STATE OF TENNESSEE
DEPARTMENT OF HEALTH
ENVIRONMENTAL LABORATORIES

TDH: Lab Services JRL
Lab Services - Jackson Regional Lab
Jackson, TN 38301
731-426-0686

TDH: Lab Services KRL
Lab Services - Knoxville Regional Lab
Knoxville, TN 37920
865-549-5201

TDH: Lab Services NCL
Lab Services - Nashville Central Lab
Nashville, TN 37243
615-262-6300

Sent To: Greg Denton
TDEC-WPC
6th Floor, L & C Tower Annex
401 Church Street
Nashville, TN 37243-1534

Michael Atchley
TDEC-WPC
Knoxville FO
3711 Middlebrook Pike
Knoxville, TN 37921

Lab ID: K00003085
Knoxville Regional Laboratory

Sampling Agency: TDEC: Division of Water Pollution Control

Billing Code: 327.34-20

This is to certify that the following results were determined using good laboratory pratices and in accordance with federal or state approved methodologies.

Analytical Supervisor

Lab-Sample Number:	K00003085001
Project Name:	TVA-Ash Spill
Sample Description:	Emory River mile 12.1
Sampler Project Name:	TVA Ash Spill
Project Site No.:	1
Station No.:	EMORY012.1RO
Date/Time Collected:	11/05/2009 11:48
Sampler's Name:	Geoff Klein
County:	ROANE - 73
Sample Matrix:	Water
EFO:	Knoxville
Sampling Agency:	TDEC-WPC
Billing Code:	327.34-20
Send Report To:	TDEC-WPC
Agency Invoiced:	TDEC-WPC
Priority Date:	
Date/Time Received:	11/05/2009 12:51
Received By:	J Grosenbeck

Field Determinations

pH:	7.47	pH Units
Chlorine, residual:		
Conductivity:	46	uMHO
Temperature:	12.04	
Dissolved Oxygen:	12.16	mg/L
Other:		
Flow:		CFS

TEST: Digestion Metals — **METHOD: EPA 200.2**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	11/06/2009				M Pattanayek	11/6/2009

TEST: ICP — **METHOD: EPA 200.7**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	140	µg/L	2.9	10	A Wilson	11/6/2009

TEST: ICP-MS — **METHOD: EPA 200.8**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	130	µg/L	6.4	10	M Pattanayek	11/6/2009
Antimony	0.46J	µg/L	0.33	1	M Pattanayek	11/6/2009
Arsenic	U	µg/L	0.93	5	M Pattanayek	11/6/2009
Barium	25	µg/L	2.5	5	M Pattanayek	11/6/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	11/6/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	11/6/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	11/6/2009
Cobalt	U	µg/L	0.04	1	M Pattanayek	11/6/2009
Copper	U	µg/L	0.38	1	M Pattanayek	11/6/2009
Lead	U	µg/L	0.10	1	M Pattanayek	11/6/2009
Manganese	53	µg/L	0.42	1	M Pattanayek	11/6/2009
Nickel	1.3	µg/L	0.25	1	M Pattanayek	11/6/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	11/6/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	11/6/2009
Thallium	U	µg/L	0.03	1	M Pattanayek	11/6/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	11/6/2009
Zinc	2.3J	µg/L	1.9	5	M Pattanayek	11/6/2009

Lab-Sample Number:	K00003085001
Project Name:	TVA-Ash Spill
Sample Description:	Emory River mile 12.1
Sampler Project Name:	TVA Ash Spill
Project Site No.:	1
Station No.:	EMORY012.1RO
Date/Time Collected:	11/05/2009 11:48
Sampler's Name:	Geoff Klein
County:	ROANE - 73
Sample Matrix:	Water
EFO:	Knoxville
Sampling Agency:	TDEC-WPC
Billing Code:	327.34-20
Send Report To:	TDEC-WPC
Agency Invoiced:	TDEC-WPC
Priority Date:	
Date/Time Received:	11/05/2009 12:51
Received By:	J Grosenbeck

Field Determinations		
pH:	7.47	pH Units
Chlorine, residual:		
Conductivity:	46	uMHO
Temperature:	12.04	
Dissolved Oxygen:	12.16	mg/L
Other:		
Flow:		CFS

TEST: Mercury **METHOD: EPA 245.1**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.029	0.2	A Bass	11/10/2009

J - Estimated value between MDL and MQL
MDL - Method Detection Limit
MQL - Method Quantitation Limit
U - Undetected

Lab-Sample Number:	K00003085002
Project Name:	TVA-Ash Spill
Sample Description:	Emory River mile 2.1
Sampler Project Name:	TVA Ash Spill
Project Site No.:	2
Station No.:	EMORY002.1RO
Date/Time Collected:	11/05/2009 10:06
Sampler's Name:	Geoff Klein
County:	ROANE - 73
Sample Matrix:	Water
EFO:	Knoxville
Sampling Agency:	TDEC-WPC
Billing Code:	327.34-20
Send Report To:	TDEC-WPC
Agency Invoiced:	TDEC-WPC
Priority Date:	
Date/Time Received:	11/05/2009 12:51
Received By:	J Grosenbeck

Field Determinations		
pH:	7.11	pH Units
Chlorine, residual:		
Conductivity:	46	uMHO
Temperature:	12.14	
Dissolved Oxygen:	10.92	mg/L
Other:		
Flow:		CFS

TEST: Digestion Metals — **METHOD: EPA 200.2**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	11/06/2009				M Pattanayek	11/6/2009

TEST: ICP — **METHOD: EPA 200.7**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	490	µg/L	2.9	10	A Wilson	11/6/2009

TEST: ICP-MS — **METHOD: EPA 200.8**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	660	µg/L	6.4	10	M Pattanayek	11/6/2009
Antimony	0.57J	µg/L	0.33	1	M Pattanayek	11/6/2009
Arsenic	9.6	µg/L	0.93	5	M Pattanayek	11/6/2009
Barium	45	µg/L	2.5	5	M Pattanayek	11/6/2009
Beryllium	0.14J	µg/L	0.11	1	M Pattanayek	11/6/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	11/6/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	11/6/2009
Cobalt	U	µg/L	0.04	1	M Pattanayek	11/6/2009
Copper	2.2	µg/L	0.38	1	M Pattanayek	11/6/2009
Lead	1.3	µg/L	0.10	1	M Pattanayek	11/6/2009
Manganese	51	µg/L	0.42	1	M Pattanayek	11/6/2009
Nickel	2.0	µg/L	0.25	1	M Pattanayek	11/6/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	11/6/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	11/6/2009
Thallium	0.12J	µg/L	0.03	1	M Pattanayek	11/6/2009
Vanadium	5.8	µg/L	3.4	5	M Pattanayek	11/6/2009
Zinc	4.5J	µg/L	1.9	5	M Pattanayek	11/6/2009

Lab-Sample Number:	K00003085002
Project Name:	TVA-Ash Spill
Sample Description:	Emory River mile 2.1
Sampler Project Name:	TVA Ash Spill
Project Site No.:	2
Station No.:	EMORY002.1RO
Date/Time Collected:	11/05/2009 10:06
Sampler's Name:	Geoff Klein
County:	ROANE - 73
Sample Matrix:	Water
EFO:	Knoxville
Sampling Agency:	TDEC-WPC
Billing Code:	327.34-20
Send Report To:	TDEC-WPC
Agency Invoiced:	TDEC-WPC
Priority Date:	
Date/Time Received:	11/05/2009 12:51
Received By:	J Grosenbeck

