATE: 9-13-11**

[Type text]

Attachment 6

RSI Sampling Field Log Reports

JACOBS

Date: 10/03/2011 Weather: Sunny, 71 deg F

Crew: Greg Schwartz, Josh Kerr, Russ Vance, Ed Arnold (All RSI)

North Embayment

Core #	Core Coordinates		Time	Core Description	Interval (in)	Ash	TVA Field PLM Laboratory Results	Lab Method
Nembay_6C1	N:	E:	1011	Orange loam fill material mixed with gray clay	0-17	<50%	KM-NE-1048-01 Visual: Brown soil.	Visual
Sample ID: KIF_NEMBAY_6C1-SED-100311-A & B				Total Depth	17			
NEMBAY_5H1	N:	E:	1020	Orange loam fill material mixed with gray clay	0-19	<50%	KM-NE-1048-02 Visual: Grayish brown soil.	Visual
Sample ID: KIF_NEMBAY_5H1-SED-100311-A & B				Total Depth	19			
NEMBAY_5K4	N:	E:	1026	Gray clay with fine sand	0-15	<50%	KM-NE-1048-03 Visual: gray sandy soil. PLM: There is no ash.	PLM
Sample ID: KIF_NEMBAY_5K4-SED-100311-A & B				Total Depth	15			
NEMBAY_6C2	N:	E:	1050	Orange loam fill and gray clay	0-17	<50%	KM-NE-1048-04 Visual: Brown soil.	Visual
Sample ID: KIF_NEMBAY_6C2-SED-100311-A & B, KIF_NEMBAY_6C2-AED-100311 B				Total Depth	17			
NEMBAY_6C4	N:	E:	1100	Orange loam fill with trace sands	0-17	<50%	KM-NE-1048-05 Visual: Brown soil.	Visual
Sample ID: KIF_NEMBAY_6C4-SED-100311-A & B				Total Depth	17			
NEMBAY_6C3	N:	E:	1110	Orange loam fill and gray clay	0-18	<50%	KM-NE-1048-06 Visual: Brown clay.	Visual
Sample ID: KIF_NEMBAY_6C3-SED-100311-A & B				Total Depth	18			
NEMBAY_6B1	N:	E:	1425	Orange loam fill and gray clay with trace sands	0-16.5	<50%	KM-NE-1049-01 Visual: Grayish soil. PLM: There is no ash.	PLM
Sample ID: KIF_NEMBAY_6B1-SED-100311-A & B				Total Depth	16.5			
NEMBAY_6B3	N:	E:	1436	Brown loam fill with trace ash	0-22	<50%	KM-NE-1049-02 Visual: Brown soil.	Visual
Sample ID: KIF_NEMBAY_6B3-SED-100311-A & B				Total Depth	22			
NEMBAY_6B2	N:	E:	1445	Brown loam fill and gray clay with trace sand	0-21	<50%	KM-NE-1049-03 Visual: Grayish mud.	Visual
Sample ID: KIF_NEMBAY_6B2-SED-100311-A & B				Total Depth	21			
NEMBAY_6A1	N:	E:	1523	Loam fill with pockets of ash	0-18.5	<50%	KM-NE-1049-04 Visual: Dark brown soil.	Visual
Sample ID: KIF_NEMBAY_5B3-SED-100311-A & B								

			Total Depth	18.5			
Core #	Core Coordinates	Time	Core Description	Interval (in)	<50%	KM-NE-1049-05	
NEMBAY_6A4	N: E:	1535	Loam fill with pokets of ash	0-15		Visual: Dark brown soil.	Visual
Sample ID: KIF_NEMBAY_6A4-SED-100311-A & B							
			Total Depth	15			
Core #	Core Coordinates	Time	Core Description	Interval (in)	<50%	KM-NE-1049-06	
NEMBAY_6B4	N: E:	1542	Orange loam fill and gray clay	0-16		Visual: Reddish brown soil.	Visual
Sample ID: KIF_NEMBAY_6B4-SED-100311-A & B							
			Total Depth	16			

JACOBS

Date: 09/22/2011 Weather: Mostly cloudy, high 81°F, winds NE 5mph

North Embayment

Crew: Mark Greer, Josh Kerr, Russ Vance, Greg Schwartz (All RSI)