Field Determinations		
pH:	7.11	pH Units
Chlorine, residual:		
Conductivity:	46	uMHO
Temperature:	12.14	
Dissolved Oxygen:	10.92	mg/L
Other:		
Flow:		CFS

TEST: Mercury **METHOD: EPA 245.1**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.029	0.2	A Bass	11/10/2009

J - Estimated value between MDL and MQL
MDL - Method Detection Limit
MQL - Method Quantitation Limit
U - Undetected

Lab-Sample Number:	K00003085003
Project Name:	TVA-Ash Spill
Sample Description:	Approx. 100' d/s from middle dredge plume
Sampler Project Name:	TVA Ash Spill
Project Site No.:	2A
Station No.:	Dredge Plume
Date/Time Collected:	11/05/2009 10:16
Sampler's Name:	Geoff Klein
County:	ROANE - 73
Sample Matrix:	Water
EFO:	Knoxville
Sampling Agency:	TDEC-WPC
Billing Code:	327.34-20
Send Report To:	TDEC-WPC
Agency Invoiced:	TDEC-WPC
Priority Date:	
Date/Time Received:	11/05/2009 12:51
Received By:	J Grosenbeck

Field Determinations		
pH:	7.39	pH Units
Chlorine, residual:		
Conductivity:	48	uMHO
Temperature:	12.06	
Dissolved Oxygen:	10.86	mg/L
Other:		
Flow:		CFS

TEST: Digestion Metals — **METHOD: EPA 200.2**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	11/06/2009				M Pattanayek	11/6/2009

TEST: ICP — **METHOD: EPA 200.7**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	480	µg/L	2.9	10	A Wilson	11/6/2009

TEST: ICP-MS — **METHOD: EPA 200.8**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	720	µg/L	6.4	10	M Pattanayek	11/6/2009
Antimony	0.54J	µg/L	0.33	1	M Pattanayek	11/6/2009
Arsenic	7.4	µg/L	0.93	5	M Pattanayek	11/6/2009
Barium	48	µg/L	2.5	5	M Pattanayek	11/6/2009
Beryllium	0.18J	µg/L	0.11	1	M Pattanayek	11/6/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	11/6/2009
Chromium	2.0J	µg/L	2.0	5	M Pattanayek	11/6/2009
Cobalt	U	µg/L	0.04	1	M Pattanayek	11/6/2009
Copper	2.1	µg/L	0.38	1	M Pattanayek	11/6/2009
Lead	1.2	µg/L	0.10	1	M Pattanayek	11/6/2009
Manganese	49	µg/L	0.42	1	M Pattanayek	11/6/2009
Nickel	2.1	µg/L	0.25	1	M Pattanayek	11/6/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	11/6/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	11/6/2009
Thallium	0.11J	µg/L	0.03	1	M Pattanayek	11/6/2009
Vanadium	5.7	µg/L	3.4	5	M Pattanayek	11/6/2009
Zinc	5.1	µg/L	1.9	5	M Pattanayek	11/6/2009

Lab-Sample Number:	K00003085003
Project Name:	TVA-Ash Spill
Sample Description:	Approx. 100' d/s from middle dredge plume
Sampler Project Name:	TVA Ash Spill
Project Site No.:	2A
Station No.:	Dredge Plume
Date/Time Collected:	11/05/2009 10:16
Sampler's Name:	Geoff Klein
County:	ROANE - 73
Sample Matrix:	Water
EFO:	Knoxville
Sampling Agency:	TDEC-WPC
Billing Code:	327.34-20
Send Report To:	TDEC-WPC
Agency Invoiced:	TDEC-WPC
Priority Date:	
Date/Time Received:	11/05/2009 12:51
Received By:	J Grosenbeck

Field Determinations		
pH:	7.39	pH Units
Chlorine, residual:		
Conductivity:	48	uMHO
Temperature:	12.06	
Dissolved Oxygen:	10.86	mg/L
Other:		
Flow:		CFS

TEST: Mercury **METHOD: EPA 245.1**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.029	0.2	A Bass	11/10/2009

J - Estimated value between MDL and MQL
MDL - Method Detection Limit
MQL - Method Quantitation Limit
U - Undetected

Lab-Sample Number:	K00003085004
Project Name:	TVA-Ash Spill
Sample Description:	Emory River mile 1.9 at underwater weir
Sampler Project Name:	TVA Ash Spill
Project Site No.:	2B
Station No.:	EMORY001.9RO
Date/Time Collected:	11/05/2009 10:27
Sampler's Name:	Geoff Klein
County:	ROANE - 73
Sample Matrix:	Water
EFO:	Knoxville
Sampling Agency:	TDEC-WPC
Billing Code:	327.34-20
Send Report To:	TDEC-WPC
Agency Invoiced:	TDEC-WPC
Priority Date:	
Date/Time Received:	11/05/2009 12:51
Received By:	J Grosenbeck

Field Determinations		
pH:	7.31	pH Units
Chlorine, residual:		
Conductivity:	46	uMHO
Temperature:	11.91	
Dissolved Oxygen:	10.89	mg/L
Other:		
Flow:		CFS

TEST: Digestion Metals **METHOD: EPA 200.2**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	11/05/2009				M Pattanayek	11/6/2009

TEST: ICP **METHOD: EPA 200.7**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	410	µg/L	2.9	10	A Wilson	11/6/2009

TEST: ICP-MS **METHOD: EPA 200.8**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	510	µg/L	6.4	10	M Pattanayek	11/6/2009
Antimony	0.38J	µg/L	0.33	1	M Pattanayek	11/6/2009
Arsenic	4.7J	µg/L	0.93	5	M Pattanayek	11/6/2009
Barium	40	µg/L	2.5	5	M Pattanayek	11/6/2009
Beryllium	0.12J	µg/L	0.11	1	M Pattanayek	11/6/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	11/6/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	11/6/2009
Cobalt	U	µg/L	0.04	1	M Pattanayek	11/6/2009
Copper	1.4	µg/L	0.38	1	M Pattanayek	11/6/2009
Lead	0.93J	µg/L	0.10	1	M Pattanayek	11/6/2009
Manganese	43	µg/L	0.42	1	M Pattanayek	11/6/2009
Nickel	1.8	µg/L	0.25	1	M Pattanayek	11/6/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	11/6/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	11/6/2009
Thallium	0.08J	µg/L	0.03	1	M Pattanayek	11/6/2009
Vanadium	4.5J	µg/L	3.4	5	M Pattanayek	11/6/2009
Zinc	5.0	µg/L	1.9	5	M Pattanayek	11/6/2009

Lab-Sample Number:	K00003085004
Project Name:	TVA-Ash Spill
Sample Description:	Emory River mile 1.9 at underwater weir
Sampler Project Name:	TVA Ash Spill
Project Site No.:	2B
Station No.:	EMORY001.9RO
Date/Time Collected:	11/05/2009 10:27
Sampler's Name:	Geoff Klein
County:	ROANE - 73
Sample Matrix:	Water
EFO:	Knoxville
Sampling Agency:	TDEC-WPC
Billing Code:	327.34-20
Send Report To:	TDEC-WPC
Agency Invoiced:	TDEC-WPC
Priority Date:	
Date/Time Received:	11/05/2009 12:51
Received By:	J Grosenbeck