Core #	Core Coordinates	Time	Core Description	Interval (in)		TVA Field PLM Laboratory Results	Lab Method
NEMBAY_6D1	N: 559217.12 E: 2439685.24	950	Brown loam fill with minor organics	0-5			Visual
Sample ID: KIF_NEMBAY_6D1-SED-092211-A & B, KIF_NEMBAY_6D1_A-SED-092211-A & B			Grey silty sand with fine to medium grained sands tan mottles	5-17			
			Total Depth	17			
Core #	Core Coordinates	Time	Core Description	Interval (in)			
NEMBAY_6D4	N: 559117.19 E: 2439689.01	1017	Greyish medium to fine grain sands with brown mottles in silt pockets	0-14			Visual
Sample ID: KIF_NEMBAY_6D4-SED-092211-A & B, KIF_NEMBAY_6D4-AED-092211-A & B			Grey silt loam (almost gleyed)	14-17			
			Total Depth	17			
Core #	Core Coordinates	Time	Core Description	Interval (in)			
NEMBAY_6D2	N: 559220.88 E: 2439785.17	1029	Red mottled clay fill mixed with approximately 70% ash	0-5			Visual
Sample ID: KIF_NEMBAY_6D2-SED-092211-A & B, KIF_NEMBAY_6D2_A-SED-092211-A & B			Red sandy clay loam with brown and grey mottles - few small rock frags.	5-19			
			Total Depth	19			
Core #	Core Coordinates	Time	Core Description	Interval (in)			
NEMBAY_6D3	N: 559120.96 E: 2439788.94	1042	Light brown medium to fine grained sands with some silts	0-3			Visual
Sample ID: KIF_NEMBAY_6D3-SED-092211-A & B, KIF_NEMBAY_6D3_A-SED-092211-A & B			Grey/gleyed silty sand	3-14			
			Red clay loam with 50% grey mottles (no ash seen)	14-19			
			Total Depth	19			
Core #	Core Coordinates	Time	Core Description	Interval (in)			
NEMBAY_5H2	N: 559416.29 E: 2440169.58	1258	Reddish brown sandy clay loam with dark red mottles and grey mottles	0-24			Visual
Sample ID: KIF_NEMBAY_5H2-SED-092211-A & B, KIF_NEMBAY_5H2_AED-092211-A & B							
			Total Depth	24			
Core #	Core Coordinates	Time	Core Description	Interval (in)			
NEMBAY_5H3	N: 559335.88 E: 2440181.12	1313	reddish brown sandy clay loam with pockets of red clay showing grey mottling - little to no visible ash	0-23			Visual
Sample ID: KIF_NEMBAY_5H3-SED-092211-A & B							
			Total Depth	23			
Core #	Core Coordinates	Time	Core Description	Interval (in)			
NEMBAY_5H4	N: 559332.11 E: 2440081.19	1325	Grey loam with brown mottles - medium and fine grained sands	0-19			Visual
Sample ID: KIF_NEMBAY_5H4-SED-092211-A & B							
			Total Depth	19			
Core #	Core Coordinates	Time	Core Description	Interval (in)			
NEMBAY_5H1	N: 559432.04 E: 2440077.43	1337	Brown fill - mostly clay and silt with lens of decaying organics	0-15			Visual
Sample ID: KIF_NEMBAY_5H4-SED-092211-A & B							
			Total Depth	15			

JACOBS

Date: 09/20/2011 Weather: Cloudy w/ high of 79°F

North Embayment

Crew: Ramona Josefczyk, Josh Kerr, Russ Vance, Greg Schwartz (All RSI)

Core #	Core Coordinates		Time	Core Description	Interval (in)		TVA Field PLM Laboratory Results	Lab Method
NEMBAY_5JF	N:	E:	1031	Red silty clay with trace ash	0-17			Visual
Sample ID: KIF_NEMBAY_5J4-SED-092011-A & B								
				Total Depth	17			
Core #	Core Coordinates		Time	Core Description	Interval (in)			
NEMBAY_5J1	N:	E:	1053	Silt clay mixed w/ trace ash	0-14			Visual
Sample ID: KIF_NEMBAY_5J1-SED-092011-A & B				Red silty clay with trace ash	14-21			
KIF_NEMBAY_5J1-AED-092011 - B								
				Total Depth	21			
Core #	Core Coordinates		Time	Core Description	Interval (in)			
NEMBAY_5J3	N:	E:	1105	Red brown silty clay w/ pockets of ash	0-14			Visual
Sample ID: KIF_NEMBAY_5J3-SED-092011-A & B				Red brown silty clay	14-21			
				Total Depth	21			
Core #	Core Coordinates		Time	Core Description	Interval (in)			
NEMBAY_5J2	N:	E:	1116	Silty clay fill w/ trace ash	0-21.5			Visual
Sample ID: KIF_NEMBAY_5J2-SED-092011-A & B								
				Total Depth	21.5			

JACOBS

Date: 09/13/2011	Weather: Sunny, 85 deg F	North Embayment			Ash	TVA Field PLM Laboratory Results	Lab Method
Crew: Ed Arnold, Gib Frye, Josh Kerr, Travis Walls (All RSI)							
Core #	Core Coordinates	Time	Core Description	Interval (in)			
NEMBAY_5D2	N: 559620.6 E: 2439770.11	1435	Clay fill w/ pockets of ash	0-17			
Sample ID: KIF-NEMBAY_5D2-SED-091311-A & B							
			Total Depth	17			
Core #	Core Coordinates	Time	Core Description	Interval (in)			
NEMBAY_5D3	N: 559520.67 E: 243.9773.87	1445	Red and orange silty loam and clay loam	0-12			
Sample ID: KIF-NEMBAY_5D3-SED-091311-A & B							
			Total Depth	12			
Core #	Core Coordinates	Time	Core Description	Interval (in)			
NEMBAY_5K1	N: 559416 E: 2439677.71	1450	Red and orange silty loam and clay loam	0-12			
Sample ID: KIF-NEMBAY_5K1-SED-091311-A & B							
			Total Depth	12			
Core #	Core Coordinates	Time	Core Description	Interval (in)			
NEMBAY_5K2	N: 559420.74 E: 2439777.64	1500	Ash mixed w/ orange clay fill	0-2			
Sample ID: KIF-NEMBAY_5K2-SED-091311-A & B			Orange clay fill	2-12			
			Total Depth	12			

JACOBS

Date: 09/01/2011 Weather: Mostly sunny, high 96 °F

Crew: Ramona Josefczyk, Liz Burton Josh Kerr (All RSI)