Field Determinations		
pH:	7.31	pH Units
Chlorine, residual:		
Conductivity:	46	uMHO
Temperature:	11.91	
Dissolved Oxygen:	10.89	mg/L
Other:		
Flow:		CFS

TEST: Mercury **METHOD: EPA 245.1**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.029	0.2	A Bass	11/10/2009

J - Estimated value between MDL and MQL
MDL - Method Detection Limit
MQL - Method Quantitation Limit
U - Undetected

Lab-Sample Number:	K00003085005
Project Name:	TVA-Ash Spill
Sample Description:	Emory River mile 1.7
Sampler Project Name:	TVA Ash Spill
Project Site No.:	3
Station No.:	EMORY001.7RO
Date/Time Collected:	11/05/2009 10:39
Sampler's Name:	Geoff Klein
County:	ROANE - 73
Sample Matrix:	Water
EFO:	Knoxville
Sampling Agency:	TDEC-WPC
Billing Code:	327.34-20
Send Report To:	TDEC-WPC
Agency Invoiced:	TDEC-WPC
Priority Date:	
Date/Time Received:	11/05/2009 12:51
Received By:	J Grosenbeck

Field Determinations		
pH:	7.21	pH Units
Chlorine, residual:		
Conductivity:	47	uMHO
Temperature:	12.07	
Dissolved Oxygen:	10.91	mg/L
Other:		
Flow:		CFS

TEST: Digestion Metals — **METHOD: EPA 200.2**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	11/06/2009				M Pattanayek	11/6/2009

TEST: ICP — **METHOD: EPA 200.7**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	380	µg/L	2.9	10	A Wilson	11/6/2009

TEST: ICP-MS — **METHOD: EPA 200.8**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	440	µg/L	6.4	10	M Pattanayek	11/6/2009
Antimony	0.34J	µg/L	0.33	1	M Pattanayek	11/6/2009
Arsenic	3.3J	µg/L	0.93	5	M Pattanayek	11/6/2009
Barium	36	µg/L	2.5	5	M Pattanayek	11/6/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	11/6/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	11/6/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	11/6/2009
Cobalt	U	µg/L	0.04	1	M Pattanayek	11/6/2009
Copper	1.1	µg/L	0.38	1	M Pattanayek	11/6/2009
Lead	0.75J	µg/L	0.10	1	M Pattanayek	11/6/2009
Manganese	47	µg/L	0.42	1	M Pattanayek	11/6/2009
Nickel	1.7	µg/L	0.25	1	M Pattanayek	11/6/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	11/6/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	11/6/2009
Thallium	0.06J	µg/L	0.03	1	M Pattanayek	11/6/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	11/6/2009
Zinc	4.6J	µg/L	1.9	5	M Pattanayek	11/6/2009

Lab-Sample Number:	K00003085005
Project Name:	TVA-Ash Spill
Sample Description:	Emory River mile 1.7
Sampler Project Name:	TVA Ash Spill
Project Site No.:	3
Station No.:	EMORY001.7RO
Date/Time Collected:	11/05/2009 10:39
Sampler's Name:	Geoff Klein
County:	ROANE - 73
Sample Matrix:	Water
EFO:	Knoxville
Sampling Agency:	TDEC-WPC
Billing Code:	327.34-20
Send Report To:	TDEC-WPC
Agency Invoiced:	TDEC-WPC
Priority Date:	
Date/Time Received:	11/05/2009 12:51
Received By:	J Grosenbeck

Field Determinations		
pH:	7.21	pH Units
Chlorine, residual:		
Conductivity:	47	uMHO
Temperature:	12.07	
Dissolved Oxygen:	10.91	mg/L
Other:		
Flow:		CFS

TEST: Mercury **METHOD: EPA 245.1**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.029	0.2	A Bass	11/10/2009

J - Estimated value between MDL and MQL
MDL - Method Detection Limit
MQL - Method Quantitation Limit
U - Undetected

Lab-Sample Number:	K00003085006
Project Name:	TVA-Ash Spill
Sample Description:	Emory River mile 0.1
Sampler Project Name:	TVA Ash Spill
Project Site No.:	4
Station No.:	EMORY000.1RO
Date/Time Collected:	11/05/2009 10:48
Sampler's Name:	Geoff Klein
County:	ROANE - 73
Sample Matrix:	Water
EFO:	Knoxville
Sampling Agency:	TDEC-WPC
Billing Code:	327.34-20
Send Report To:	TDEC-WPC
Agency Invoiced:	TDEC-WPC
Priority Date:	
Date/Time Received:	11/05/2009 12:51
Received By:	J Grosenbeck

Field Determinations		
pH:	7.49	pH Units
Chlorine, residual:		
Conductivity:	107	uMHO
Temperature:	13.14	
Dissolved Oxygen:	10.55	mg/L
Other:		
Flow:		CFS

TEST: Digestion Metals — **METHOD: EPA 200.2**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	11/06/2009				M Pattanayek	11/6/2009

TEST: ICP — **METHOD: EPA 200.7**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	420	µg/L	2.9	10	A Wilson	11/6/2009

TEST: ICP-MS — **METHOD: EPA 200.8**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	510	µg/L	6.4	10	M Pattanayek	11/6/2009
Antimony	0.37J	µg/L	0.33	1	M Pattanayek	11/6/2009
Arsenic	5.2	µg/L	0.93	5	M Pattanayek	11/6/2009
Barium	40	µg/L	2.5	5	M Pattanayek	11/6/2009
Beryllium	0.11J	µg/L	0.11	1	M Pattanayek	11/6/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	11/6/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	11/6/2009
Cobalt	U	µg/L	0.04	1	M Pattanayek	11/6/2009
Copper	1.4	µg/L	0.38	1	M Pattanayek	11/6/2009
Lead	0.95J	µg/L	0.10	1	M Pattanayek	11/6/2009
Manganese	45	µg/L	0.42	1	M Pattanayek	11/6/2009
Nickel	1.8	µg/L	0.25	1	M Pattanayek	11/6/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	11/6/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	11/6/2009
Thallium	0.08J	µg/L	0.03	1	M Pattanayek	11/6/2009
Vanadium	4.2J	µg/L	3.4	5	M Pattanayek	11/6/2009
Zinc	6.3	µg/L	1.9	5	M Pattanayek	11/6/2009

Lab-Sample Number:	K00003085006
Project Name:	TVA-Ash Spill
Sample Description:	Emory River mile 0.1
Sampler Project Name:	TVA Ash Spill
Project Site No.:	4
Station No.:	EMORY000.1RO
Date/Time Collected:	11/05/2009 10:48
Sampler's Name:	Geoff Klein
County:	ROANE - 73
Sample Matrix:	Water
EFO:	Knoxville
Sampling Agency:	TDEC-WPC
Billing Code:	327.34-20
Send Report To:	TDEC-WPC
Agency Invoiced:	TDEC-WPC
Priority Date:	
Date/Time Received:	11/05/2009 12:51
Received By:	J Grosenbeck

Field Determinations		
pH:	7.49	pH Units
Chlorine, residual:		
Conductivity:	107	uMHO
Temperature:	13.14	
Dissolved Oxygen:	10.55	mg/L
Other:		
Flow:		CFS

TEST: Mercury **METHOD: EPA 245.1**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.029	0.2	A Bass	11/10/2009

J - Estimated value between MDL and MQL
MDL - Method Detection Limit
MQL - Method Quantitation Limit
U - Undetected

Lab-Sample Number:	K00003085007
Project Name:	TVA-Ash Spill
Sample Description:	Clinch River mile 2.3
Sampler Project Name:	TVA Ash Spill
Project Site No.:	5
Station No.:	CLINC002.3RO
Date/Time Collected:	11/05/2009 11:08
Sampler's Name:	Geoff Klein
County:	ROANE - 73
Sample Matrix:	Water
EFO:	Knoxville
Sampling Agency:	TDEC-WPC
Billing Code:	327.34-20
Send Report To:	TDEC-WPC
Agency Invoiced:	TDEC-WPC
Priority Date:	
Date/Time Received:	11/05/2009 12:51
Received By:	J Grosenbeck

Field Determinations		
pH:	7.63	pH Units
Chlorine, residual:		
Conductivity:	152	uMHO
Temperature:	13.70	
Dissolved Oxygen:	10.20	mg/L
Other:		
Flow:		CFS

TEST: Digestion Metals **METHOD: EPA 200.2**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	11/06/2009				M Pattanayek	11/6/2009

TEST: ICP **METHOD: EPA 200.7**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	270	µg/L	2.9	10	A Wilson	11/6/2009

TEST: ICP-MS **METHOD: EPA 200.8**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	280	µg/L	6.4	10	M Pattanayek	11/6/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	11/6/2009
Arsenic	1.6J	µg/L	0.93	5	M Pattanayek	11/6/2009
Barium	35	µg/L	2.5	5	M Pattanayek	11/6/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	11/6/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	11/6/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	11/6/2009
Cobalt	U	µg/L	0.04	1	M Pattanayek	11/6/2009
Copper	0.64J	µg/L	0.38	1	M Pattanayek	11/6/2009
Lead	0.49J	µg/L	0.10	1	M Pattanayek	11/6/2009
Manganese	39	µg/L	0.42	1	M Pattanayek	11/6/2009
Nickel	1.6	µg/L	0.25	1	M Pattanayek	11/6/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	11/6/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	11/6/2009
Thallium	0.03J	µg/L	0.03	1	M Pattanayek	11/6/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	11/6/2009
Zinc	3.1J	µg/L	1.9	5	M Pattanayek	11/6/2009

Lab-Sample Number:	K00003085007
Project Name:	TVA-Ash Spill
Sample Description:	Clinch River mile 2.3
Sampler Project Name:	TVA Ash Spill
Project Site No.:	5
Station No.:	CLINC002.3RO
Date/Time Collected:	11/05/2009 11:08
Sampler's Name:	Geoff Klein
County:	ROANE - 73
Sample Matrix:	Water
EFO:	Knoxville
Sampling Agency:	TDEC-WPC
Billing Code:	327.34-20
Send Report To:	TDEC-WPC
Agency Invoiced:	TDEC-WPC
Priority Date:	
Date/Time Received:	11/05/2009 12:51
Received By:	J Grosenbeck

Field Determinations		
pH:	7.63	pH Units
Chlorine, residual:		
Conductivity:	152	uMHO
Temperature:	13.70	
Dissolved Oxygen:	10.20	mg/L
Other:		
Flow:		CFS

TEST: Mercury **METHOD: EPA 245.1**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.029	0.2	A Bass	11/10/2009

J - Estimated value between MDL and MQL
MDL - Method Detection Limit
MQL - Method Quantitation Limit
U - Undetected

Lab-Sample Number:	K00003085008	**Field Determinations**		
Project Name:	TVA-Ash Spill	**pH:**	7.34	pH Units
Sample Description:	Clinch River TVA Discharge Point	**Chlorine, residual:**		
Sampler Project Name:	TVA Ash Spill	**Conductivity:**	65	uMHO
Project Site No.:	5A	**Temperature:**	12.97	
Station No.:	KingAshOutF2	**Dissolved Oxygen:**	10.74	mg/L
Date/Time Collected:	11/05/2009 11:24	**Other:**		
Sampler's Name:	Geoff Klein	**Flow:**		CFS
County:	ROANE - 73			
Sample Matrix:	Water			
EFO:	Knoxville			
Sampling Agency:	TDEC-WPC			
Billing Code:	327.34-20			
Send Report To:	TDEC-WPC			
Agency Invoiced:	TDEC-WPC			
Priority Date:				
Date/Time Received:	11/05/2009 12:51			
Received By:	J Grosenbeck			

TEST: Digestion Metals **METHOD: EPA 200.2**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	11/06/2009				M Pattanayek	11/6/2009

TEST: ICP **METHOD: EPA 200.7**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	370	µg/L	2.9	10	A Wilson	11/6/2009

TEST: ICP-MS **METHOD: EPA 200.8**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	540	µg/L	6.4	10	M Pattanayek	11/6/2009
Antimony	1.9	µg/L	0.33	1	M Pattanayek	11/6/2009
Arsenic	16	µg/L	0.93	5	M Pattanayek	11/6/2009
Barium	46	µg/L	2.5	5	M Pattanayek	11/6/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	11/6/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	11/6/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	11/6/2009
Cobalt	U	µg/L	0.04	1	M Pattanayek	11/6/2009
Copper	2.4	µg/L	0.38	1	M Pattanayek	11/6/2009
Lead	0.74J	µg/L	0.10	1	M Pattanayek	11/6/2009
Manganese	44	µg/L	0.42	1	M Pattanayek	11/6/2009
Nickel	1.8	µg/L	0.25	1	M Pattanayek	11/6/2009
Selenium	3.6J	µg/L	1.3	5	M Pattanayek	11/6/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	11/6/2009
Thallium	0.09J	µg/L	0.03	1	M Pattanayek	11/6/2009
Vanadium	15	µg/L	3.4	5	M Pattanayek	11/6/2009
Zinc	3.8J	µg/L	1.9	5	M Pattanayek	11/6/2009

Lab-Sample Number:	K00003085008
Project Name:	TVA-Ash Spill
Sample Description:	Clinch River TVA Discharge Point
Sampler Project Name:	TVA Ash Spill
Project Site No.:	5A
Station No.:	KingAshOutF2
Date/Time Collected:	11/05/2009 11:24
Sampler's Name:	Geoff Klein
County:	ROANE - 73
Sample Matrix:	Water
EFO:	Knoxville
Sampling Agency:	TDEC-WPC
Billing Code:	327.34-20
Send Report To:	TDEC-WPC
Agency Invoiced:	TDEC-WPC
Priority Date:	
Date/Time Received:	11/05/2009 12:51
Received By:	J Grosenbeck

Field Determinations		
pH:	7.34	pH Units
Chlorine, residual:		
Conductivity:	65	uMHO
Temperature:	12.97	
Dissolved Oxygen:	10.74	mg/L
Other:		
Flow:		CFS