North Embayment

Core #	Core Coordinates	Time	Core Description	Interval (in)		TVA Field PLM Laboratory Results	Lab Method
NEMBAY_6K1	N: 559017.26 E: 2439692.77	1045	Ash mixed with brown silt loam	0-3			Visual
Sample ID: KIF_NEMBAY_6K1-SED-090111-A & B, KIF_NEMBAY_6K1_A-SED-090111-A & B			grey mixed clay and some ash	3-19			
			Total Depth	19			
NEMBAY_6L2	N: 559008.13 E: 2439624.35	1101	tan grey silts and clays	0-13			Visual
Sample ID: KIF_NEMBAY_6L2-SED-083011-A & B			tan wet sands with no visible ash	10-17			
			Total Depth	17			
NEMBAY_6K4	N: 558917.33 E: 2439696.54	1112	greyish brown silts mixed with ash	0-5			Visual
Sample ID: KIF_NEMBAY_6K4-SED-090111-A & B			grey clay and silts	5-15			
			Total Depth	15			
NEMBAY_7D4	N: 558717.47 E: 2439704.07	1130	dark brown clays and silts with abundant organic material	0-12			Visual
Sample ID: KIF_NEMBAY_7D4-SED-090111-A & B			tan and grey layered fine grained sands and silts - no visible ash	12-22			
			Total Depth	22			
NEMBAY_7D1	N: 558817.4 E: 2439700.3	1139	brownish grey silts and clays with pockets of medium to coarse grained sands, minor organics and trace amounts of ash	0-16			Visual
Sample ID: KIF_NEMBAY_7D1-SED-090111-A & B							
			Total Depth	16			
NEMBAY_5L3	N: 559313.28 E: 2439581.55	1433	brownish grey mixed fine and medium grained sands with some clay and silt	0-12			Visual
Sample ID: KIF_NEMBAY_5L3-SED-090111-A & B, KIF_NEMBAY_5L3-AED-090111-A & B							
			Total Depth	12			
NEMBAY_5L4	N: 559309.52 E: 2439481.62	1447	Brown silt loam with pockets of fine sand, limestone gravel and some	0-20			Visual
Sample ID: KIF_NEMBAY_5L4-SED-090111-A & B							
			Total Depth	20			

JACOBS

Date: 08/30/2011 Weather: Mostly sunny, high 93°F North Embayment

Crew: Ramona Josefczyk, Liz Burton, Emma Hickey, Gib Frye, Josh Kerr (All RSI)

Core #	Core Coordinates	Time	Core Description	Interval (in)
NEMBAY_5L1	N: 559409.45 E: 2439477.85	940	brown clay with silts mixed with fresh organics and some ash	0-12
Sample ID: KIF_NEMBAY_5F1-SED-083011-A & B			highly organic (strong odor) brown loam	12-18
			Total Depth	18

Core #	Core Coordinates	Time	Core Description	Interval (in)
NEMBAY_5L2	N: 559413.21 E: 2439577.78	950	brown silty clay with minor organics and trace ash	0-12
Sample ID: KIF_NEMBAY_5L2-SED-083011-A & B			brownish grey sand with trace amounts of ash	12-17
			Total Depth	17

Core #	Core Coordinates	Time	Core Description	Interval (in)
NEMBAY_5L3	N: 559313.28 E: 2439581.55	1003	grey ash with silt and clay intermixed	0-5
Sample ID: KIF_NEMBAY_5L3-SED-083011-A & B,			brown clays with silts and no visible ash	5-12
KIF_NEMBAY_5L3_A-SED-083011-A & B			brown sandy loam to sand	12-19
			Total Depth	19

Core #	Core Coordinates	Time	Core Description	Interval (in)
NEMBAY_7L1	N: 558620.71 E: 2439587.34	1018	red clay and silt fill (dry and crumbly consistency) no visible ash	0-12
Sample ID: KIF_NEMBAY_7L1-SED-083011-A & B			mixed red clay and silt mixed with ash	12-16
			Total Depth	16

Core #	Core Coordinates	Time	Core Description	Interval (in)
NEMBAY_6E2	N: 559213.35 E: 2439585.31	1423	grey sands mixed with some ash	0-2
Sample ID: KIF_NEMBAY_6E3-SED-083011-A & B,			brown silt loam high in organics with some ash	2-22
KIF_NEMBAY_6E3_A-SED-083011-A & B				
			Total Depth	22

Core #	Core Coordinates	Time	Core Description	Interval (in)
NEMBAY_5L4	N: 559309.52 E: 2439481.62	1445	grey silt loam mixed with a very thin dry lens of ash on top	0-15
Sample ID: KIF_NEMBAY_5L4-SED-083011-A & B				
			Total Depth	24

Core #	Core Coordinates	Time	Core Description	Interval (in)
NEMBAY_3F2	N: 560206.95 E: 2439728.32	1519	red clay and silt with no visible ash	0-22
Sample ID: KIF_NEMBAY_3F2-SED-083011-A & B				
			Total Depth	22

JACOBS

Date: 08/29/2011 Weather: Mostly sunny, high 88°F, winds N5mph

North Embayment

Crew: Ramona Josefczyk, Liz Burton, Mark Greer, Josh Kerr (All RSI)

Core #	Core Coordinates	Time	Core Description	Interval (in)		TVA Field PLM Laboratory Results	Lab Method
NEMBAY_5F2	N: 559605.54 E: 2439370.39	1458	greyish brown clay loam with black organics	0-20			Visual
Sample ID: KIF_NEMBAY_5E4-SED-082911-A & B							
			Total Depth	20			
Core #	Core Coordinates	Time	Core Description	Interval (in)			
NEMBAY_5E4	N: 559509.38 E: 2439474.09	1509	greyish brown silt loam	0-16			Visual
Sample ID: KIF_NEMBAY_5F2-SED-082911-A & B							
			Total Depth	16			
Core #	Core Coordinates	Time	Core Description	Interval (in)			
NEMBAY_5F3	N: 559505.61 E: 2439374.16	1518	greyish brown silt loam, minor oxidized minerals, minor organics, with thin lens of ash in upper inch (<50% ash)	0-19			Visual
Sample ID: KIF_NEMBAY_5F3-SED-082911-A & B							
			Total Depth	19			
Core #	Core Coordinates	Time	Core Description	Interval (in)			
NEMBAY_5E1	N: 559609.31 E: 2439470.32	1528	greyish brown silt loam mixed with fine- to medium-grained sands, wet	0-24			Visual
Sample ID: KIF_NEMBAY_5E1-SED-082911-A & B							
			Total Depth	24			
Core #	Core Coordinates	Time	Core Description	Interval (in)			
NEMBAY_5E3	N: 559513.14 E: 2439574.02	1539	greyish brown silt loam, minor lenses of sands	0-20			Visual
Sample ID: KIF_NEMBAY_5E3-SED-082911-A & B							
			Total Depth	20			
Core #	Core Coordinates	Time	Core Description	Interval (in)			
NEMBAY_4H3	N: 559720.53 E: 2439766.34	1555	greyish reddish brown silty clay mixed with ash	0-8			Visual
Sample ID: KIF_NEMBAY_4H3-SED-082911-A & B			red silty clay, compacted	8-24			
KIF_NEMBAY_4H3_A-SED-082911-A & B							
			Total Depth	24			
Core #	Core Coordinates	Time	Core Description	Interval (in)			
NEMBAY_4H4	N: 559716.76 E: 2439666.41	1608	red silty clay with some sands intermixed	0-22			Visual
Sample ID: KIF_NEMBAY_4H4-SED-082911-A & B							
			Total Depth	22			
Core #	Core Coordinates	Time	Core Description	Interval (in)			
NEMBAY_5E2	N: 559613.07 E: 2439570.25	1616	grey silty loam mixed with minor ash (<50% ash)	0-22			Visual
Sample ID: KIF_NEMBAY_5E2-SED-082911-A & B							
			Total Depth	22			