TEST: Mercury **METHOD: EPA 245.1**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.029	0.2	A Bass	11/10/2009

J - Estimated value between MDL and MQL
MDL - Method Detection Limit
MQL - Method Quantitation Limit
U - Undetected

Lab-Sample Number:	K00003085009
Project Name:	TVA-Ash Spill
Sample Description:	Clinch River TVA ischarge Point-Duplicate
Sampler Project Name:	TVA Ash Spill
Project Site No.:	5A-FD
Station No.:	KingAshOutF2-FD
Date/Time Collected:	11/05/2009 11:24
Sampler's Name:	Geoff Klein
County:	ROANE - 73
Sample Matrix:	Water
EFO:	Knoxville
Sampling Agency:	TDEC-WPC
Billing Code:	327.34-20
Send Report To:	TDEC-WPC
Agency Invoiced:	TDEC-WPC
Priority Date:	
Date/Time Received:	11/05/2009 12:51
Received By:	J Grosenbeck

Field Determinations		
pH:	7.34	pH Units
Chlorine, residual:		
Conductivity:	65	uMHO
Temperature:	12.97	
Dissolved Oxygen:	10.74	mg/L
Other:		
Flow:		CFS

TEST: Digestion Metals — **METHOD: EPA 200.2**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	11/06/2009				M Pattanayek	11/6/2009

TEST: ICP — **METHOD: EPA 200.7**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	380	µg/L	2.9	10	A Wilson	11/6/2009

TEST: ICP-MS — **METHOD: EPA 200.8**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	540	µg/L	6.4	10	M Pattanayek	11/6/2009
Antimony	1.8	µg/L	0.33	1	M Pattanayek	11/6/2009
Arsenic	16	µg/L	0.93	5	M Pattanayek	11/6/2009
Barium	46	µg/L	2.5	5	M Pattanayek	11/6/2009
Beryllium	0.11J	µg/L	0.11	1	M Pattanayek	11/6/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	11/6/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	11/6/2009
Cobalt	U	µg/L	0.04	1	M Pattanayek	11/6/2009
Copper	2.4	µg/L	0.38	1	M Pattanayek	11/6/2009
Lead	0.77J	µg/L	0.10	1	M Pattanayek	11/6/2009
Manganese	44	µg/L	0.42	1	M Pattanayek	11/6/2009
Nickel	1.7	µg/L	0.25	1	M Pattanayek	11/6/2009
Selenium	3.7J	µg/L	1.3	5	M Pattanayek	11/6/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	11/6/2009
Thallium	0.09J	µg/L	0.03	1	M Pattanayek	11/6/2009
Vanadium	16	µg/L	3.4	5	M Pattanayek	11/6/2009
Zinc	4.1J	µg/L	1.9	5	M Pattanayek	11/6/2009

Lab-Sample Number:	K00003085009	**Field Determinations**		
Project Name:	TVA-Ash Spill	**pH:**	7.34	pH Units
Sample Description:	Clinch River TVA ischarge Point-Duplicate	**Chlorine, residual:**		
Sampler Project Name:	TVA Ash Spill	**Conductivity:**	65	uMHO
Project Site No.:	5A-FD	**Temperature:**	12.97	
Station No.:	KingAshOutF2-FD	**Dissolved Oxygen:**	10.74	mg/L
Date/Time Collected:	11/05/2009 11:24	**Other:**		
Sampler's Name:	Geoff Klein	**Flow:**		CFS
County:	ROANE - 73			
Sample Matrix:	Water			
EFO:	Knoxville			
Sampling Agency:	TDEC-WPC			
Billing Code:	327.34-20			
Send Report To:	TDEC-WPC			
Agency Invoiced:	TDEC-WPC			
Priority Date:				
Date/Time Received:	11/05/2009 12:51			
Received By:	J Grosenbeck			

TEST: Mercury **METHOD: EPA 245.1**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.029	0.2	A Bass	11/10/2009

J - Estimated value between MDL and MQL
MDL - Method Detection Limit
MQL - Method Quantitation Limit
U - Undetected

Lab-Sample Number:	K00003085010	**Field Determinations**	
Project Name:	TVA-Ash Spill	**pH:**	
Sample Description:	Clinch River TVA Discharge Point-Field Blank	**Chlorine, residual:**	
Sampler Project Name:	TVA Ash Spill	**Conductivity:**	
Project Site No.:	5A-FB	**Temperature:**	
Station No.:	KingAshOutF2-FB	**Dissolved Oxygen:**	
Date/Time Collected:	11/05/2009 11:24	**Other:**	
Sampler's Name:	Geoff Klein	**Flow:**	CFS
County:	ROANE - 73		
Sample Matrix:	Water		
EFO:	Knoxville		
Sampling Agency:	TDEC-WPC		
Billing Code:	327.34-20		
Send Report To:	TDEC-WPC		
Agency Invoiced:	TDEC-WPC		
Priority Date:			
Date/Time Received:	11/05/2009 12:51		
Received By:	J Grosenbeck		

TEST: Digestion Metals **METHOD: EPA 200.2**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	11/06/2009				M Pattanayek	11/6/2009

TEST: ICP **METHOD: EPA 200.7**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	U	µg/L	2.9	10	A Wilson	11/6/2009

TEST: ICP-MS **METHOD: EPA 200.8**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	U	µg/L	6.4	10	M Pattanayek	11/6/2009
Antimony	0.43J	µg/L	0.33	1	M Pattanayek	11/6/2009
Arsenic	U	µg/L	0.93	5	M Pattanayek	11/6/2009
Barium	U	µg/L	2.5	5	M Pattanayek	11/6/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	11/6/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	11/6/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	11/6/2009
Cobalt	U	µg/L	0.04	1	M Pattanayek	11/6/2009
Copper	U	µg/L	0.38	1	M Pattanayek	11/6/2009
Lead	U	µg/L	0.10	1	M Pattanayek	11/6/2009
Manganese	U	µg/L	0.42	1	M Pattanayek	11/6/2009
Nickel	U	µg/L	0.25	1	M Pattanayek	11/6/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	11/6/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	11/6/2009
Thallium	U	µg/L	0.03	1	M Pattanayek	11/6/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	11/6/2009
Zinc	U	µg/L	1.9	5	M Pattanayek	11/6/2009

Lab-Sample Number:	K00003085010	**Field Determinations**	
Project Name:	TVA-Ash Spill	**pH:**	
Sample Description:	Clinch River TVA Discharge Point-Field Blank	**Chlorine, residual:**	
Sampler Project Name:	TVA Ash Spill	**Conductivity:**	
Project Site No.:	5A-FB	**Temperature:**	
Station No.:	KingAshOutF2-FB	**Dissolved Oxygen:**	
Date/Time Collected:	11/05/2009 11:24	**Other:**	
Sampler's Name:	Geoff Klein	**Flow:**	CFS
County:	ROANE - 73		
Sample Matrix:	Water		
EFO:	Knoxville		
Sampling Agency:	TDEC-WPC		
Billing Code:	327.34-20		
Send Report To:	TDEC-WPC		
Agency Invoiced:	TDEC-WPC		
Priority Date:			
Date/Time Received:	11/05/2009 12:51		
Received By:	J Grosenbeck		

TEST: Mercury **METHOD: EPA 245.1**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.029	0.2	A Bass	11/10/2009

J - Estimated value between MDL and MQL
MDL - Method Detection Limit
MQL - Method Quantitation Limit
U - Undetected

Lab-Sample Number:	K00003085011	**Field Determinations**		
Project Name:	TVA-Ash Spill	**pH:**	7.71	pH Units
Sample Description:	Clinch River mile 4.5 near Sugar Grove Valley R	**Chlorine, residual:**		
Sampler Project Name:	TVA Ash Spill	**Conductivity:**	243	uMHO
Project Site No.:	6	**Temperature:**	14.58	
Station No.:	CLINC004.5RO	**Dissolved Oxygen:**	9.52	mg/L
Date/Time Collected:	11/05/2009 10:55	**Other:**		
Sampler's Name:	Geoff Klein	**Flow:**		CFS
County:	ROANE - 73			
Sample Matrix:	Water			
EFO:	Knoxville			
Sampling Agency:	TDEC-WPC			
Billing Code:	327.34-20			
Send Report To:	TDEC-WPC			
Agency Invoiced:	TDEC-WPC			
Priority Date:				
Date/Time Received:	11/05/2009 12:51			
Received By:	J Grosenbeck			

TEST: Digestion Metals — **METHOD: EPA 200.2**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	11/06/2009				M Pattanayek	11/6/2009

TEST: ICP — **METHOD: EPA 200.7**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	110	µg/L	2.9	10	A Wilson	11/6/2009

TEST: ICP-MS — **METHOD: EPA 200.8**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	79	µg/L	6.4	10	M Pattanayek	11/6/2009
Antimony	0.35J	µg/L	0.33	1	M Pattanayek	11/6/2009
Arsenic	U	µg/L	0.93	5	M Pattanayek	11/6/2009
Barium	37	µg/L	2.5	5	M Pattanayek	11/6/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	11/6/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	11/6/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	11/6/2009
Cobalt	U	µg/L	0.04	1	M Pattanayek	11/6/2009
Copper	U	µg/L	0.38	1	M Pattanayek	11/6/2009
Lead	0.25J	µg/L	0.10	1	M Pattanayek	11/6/2009
Manganese	43	µg/L	0.42	1	M Pattanayek	11/6/2009
Nickel	1.4	µg/L	0.25	1	M Pattanayek	11/6/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	11/6/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	11/6/2009
Thallium	U	µg/L	0.03	1	M Pattanayek	11/6/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	11/6/2009
Zinc	U	µg/L	1.9	5	M Pattanayek	11/6/2009

Lab-Sample Number:	K00003085011	**Field Determinations**		
Project Name:	TVA-Ash Spill	**pH:**	7.71	pH Units
Sample Description:	Clinch River mile 4.5 near Sugar Grove Valley R	**Chlorine, residual:**		
Sampler Project Name:	TVA Ash Spill	**Conductivity:**	243	uMHO
Project Site No.:	6	**Temperature:**	14.58	
Station No.:	CLINC004.5RO	**Dissolved Oxygen:**	9.52	mg/L
Date/Time Collected:	11/05/2009 10:55	**Other:**		
Sampler's Name:	Geoff Klein	**Flow:**		CFS
County:	ROANE - 73			
Sample Matrix:	Water			
EFO:	Knoxville			
Sampling Agency:	TDEC-WPC			
Billing Code:	327.34-20			
Send Report To:	TDEC-WPC			
Agency Invoiced:	TDEC-WPC			
Priority Date:				
Date/Time Received:	11/05/2009 12:51			
Received By:	J Grosenbeck			

TEST: Mercury **METHOD: EPA 245.1**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.029	0.2	A Bass	11/10/2009

J - Estimated value between MDL and MQL
MDL - Method Detection Limit
MQL - Method Quantitation Limit
U - Undetected

STATE OF TENNESSEE
DEPARTMENT OF HEALTH
ENVIRONMENTAL LABORATORIES

TDH: Lab Services JRL
Lab Services - Jackson Regional Lab
Jackson, TN 38301
731-426-0686

TDH: Lab Services KRL
Lab Services - Knoxville Regional Lab
Knoxville, TN 37920
865-549-5201

TDH: Lab Services NCL
Lab Services - Nashville Central Lab
Nashville, TN 37243
615-262-6300

Sent To: Greg Denton
TDEC-WPC
6th Floor, L & C Tower Annex
401 Church Street
Nashville, TN 37243-1534

Michael Atchley
TDEC-WPC
Knoxville FO
3711 Middlebrook Pike
Knoxville, TN 37921

Lab ID: K00003085
Knoxville Regional Laboratory

Sampling Agency: TDEC: Division of Water Pollution Control

Billing Code: 327.34-20

This is to certify that the following results were determined using good laboratory pratices and in accordance with federal or state approved methodologies.

Analytical Supervisor

Lab-Sample Number:	K00003085001
Project Name:	TVA-Ash Spill
Sample Description:	Emory River mile 12.1
Sampler Project Name:	TVA Ash Spill
Project Site No.:	1
Station No.:	EMORY012.1RO
Date/Time Collected:	11/05/2009 11:48
Sampler's Name:	Geoff Klein
County:	ROANE - 73
Sample Matrix:	Water
EFO:	Knoxville
Sampling Agency:	TDEC-WPC
Billing Code:	327.34-20
Send Report To:	TDEC-WPC
Agency Invoiced:	TDEC-WPC
Priority Date:	
Date/Time Received:	11/05/2009 12:51
Received By:	J Grosenbeck

Field Determinations		
pH:	7.47	pH Units
Chlorine, residual:		
Conductivity:	46	uMHO
Temperature:	12.04	
Dissolved Oxygen:	12.16	mg/L
Other:		
Flow:		CFS

TEST: Alkalinity, Total — **METHOD: EPA 310.2**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	15	mg/L	3.8	10	M Chen	11/10/2009

TEST: Hardness, Calcium — **METHOD: SM 3500-Ca D**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	16	mg/L	0.7	1	P Leathers	11/9/2009

TEST: Residue, Settleable — **METHOD: SM 2540F**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	11/6/2009

TEST: Residue, Suspended — **METHOD: SM 2540D**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peeples	11/6/2009

J - Estimated value between MDL and MQL
MDL - Method Detection Limit
MQL - Method Quantitation Limit
U - Undetected

Lab-Sample Number:	K00003085002
Project Name:	TVA-Ash Spill
Sample Description:	Emory River mile 2.1
Sampler Project Name:	TVA Ash Spill
Project Site No.:	2
Station No.:	EMORY002.1RO
Date/Time Collected:	11/05/2009 10:06
Sampler's Name:	Geoff Klein
County:	ROANE - 73
Sample Matrix:	Water
EFO:	Knoxville
Sampling Agency:	TDEC-WPC
Billing Code:	327.34-20
Send Report To:	TDEC-WPC
Agency Invoiced:	TDEC-WPC
Priority Date:	
Date/Time Received:	11/05/2009 12:51
Received By:	J Grosenbeck

Field Determinations

pH:	7.11	pH Units
Chlorine, residual:		
Conductivity:	46	uMHO
Temperature:	12.14	
Dissolved Oxygen:	10.92	mg/L
Other:		
Flow:		CFS