JACOBS

Date: 08/25/2011 Weather: Mostly sunny, high 88F, winds N5mph North Embayment

Crew: Ramona Josefczyk, Liz Burton, Mark Greer, Gib Frye, Josh Kerr (All RSI)

Core #	Core Coordinates	Time	Core Description	Interval (in)		TVA Field PLM Laboratory Results	Lab Method
NEMBAY_7L3	N: 558514.88 E: 2439644.9	916	brown loamy fill with small lens of ash grading into weathered shale	0-17			Visual
Sample ID: KIF_NEMBAY_7L3-SED-082511-A & B			red fat/stiff clay	17-25			
			Total Depth	25			
NEMBAY_7L4	N: 558526.98 E: 2439621.38	925	mix of fill (clays, sands, silts, and weathered material)	0-24			Visual
Sample ID: KIF_NEMBAY_7L4-SED-082511-A & B							
			Total Depth	24			
NEMBAY_7E2	N: 558816.76 E: 2439617.75	936	grey silty sand with <50% ash	0-13			Visual
Sample ID: KIF_NEMBAY_7E2-SED-082511-A & B			tan sandy clay loam with red and grey mottles	13-21			
			Total Depth	21			
NEMBAY_7L2	N: 558622.72 E: 2439640.84	946	red clay with sand fill - no visible ash	0-11			Visual
Sample ID: KIF_NEMBAY_7L2-SED-082511-A & B Refusal met							
			Total Depth	11			
NEMBAY_7E3	N: 558716.83 E: 2439621.52	949	light grey sand with silt and a small amount of chert	0-18			Visual
Sample ID: KIF_NEMBAY_7E3-SED-082511-A & B							
			Total Depth	18			
NEMBAY_7E4	N: 558714.81 E: 2439568.02	957	red loam to clay loam with medium grained sands, few chert fragments, Iron concentrations, and brown mottling	0-18			Visual
Sample ID: KIF_NEMBAY_7E4-SED-082511-A & B							
			Total Depth				
NEMBAY_7L1	N: 558620.71 E: 2439587.34	1000	>50% ash	0-3			Visual
Sample ID: KIF_NEMBAY_7L1-SED-082511-A & B, KIF_NEMBAY_7L1_A-SED-082511-A & B			red clay loam with chert fragments	3-23			
			Total Depth	23			
NEMBAY_6L2	N: 559014.97 E: 2439596.66	1400	>50% ash mixed with dark grey silts	0-2			Visual
Sample ID: KIF_NEMBAY_6L2-SED-082511-A & B, KIF_NEMBAY_6L2_A-SED-082511-A & B			light grey clays and silts grading into coarser material	2-10			
			Sandy silts grading into coarse sands and gravels	10-17			
			Total Depth	17			
NEMBAY_5M1	N: 559401.92 E: 2439277.99	1419	red brown fill mixed with lens of ash	0-12			Visual
Sample ID: KIF_NEMBAY_5M1-SED-082511-A & B			brownish grey fat clay with minor organics	12-18			
			Total Depth	18			
NEMBAY_5M2	N: 559405.68 E: 2439377.92	1431	Dark brown clays and silts with major organics	0-12			Visual
Sample ID: KIF_NEMBAY_5M2-SED-082511-A & B							
			Total Depth	12			

JACOBS

Date: 08/24/2011 Weather: Mostly sunny, high 91°F

North Embayment

Crew: Ramona Josefczyk, Russ Vance, Mark Greer, Josh Kerr (All RSI)

Core #	Core Coordinates	Time	Core Description	Interval (in)		TVA Field PLM Laboratory Results	Lab Method
NEMBAY_4J3	N: 559713 E: 2439566.49	1415	light brown silt loam with sand in lower part. Small lens of ash in upper part	0-24			Visual
Sample ID: KIF_NEMBAY_4J3-SED-082411-A & B							
			Total Depth	24			
Core #	Core Coordinates	Time	Core Description	Interval (in)			
NEMBAY_4H2	N: 559820.46 E: 2439762.58	1430	greyish brown silt loam with slight amount of visible ash	0-6			Visual
Sample ID: KIF_NEMBAY_4H2-SED-082411-A & B, KIF_NEMBAY_4H2_A-SED-082411-A & B			red silt loam	6-24			
			Total Depth	24			
Core #	Core Coordinates	Time	Core Description	Interval (in)			
NEMBAY_4H1	N: 559816.69 E: 2439662.65	1452	reddish brown silt loam with pockets of clay	0-13			Visual
Sample ID: KIF_NEMBAY_4H1-SED-082411-A & B			red clays with silts and weathered sandstone and shale	13-20			
			Total Depth	20			

JACOBS

Date: 08/23/2011 Weather: Mostly sunny with a high near 88°F North Embayment

Crew: Ramona Josefczyk, Russ Vance, Mark Greer, and Josh Kerr (All RSI)

Core #	Core Coordinates	Time	Core Description	Interval (in)
NEMBAY_6L2	N: 559014.97 E: 2439596.66	955	>50% ash	0-17
Sample ID: KIF_NEMBAY_6L2-SED-082311-A & B			brown loam with lens of ash at bottom of core	17-19
			Total Depth	19

Core #	Core Coordinates	Time	Core Description	Interval (in)
NEMBAY_6E1	N: 559209.59 E: 2439485.38	1003	brown clay loam with small lens of ash and some gravels	0-14
Sample ID: KIF_NEMBAY_6E1-SED-082311-A & B			gleyed silty clay with weathered shale and limestone	14-20
			Total Depth	20

Core #	Core Coordinates	Time	Core Description	Interval (in)
NEMBAY_5M2	N: 559405.68 E: 2439377.92	1008	mix of ash and small gravels with fill material	0-5
Sample ID: KIF_NEMBAY_5M2-SED-082311-A & B, KIF_NEMBAY_5M2_A-SED-082311-A & B			brownish grey silty clay with strong decomposition odor	5-16
			Total Depth	16

Core #	Core Coordinates	Time	Core Description	Interval (in)
NEMBAY_5M3	N: 559305.75 E: 2439381.69	1016	clay loam interbedded sandstone and shale - no visible ash	0-22
Sample ID: KIF_NEMBAY_5M3-SED-082311-A & B				
			Total Depth	22

Core #	Core Coordinates	Time	Core Description	Interval (in)
NEMBAY_5M1	N: 559401.92 E: 2439277.99	1025	Crumbly loamy fill mixed with <50% ash	0-12
Sample ID: KIF_NEMBAY_5M1-SED-082311-A & B			grey silty clay with no visible ash	12-24
			Total Depth	24

Core #	Core Coordinates	Time	Core Description	Interval (in)
NEMBAY_6E3	N: 559113.43 E: 2439589.08	1350	Brown clay loam with organic materials	0-14
Sample ID: KIF_NEMBAY_6E3-SED-082311-A & B			brown sand loam	14-19
			Total Depth	19

Core #	Core Coordinates	Time	Core Description	Interval (in)
NEMBAY_6L3	N: 558915.04 E: 2439600.43	1405	brown clay with some ash and red/yellow mottles	0-16
Sample ID: KIF_NEMBAY_6L3-SED-082311-A & B				
			Total Depth	16

JACOBS

Date: 08/22/2011 Weather: Mostly sunny with a high near 90°F

North Embayment

Crew: Ramona Josefczyk, Russ Vance, Mark Greer, and Josh Kerr (All RSI)

Core #	Core Coordinates	Time	Core Description	Interval (in)		TVA Field PLM Laboratory Results	Lab Method
NEMBAY_5F1	N: 559601.77 E: 2439270.46	919	Red clay loam fill mixed with bands of ash (approx. 50% ash)	0-12			Visual
Sample ID: KIF_NEMBAY_5F1-SED-082211-A & B			brown silt loam with no visible ash	12-26			
			Total Depth	26			
NEMBAY_5G3	N: 559498.08 E: 2439174.3	928	Multi-colored clay loam fill mixed with <50% ash	0-13			Visual
Sample ID: KIF_NEMBAY_5G3-SED-082211-A & B			Dark grey brown clay loam with soft chert - no visible ash	13-23			
			Total Depth	23			
NEMBAY_4J2	N: 559812.93 E: 2439562.72	950	Red lean clay with some visible ash at surface (<50%)	0-19			Visual
Sample ID: KIF_NEMBAY_4J2-SED-082211-A & B							
			Total Depth				
NEMBAY_4J3	N: 559713 E: 2439566.49	1003	grey silty sand loam with some visible ash	0-15			Visual
Sample ID: KIF_NEMBAY_4J3-SED-082211-A & B							
			Total Depth	15			
NEMBAY_4J4	N: 559709.23 E: 2439466.56	1017	mix of ash and grey silt loam	0-22			Visual
Sample ID: KIF_NEMBAY_4J4-SED-082211-A & B							
			Total Depth	22			
NEMBAY_4J1	N: 559809.16 E: 2439462.79	1026	grey silt loam mixed with ash	0-4			Visual
Sample ID: KIF_NEMBAY_4J1-SED-082211-A & B, KIF_NEMBAY_4J1_A-SED-082211-A & B			grey fine sands with some silts	4-17			
			Total Depth	17			
NEMBAY_4K3	N: 559705.47 E: 2439366.63	1039	greyish brown silt loam with ash and trace organics	0-4			Visual
Sample ID: KIF_NEMBAY_4K3-SED-082211-A & B, KIF_NEMBAY_4K3_A-SED-082211-A & B			greyish brown silt loam with sand and some ash	4-18			
			Total Depth	18			
NEMBAY_4K2	N: 559805.4 E: 2439362.86	1037	grey silt loam with oxidized root channels	0-18			Visual
Sample ID: KIF_NEMBAY_4K2-SED-082211-A & B,							
			Total Depth	18			
NEMBAY_5A3	N: 559349.66 E: 2440292.96	1338	red to brown silt loam mixed with limeston gravel and organics	0-9			Visual
Sample ID: KIF_NEMBAY_5A3-SED-082211-A & B, refusal encountered Location offset due to accessibility.							
			Total Depth	9			
NEMBAY_5A4	N: 559425.77 E: 2440258.91	1350	brown clay loam mixed with lenses of ash	0-4			Visual
Sample ID: KIF_NEMBAY_5A4-SED-082211-A & B, KIF_NEMBAY_5A4_A-SED-082211-A & B Location offset due to accessibility.			red fat clay	4-13			
			Total Depth	13			
NEMBAY_5A2	N: 559604.66 E: 2440261.65	1409	red to brown silt loam with organics	0-18			Visual
Sample ID: KIF_NEMBAY_5A2-SED-082211-A & B,							
			Total Depth	18			
NEMBAY_5A1	N: 559603.97 E: 2440243.32	1416	brown loam dry and crum like with red mottles	0-17			Visual
Sample ID: KIF_NEMBAY_5A1-SED-082211-A & B,							
			Total Depth	17			