TEST: Alkalinity, Total — **METHOD: EPA 310.2**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	17	mg/L	3.8	10	M Chen	11/10/2009

TEST: Hardness, Calcium — **METHOD: SM 3500-Ca D**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	17	mg/L	0.7	1	P Leathers	11/9/2009

TEST: Residue, Settleable — **METHOD: SM 2540F**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	11/6/2009

TEST: Residue, Suspended — **METHOD: SM 2540D**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	49	mg/L	10	10	A Peeples	11/6/2009

J - Estimated value between MDL and MQL
MDL - Method Detection Limit
MQL - Method Quantitation Limit
U - Undetected

Lab-Sample Number:	K00003085003
Project Name:	TVA-Ash Spill
Sample Description:	Approx. 100' d/s from middle dredge plume
Sampler Project Name:	TVA Ash Spill
Project Site No.:	2A
Station No.:	Dredge Plume
Date/Time Collected:	11/05/2009 10:16
Sampler's Name:	Geoff Klein
County:	ROANE - 73
Sample Matrix:	Water
EFO:	Knoxville
Sampling Agency:	TDEC-WPC
Billing Code:	327.34-20
Send Report To:	TDEC-WPC
Agency Invoiced:	TDEC-WPC
Priority Date:	
Date/Time Received:	11/05/2009 12:51
Received By:	J Grosenbeck

Field Determinations		
pH:	7.39	pH Units
Chlorine, residual:		
Conductivity:	48	uMHO
Temperature:	12.06	
Dissolved Oxygen:	10.86	mg/L
Other:		
Flow:		CFS

TEST: Alkalinity, Total — **METHOD: EPA 310.2**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	17	mg/L	3.8	10	M Chen	11/10/2009

TEST: Hardness, Calcium — **METHOD: SM 3500-Ca D**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	18	mg/L	0.7	1	P Leathers	11/9/2009

TEST: Residue, Settleable — **METHOD: SM 2540F**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	11/6/2009

TEST: Residue, Suspended — **METHOD: SM 2540D**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	47	mg/L	10	10	A Peeples	11/6/2009

J - Estimated value between MDL and MQL
MDL - Method Detection Limit
MQL - Method Quantitation Limit
U - Undetected

Lab-Sample Number:	K00003085004
Project Name:	TVA-Ash Spill
Sample Description:	Emory River mile 1.9 at underwater weir
Sampler Project Name:	TVA Ash Spill
Project Site No.:	2B
Station No.:	EMORY001.9RO
Date/Time Collected:	11/05/2009 10:27
Sampler's Name:	Geoff Klein
County:	ROANE - 73
Sample Matrix:	Water
EFO:	Knoxville
Sampling Agency:	TDEC-WPC
Billing Code:	327.34-20
Send Report To:	TDEC-WPC
Agency Invoiced:	TDEC-WPC
Priority Date:	
Date/Time Received:	11/05/2009 12:51
Received By:	J Grosenbeck

Field Determinations

pH:	7.31	pH Units
Chlorine, residual:		
Conductivity:	46	uMHO
Temperature:	11.91	
Dissolved Oxygen:	10.89	mg/L
Other:		
Flow:		CFS

TEST: Alkalinity, Total — **METHOD: EPA 310.2**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	17	mg/L	3.8	10	M Chen	11/10/2009

TEST: Hardness, Calcium — **METHOD: SM 3500-Ca D**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	16	mg/L	0.7	1	P Leathers	11/9/2009

TEST: Residue, Settleable — **METHOD: SM 2540F**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	11/6/2009

TEST: Residue, Suspended — **METHOD: SM 2540D**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	30	mg/L	10	10	A Peeples	11/6/2009

J - Estimated value between MDL and MQL
MDL - Method Detection Limit
MQL - Method Quantitation Limit
U - Undetected

Lab-Sample Number:	K00003085005
Project Name:	TVA-Ash Spill
Sample Description:	Emory River mile 1.7
Sampler Project Name:	TVA Ash Spill
Project Site No.:	3
Station No.:	EMORY001.7RO
Date/Time Collected:	11/05/2009 10:39
Sampler's Name:	Geoff Klein
County:	ROANE - 73
Sample Matrix:	Water
EFO:	Knoxville
Sampling Agency:	TDEC-WPC
Billing Code:	327.34-20
Send Report To:	TDEC-WPC
Agency Invoiced:	TDEC-WPC
Priority Date:	
Date/Time Received:	11/05/2009 12:51
Received By:	J Grosenbeck

Field Determinations

pH:	7.21	pH Units
Chlorine, residual:		
Conductivity:	47	uMHO
Temperature:	12.07	
Dissolved Oxygen:	10.91	mg/L
Other:		
Flow:		CFS

TEST: Alkalinity, Total — **METHOD: EPA 310.2**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	17	mg/L	3.8	10	M Chen	11/10/2009

TEST: Hardness, Calcium — **METHOD: SM 3500-Ca D**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	16	mg/L	0.7	1	P Leathers	11/9/2009

TEST: Residue, Settleable — **METHOD: SM 2540F**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	11/6/2009

TEST: Residue, Suspended — **METHOD: SM 2540D**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	22	mg/L	10	10	A Peeples	11/6/2009

J - Estimated value between MDL and MQL
MDL - Method Detection Limit
MQL - Method Quantitation Limit
U - Undetected

Lab-Sample Number:	K00003085006
Project Name:	TVA-Ash Spill
Sample Description:	Emory River mile 0.1
Sampler Project Name:	TVA Ash Spill
Project Site No.:	4
Station No.:	EMORY000.1RO
Date/Time Collected:	11/05/2009 10:48
Sampler's Name:	Geoff Klein
County:	ROANE - 73
Sample Matrix:	Water
EFO:	Knoxville
Sampling Agency:	TDEC-WPC
Billing Code:	327.34-20
Send Report To:	TDEC-WPC
Agency Invoiced:	TDEC-WPC
Priority Date:	
Date/Time Received:	11/05/2009 12:51
Received By:	J Grosenbeck

Field Determinations

pH:	7.49	pH Units
Chlorine, residual:		
Conductivity:	107	uMHO
Temperature:	13.14	
Dissolved Oxygen:	10.55	mg/L
Other:		
Flow:		CFS

TEST: Alkalinity, Total — **METHOD: EPA 310.2**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	17	mg/L	3.8	10	M Chen	11/10/2009

TEST: Hardness, Calcium — **METHOD: SM 3500-Ca D**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	18	mg/L	0.7	1	P Leathers	11/9/2009

TEST: Residue, Settleable — **METHOD: SM 2540F**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	11/6/2009

TEST: Residue, Suspended — **METHOD: SM 2540D**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	28	mg/L	10	10	A Peeples	11/6/2009

J - Estimated value between MDL and MQL
MDL - Method Detection Limit
MQL - Method Quantitation Limit
U - Undetected

Lab-Sample Number:	K00003085007
Project Name:	TVA-Ash Spill
Sample Description:	Clinch River mile 2.3
Sampler Project Name:	TVA Ash Spill
Project Site No.:	5
Station No.:	CLINC002.3RO
Date/Time Collected:	11/05/2009 11:08
Sampler's Name:	Geoff Klein
County:	ROANE - 73
Sample Matrix:	Water
EFO:	Knoxville
Sampling Agency:	TDEC-WPC
Billing Code:	327.34-20
Send Report To:	TDEC-WPC
Agency Invoiced:	TDEC-WPC
Priority Date:	
Date/Time Received:	11/05/2009 12:51
Received By:	J Grosenbeck