Core #	Core Coordinates	Time	Core Description	Interval (in)			
NEMBAY_6A2	N: 559233.83 E: 2440326.15	1436	NA	NA			Visual
Sample ID: Refusal at surface through 6 attempts - NO SAMPLE Location offset due to accessibility.							
			Total Depth	0			
Core #	Core Coordinates	Time	Core Description	Interval (in)			
NEMBAY_6A3	N: 559143 E: 2440326.15	1445	red silty clay loam with abundant liimestone gravel	0-17			Visual
Sample ID: KIF_NEMBAY_6A3-SED-082211-A & B, Location offset due to accessibility.							
			Total Depth	17			
Core #	Core Coordinates	Time	Core Description	Interval (in)			
NEMBAY_6G2	N: 5589044 E: 2440381.49	1505	red clay with minor organics and gravel	0-17			Visual
Sample ID: KIF_NEMBAY_6G2-SED-082211-A & B, Location offset due to accessibility.							
			Total Depth	17			
Core #	Core Coordinates	Time	Core Description	Interval (in)			
NEMBAY_6G3	N: 558955.39 E: 2440405.18	1515	compacted red clay loam high in silt with gravels	0-7			Visual
Sample ID: KIF_NEMBAY_6G3-SED-082211-A & B Refusal Met. Location offset due to accessibility.							
			Total Depth	7			

JACOBS

Date: 08/16/2011 Weather: Mostly sunny with a high near 88f

North Embayment

Crew: Ramona Josefczyk, Russ Vance, Mark Greer, and Gib Frye (All RSI)

Core #	Core Coordinates	Time	Core Description	Interval (in)		TVA Field PLM Laboratory Results	Lab Method
NEMBAY_4L2	N: 559797.87 E: 2439163	922	Brown clay to silt loam with minor organics and gravel	0-19			Visual
Sample ID: KIF_NEMBAY_4L2-SED-081611-A & B							
			Total Depth	19			
Core #	Core Coordinates	Time	Core Description	Interval (in)			
NEMBAY_4L3	N: 559697.94 E: 2439166.77	937	clay loam fill with 40-50% ash	0-18			Visual
Sample ID: KIF_NEMBAY_4L3-SED-081611-A & B							
			Total Depth	0-18			
Core #	Core Coordinates	Time	Core Description	Interval (in)			
NEMBAY_5G2	N: 559598.01 E: 2439170.53	942	Brown to red clay loam fill with 30-40% ash	0-12			Visual
Sample ID: KIF_NEMBAY_5G2-SED-081611-A & B			Brown silt loam	12-17			
			Total Depth	17			
Core #	Core Coordinates	Time	Core Description	Interval (in)			
NEMBAY_5F4	N: 559501.85 E: 2439274.23	950	compacted fill mixed with ash (<50% ash)	0-12			Visual
Sample ID: KIF_NEMBAY_5F4-SED-081611-A & B			brown silt loam with no visible ash	12-19			
			Total Depth	19			
Core #	Core Coordinates	Time	Core Description	Interval (in)			
NEMBAY_5F1	N: 559601.77 E: 2439270.46	1003	compacted fill mixed with ash	0-14			Visual
Sample ID: KIF_NEMBAY_5F1-SED-081611-A & B			Brown and red silty clay	14-18			
			Total Depth	18			
Core #	Core Coordinates	Time	Core Description	Interval (in)			
NEMBAY_4K4	N: 559701.7 E: 2439266.7	1011	greyish brown silt loam with grey mottles medium grained sands and trace amounts of ash	0-21			Visual
Sample ID: KIF_NEMBAY_4K4-SED-081611-A & B							
			Total Depth	21			
Core #	Core Coordinates	Time	Core Description	Interval (in)			
NEMBAY_4K1	N: 559801.63 E: 2439262.93	1025	brown silt loam compacted in upper part - no visible ash	0-22			Visual
Sample ID: KIF_NEMBAY_4K1-SED-081611-A & B							
			Total Depth	22			
Core #	Core Coordinates	Time	Core Description	Interval (in)			
NEMBAY_5G3	N: 559498.08 E: 2439174.3	1037	multicolored sand loam with pockets of grey sand and ash (<50%)	0-15			Visual
Sample ID: KIF_NEMBAY_5G3-SED-081611-A & B,							
			Total Depth	15			

JACOBS

Date: 07/19/2011 Weather: Mostly sunny with a high near 91° North Embayment

Crew: Mark Greer, Ramona Josefczyk, Greg Schwartz, Steve Bunkley (All RSI)

Core #	Core Coordinates	Time	Core Description	Interval (in)	TVA Field PLM Laboratory Results	Lab Method
NEMBAY_4L1	N: 559794.1 E: 2439063.07	920	Red clay loam with few light brown mottles throughout	0-22		Visual
Notes: samples : KIF-NEMBAY_4L1-SED-071911-A & KIF-NEMBAY_4L1-SED-071911-B			Total Depth	22		
NEMBAY_4L4	N: 559694.17 E: 2439066.84	938	Red fine loamy with dark brown streaks of decaying O.M. One small inclusion of ash at 8 inches.	0-12		Visual
Notes: samples : KIF-NEMBAY_4L4-SED-071911-A & KIF-NEMBAY_4L4-SED-071911-B			Red clay loam - refusal met	12-17		
			Total Depth	17		
NEMBAY_5G1	N: 559594.24 E: 2439070.61	954	Mottled red clay loam fill material	0-8		Visual
Notes: samples : KIF-NEMBAY_5G1-SED-071911-A, KIF-NEMBAY_5G1_A-SED-071911-A, KIF-NEMBAY_5G1_A-SED-071911-B & KIF-NEMBAY_5G1-SED-071911-B			Fine loamy with few fine roots - dominant brown color with ash mixed	8-12		
			Total Depth	12		
NEMBAY_5G4	N: 559494.31 E: 2439074.37	1009	Red clay loam with some rippable rock in lower part	0-13		Visual
Notes: samples : KIF-NEMBAY_5G4-SED-071911-A & KIF-NEMBAY_5G4-SED-071911-B			Cr material from shale	13-16		
			Total Depth	16		
NEMBAY_5N1	N: 559394.39 E: 2439078.14	1025	Brown and grey fine loamy fill material with few fine roots and visible ash mixed throughout	0-13		Visual
Notes: samples : KIF-NEMBAY_5N1-SED-071911-A & KIF-NEMBAY_5N1-SED-071911-B			Brown fine loamy fill	13-14		
			Total Depth	14		
NEMBAY_5N4	N: 559299.03 E: 2439081.73	1040	Red clay loam mixed the few dark brown fine loamy inclusions. Gravel (shot rock) in upper part	0-13		Visual
Notes: samples : KIF-NEMBAY_5N4-SED-071911-A & KIF-NEMBAY_5N4-SED-071911-B			Brown gravelly fill	13-16		
			Total Depth	16		
NEMBAY_5N2	N: 559398.15 E: 2439178.07	1350	Reddish brown clay loam fill material with mottles	0-14		Visual
Notes: samples : KIF-NEMBAY_5N2-SED-071911-A & KIF-NEMBAY_5N2-SED-071911-B			Grey loam fill high in moisture	14-17		
			Total Depth	17		
NEMBAY_5N3	N: 559305.47 E: 2439181.56	1358	Refusal met. Dark brown very gravelly (shot rock) loam fill material	0-14		Visual
Notes: samples : KIF-NEMBAY_5N3-SED-071911-A & KIF-NEMBAY_5N3-SED-071911-B						
			Total Depth	14		
NEMBAY_1B1	N: 561337.84 E: 2439400.81	1422	Red fine loamy fill	0-13		Visual
Notes: samples : KIF-NEMBAY_1B1-SED-071911-A & KIF-NEMBAY_1B1-SED-071911-B			Dark bown fine loamy (original surface soil)	13-16		
			Light brown gravelly fine loamy with red mottles	16-25		
			Total Depth	25		
NEMBAY_1B4	N: 561279.16 E: 2439344.98	1436	Brown fine loamy with gravels	0-15		Visual
Notes: samples : KIF-NEMBAY_1B4-SED-071911-A & KIF-NEMBAY_1B4-SED-071911-B			Red clay loam with dark red mottles and few chert rocks	15-30		
			Total Depth	30		
NEMBAY_1B2	N: 561317.9 E: 2439494.88	1444	Brown clay loam fill mixed with ash	0-15		Visual
Notes: samples : KIF-NEMBAY_1B2-SED-071911-A & KIF-NEMBAY_1B2-SED-071911-B			Brown clay loam with gleyed mottles and some ash mixed (strong odor)	15-22		
			Total Depth	22		
NEMBAY_1B3	N: 561284.86 E: 2439496.13	1502	Brown very gravelly fine loamy	0-12		Visual
Notes: samples : KIF-NEMBAY_1B3-SED-071911-A & KIF-NEMBAY_1B3-SED-071911-B			Sand loam - grey with slight amount of ash mixed	12-15		
			Very gravelly sand loam	15-22		
			Total Depth	22		

Figure 1

North Embayment Grids - Cleared

North Embayment Sampling - Cleared Grids - Concurrence #5

1 RJ LEE SAMPLE RESULTS SATISFACTORY

1 KRP SAMPLE RESULTS SATISFACTORY / RJ LEE RESULTS PENDING

1 SAMPLE RESULTS UNSATISFACTORY

1 TO BE SAMPLED

CONCURRENCE BOUNDARY

N

0 50 150 200

SCALE IN FEET

JACOBS

10/20/11

Figure 1

Figure 2

Area Photo Log and Representative Photos

FIELD PHOTOGRAPHY LOG

Kingston Ash Recovery Project

Photographer	Image ID	Event	Orientation (N,S,E,W)	Latitude DD,MM.MMM	Longitude DD,MM.MMM	Location/Detailed Description Weather Conditions, GPS locations, Names of individuals in photo, Approx. time of day, specific equipment and activity
Walter Burns	R0011101	North Embayment	ESE			Second cleaning-lower DW ditch
Walter Burns	R0011116	North Embayment	SSE			Looking south main area cleaning
Walter Burns	R0011117	North Embayment	S			Looking south, upper DW ditch clean
Walter Burns	R0011120	North Embayment	SE			Looking north cleaning in distance
Walter Burns	R0011121	North Embayment	SE			Second cleaning of area
Walter Burns	R0011123	North Embayment	SE			Lower DW Ditch cleaning, grids 6-E & 6-L
Walter Burns	R0011124	North Embayment	ESE			Lower DW Ditch cleaning, grids 6-E & 6-L
Walter Burns	R0011128	North Embayment	SSE			Second cleaning lower area
Walter Burns	R0011129	North Embayment	SSW			Scraper cleaning to contact
Walter Burns	R0011131	North Embayment	SE			Amphib cleaning wet area
Walter Burns	R0011145	North Embayment	E			Scraper cleaning to edge of wet
Walter Burns	R0011146	North Embayment	ENE			Scraper cleaning to edge of wet
Walter Burns	R0011147	North Embayment	WSW			Scraper cleaning to contact
Walter Burns	R0011148	North Embayment	SW			Amphib cleaning area of hot spot
Walter Burns	R0011154	North Embayment	SW			Looking west at main ara clean
Walter Burns	R0011340	North Embayment	SE			Looking south, upper DW ditch cleaning