Field Determinations

pH:	7.63	pH Units
Chlorine, residual:		
Conductivity:	152	uMHO
Temperature:	13.70	
Dissolved Oxygen:	10.20	mg/L
Other:		
Flow:		CFS

TEST: Alkalinity, Total — **METHOD: EPA 310.2**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	79	mg/L	3.8	10	M Chen	11/10/2009

TEST: Hardness, Calcium — **METHOD: SM 3500-Ca D**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	62	mg/L	0.7	1	P Leathers	11/9/2009

TEST: Residue, Settleable — **METHOD: SM 2540F**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	11/6/2009

TEST: Residue, Suspended — **METHOD: SM 2540D**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	14	mg/L	10	10	A Peeples	11/6/2009

J - Estimated value between MDL and MQL
MDL - Method Detection Limit
MQL - Method Quantitation Limit
U - Undetected

Lab-Sample Number:	K00003085008
Project Name:	TVA-Ash Spill
Sample Description:	Clinch River TVA Discharge Point
Sampler Project Name:	TVA Ash Spill
Project Site No.:	5A
Station No.:	KingAshOutF2
Date/Time Collected:	11/05/2009 11:24
Sampler's Name:	Geoff Klein
County:	ROANE - 73
Sample Matrix:	Water
EFO:	Knoxville
Sampling Agency:	TDEC-WPC
Billing Code:	327.34-20
Send Report To:	TDEC-WPC
Agency Invoiced:	TDEC-WPC
Priority Date:	
Date/Time Received:	11/05/2009 12:51
Received By:	J Grosenbeck

Field Determinations

pH:	7.34	pH Units
Chlorine, residual:		
Conductivity:	65	uMHO
Temperature:	12.97	
Dissolved Oxygen:	10.74	mg/L
Other:		
Flow:		CFS

TEST: Alkalinity, Total — **METHOD: EPA 310.2**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	22	mg/L	3.8	10	M Chen	11/10/2009

TEST: Hardness, Calcium — **METHOD: SM 3500-Ca D**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	25	mg/L	0.7	1	P Leathers	11/9/2009

TEST: Residue, Settleable — **METHOD: SM 2540F**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	11/6/2009

TEST: Residue, Suspended — **METHOD: SM 2540D**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	16	mg/L	10	10	A Peeples	11/6/2009

J - Estimated value between MDL and MQL
MDL - Method Detection Limit
MQL - Method Quantitation Limit
U - Undetected

Lab-Sample Number:	K00003085009
Project Name:	TVA-Ash Spill
Sample Description:	Clinch River TVA ischarge Point-Duplicate
Sampler Project Name:	TVA Ash Spill
Project Site No.:	5A-FD
Station No.:	KingAshOutF2-FD
Date/Time Collected:	11/05/2009 11:24
Sampler's Name:	Geoff Klein
County:	ROANE - 73
Sample Matrix:	Water
EFO:	Knoxville
Sampling Agency:	TDEC-WPC
Billing Code:	327.34-20
Send Report To:	TDEC-WPC
Agency Invoiced:	TDEC-WPC
Priority Date:	
Date/Time Received:	11/05/2009 12:51
Received By:	J Grosenbeck

Field Determinations

pH:	7.34	pH Units
Chlorine, residual:		
Conductivity:	65	uMHO
Temperature:	12.97	
Dissolved Oxygen:	10.74	mg/L
Other:		
Flow:		CFS

TEST: Alkalinity, Total — **METHOD: EPA 310.2**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	21	mg/L	3.8	10	M Chen	11/10/2009

TEST: Hardness, Calcium — **METHOD: SM 3500-Ca D**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	24	mg/L	0.7	1	P Leathers	11/9/2009

TEST: Residue, Settleable — **METHOD: SM 2540F**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	11/6/2009

TEST: Residue, Suspended — **METHOD: SM 2540D**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	19	mg/L	10	10	A Peeples	11/6/2009

J - Estimated value between MDL and MQL
MDL - Method Detection Limit
MQL - Method Quantitation Limit
U - Undetected

Lab-Sample Number:	K00003085010
Project Name:	TVA-Ash Spill
Sample Description:	Clinch River TVA Discharge Point-Field Blank
Sampler Project Name:	TVA Ash Spill
Project Site No.:	5A-FB
Station No.:	KingAshOutF2-FB
Date/Time Collected:	11/05/2009 11:24
Sampler's Name:	Geoff Klein
County:	ROANE - 73
Sample Matrix:	Water
EFO:	Knoxville
Sampling Agency:	TDEC-WPC
Billing Code:	327.34-20
Send Report To:	TDEC-WPC
Agency Invoiced:	TDEC-WPC
Priority Date:	
Date/Time Received:	11/05/2009 12:51
Received By:	J Grosenbeck

Field Determinations	
pH:	
Chlorine, residual:	
Conductivity:	
Temperature:	
Dissolved Oxygen:	
Other:	
Flow:	CFS

TEST: Alkalinity, Total — **METHOD: EPA 310.2**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	U	mg/L	3.8	10	M Chen	11/10/2009

TEST: Hardness, Calcium — **METHOD: SM 3500-Ca D**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	U	mg/L	0.7	1	P Leathers	11/9/2009

TEST: Residue, Suspended — **METHOD: SM 2540D**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peeples	11/6/2009

J - Estimated value between MDL and MQL
MDL - Method Detection Limit
MQL - Method Quantitation Limit
U - Undetected

Lab-Sample Number:	K00003085011
Project Name:	TVA-Ash Spill
Sample Description:	Clinch River mile 4.5 near Sugar Grove Valley R
Sampler Project Name:	TVA Ash Spill
Project Site No.:	6
Station No.:	CLINC004.5RO
Date/Time Collected:	11/05/2009 10:55
Sampler's Name:	Geoff Klein
County:	ROANE - 73
Sample Matrix:	Water
EFO:	Knoxville
Sampling Agency:	TDEC-WPC
Billing Code:	327.34-20
Send Report To:	TDEC-WPC
Agency Invoiced:	TDEC-WPC
Priority Date:	
Date/Time Received:	11/05/2009 12:51
Received By:	J Grosenbeck

Field Determinations

pH:	7.71	pH Units
Chlorine, residual:		
Conductivity:	243	uMHO
Temperature:	14.58	
Dissolved Oxygen:	9.52	mg/L
Other:		
Flow:		CFS

TEST: Alkalinity, Total — **METHOD: EPA 310.2**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	120	mg/L	3.8	10	M Chen	11/10/2009

TEST: Hardness, Calcium — **METHOD: SM 3500-Ca D**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	110	mg/L	0.7	1	P Leathers	11/9/2009

TEST: Residue, Settleable — **METHOD: SM 2540F**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	11/6/2009

TEST: Residue, Suspended — **METHOD: SM 2540D**

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	12	mg/L	10	10	A Peeples	11/6/2009

J - Estimated value between MDL and MQL
MDL - Method Detection Limit
MQL - Method Quantitation Limit
U - Undetected