Looking south, upper DW ditch cleaning

Looking south, upper DW ditch clean

Looking south main area cleaning

Looking north cleaning in distance

Second cleaning of area

Lower DW Ditch cleaning, grids 6-E&6-L

Lower DW Ditch cleaning, grids 6-E-6-L

Second cleaning- lower DW ditch

Second cleaning lower area

Scraper cleaning to contact

Amphib cleaning wet area

Scraper cleaning to edge of wet

Scraper cleaning to edge of wet

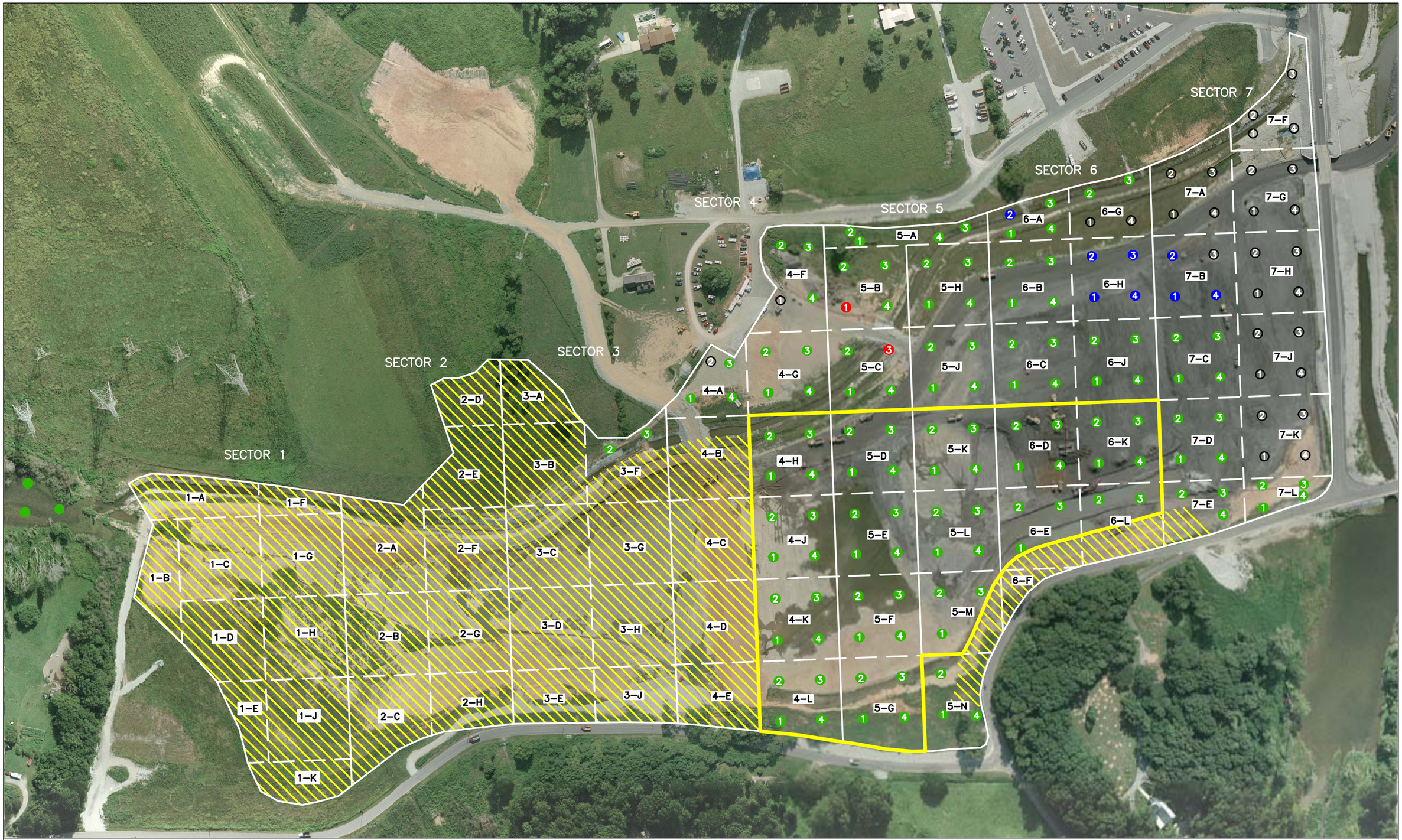
Scraper cleaning to contact

Amphib cleaning area of hot spot

Looking west at main area clean

FIG-NESAM-02

North Embayment Sample Grid Locations



1 RJ LEE SAMPLE RESULTS SATISFACTORY

1 KRP SAMPLE RESULTS SATISFACTORY / RJ LEE RESULTS PENDING

1 SAMPLE RESULTS UNSATISFACTORY

1 TO BE SAMPLED

CONCURRENCE BOUNDARY

0 100' 200' 300'

REVISION NO.	DATE	DESCRIPTION	DRAWN BY	CHECKED BY	APPROVAL
B	10/24/11	NORTH EMBAYMENT CONCURRENCE #5			

SEAL

JACOBS

KINGSTON FOSSIL PLANT
TENNESSEE VALLEY AUTHORITY

NORTH EMBAYMENT SAMPLE GRID

SCALE: SHOWN | DRAWING NO.: FIG-NESAM-02 | REV.: B