



**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

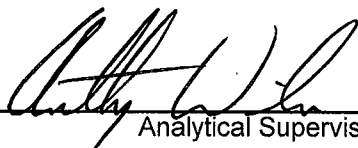
Michael Atchley  
TDEC-WPC  
Knoxville FO  
3711 Middlebrook Pike  
Knoxville, TN 37921

**Lab ID:** K00002689  
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 practices and in accordance with federal or state approved methodologies.



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Analytical Supervisor

**Lab-Sample Number:** K00002689001  
**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:** 08/04/2009 11:55  
**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:** 08/14/2009  
**Date/Time Received:** 08/04/2009 13:30  
**Received By:** Ken Hitchman

**Field Determinations**  
**pH:** 7.43 pH Units  
**Chlorine, residual:**  
**Conductivity:** 73 uMHO  
**Temperature:** 23.59  
**Dissolved Oxygen:** 8.44 mg/L  
**Other:**  
**Flow:** CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	08/06/2009				W Frye	8/6/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	360	µg/L	2.9	10	A Bass	8/10/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	200	µg/L	6.4	10	M Pattanayek	8/11/2009
Antimony	0.45J	µg/L	0.33	1	M Pattanayek	8/11/2009
Arsenic	U	µg/L	0.93	5	M Pattanayek	8/12/2009
Barium	28	µg/L	2.5	5	M Pattanayek	8/11/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	8/11/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	8/11/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	8/12/2009
Cobalt	0.29J	µg/L	0.04	1	M Pattanayek	8/11/2009
Copper	2.2	µg/L	0.38	1	M Pattanayek	8/11/2009
Lead	U	µg/L	0.10	1	M Pattanayek	8/11/2009
Manganese	34	µg/L	0.42	1	M Pattanayek	8/11/2009
Nickel	1.1	µg/L	0.25	1	M Pattanayek	8/11/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	8/11/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	8/11/2009
Thallium	0.038J	µg/L	0.03	1	M Pattanayek	8/11/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	8/11/2009
Zinc	4.7J	µg/L	1.9	5	M Pattanayek	8/11/2009

**Lab-Sample Number:** K00002689001  
**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:** 08/04/2009 11:55  
**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:** 08/14/2009  
**Date/Time Received:** 08/04/2009 13:30  
**Received By:** Ken Hitchman

**Field Determinations**  
**pH:** 7.43 pH Units  
**Chlorine, residual:**  
**Conductivity:** 73 uMHO  
**Temperature:** 23.59  
**Dissolved Oxygen:** 8.44 mg/L  
**Other:**  
**Flow:** CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	0.04J	µg/L	0.029	0.2	A Bass	8/11/2009

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

**Lab-Sample Number:** K00002689002  
**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:** 08/04/2009 10:00  
**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:** 08/14/2009  
**Date/Time Received:** 08/04/2009 13:30  
**Received By:** Ken Hitchman

**Field Determinations**

**pH:** 7.40 pH Units  
**Chlorine, residual:**  
**Conductivity:** 98 uMHO  
**Temperature:** 24.48  
**Dissolved Oxygen:** 7.30 mg/L  
**Other:**  
**Flow:** CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	08/06/2009				W Frye	8/6/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	220	µg/L	2.9	10	A Bass	8/10/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	100	µg/L	6.4	10	M Pattanayek	8/11/2009
Antimony	0.44J	µg/L	0.33	1	M Pattanayek	8/11/2009
Arsenic	1.3J	µg/L	0.93	5	M Pattanayek	8/12/2009
Barium	32	µg/L	2.5	5	M Pattanayek	8/11/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	8/11/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	8/11/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	8/12/2009
Cobalt	0.20J	µg/L	0.04	1	M Pattanayek	8/11/2009
Copper	0.77J	µg/L	0.38	1	M Pattanayek	8/11/2009
Lead	U	µg/L	0.10	1	M Pattanayek	8/11/2009
Manganese	56	µg/L	0.42	1	M Pattanayek	8/11/2009
Nickel	1.0	µg/L	0.25	1	M Pattanayek	8/11/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	8/11/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	8/11/2009
Thallium	0.25J	µg/L	0.03	1	M Pattanayek	8/11/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	8/11/2009
Zinc	U	µg/L	1.9	5	M Pattanayek	8/11/2009

**Lab-Sample Number:** K00002689002  
**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:** 08/04/2009 10:00  
**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:** 08/14/2009  
**Date/Time Received:** 08/04/2009 13:30  
**Received By:** Ken Hitchman

**Field Determinations**  
**pH:** 7.40 pH Units  
**Chlorine, residual:**  
**Conductivity:** 98 uMHO  
**Temperature:** 24.48  
**Dissolved Oxygen:** 7.30 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	8/11/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected

**Lab-Sample Number:** K00002689003  
**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:** 08/04/2009 10:15  
**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:** 08/14/2009  
**Date/Time Received:** 08/04/2009 13:30  
**Received By:** Ken Hitchman

**Field Determinations**  
**pH:** 7.13 pH Units  
**Chlorine, residual:**  
**Conductivity:** 93 uMHO  
**Temperature:** 23.89  
**Dissolved Oxygen:** 6.58 mg/L  
**Other:**  
**Flow:** CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	08/06/2009				W Frye	8/6/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	240	µg/L	2.9	10	A Bass	8/10/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	91	µg/L	6.4	10	M Pattanayek	8/11/2009
Antimony	0.35J	µg/L	0.33	1	M Pattanayek	8/11/2009
Arsenic	U	µg/L	0.93	5	M Pattanayek	8/12/2009
Barium	29	µg/L	2.5	5	M Pattanayek	8/11/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	8/11/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	8/11/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	8/12/2009
Cobalt	0.21J	µg/L	0.04	1	M Pattanayek	8/11/2009
Copper	2.2	µg/L	0.38	1	M Pattanayek	8/11/2009
Lead	U	µg/L	0.10	1	M Pattanayek	8/11/2009
Manganese	75	µg/L	0.42	1	M Pattanayek	8/11/2009
Nickel	1.0	µg/L	0.25	1	M Pattanayek	8/11/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	8/11/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	8/11/2009
Thallium	0.13J	µg/L	0.03	1	M Pattanayek	8/11/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	8/11/2009
Zinc	3.5J	µg/L	1.9	5	M Pattanayek	8/11/2009

**Lab-Sample Number:** K00002689003  
**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:** 08/04/2009 10:15  
**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:** 08/14/2009  
**Date/Time Received:** 08/04/2009 13:30  
**Received By:** Ken Hitchman

**Field Determinations**  
**pH:** 7.13 pH Units  
**Chlorine, residual:**  
**Conductivity:** 93 uMHO  
**Temperature:** 23.89  
**Dissolved Oxygen:** 6.58 mg/L  
**Other:**  
**Flow:** CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	0.05J	µg/L	0.029	0.2	A Bass	8/11/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected

**Lab-Sample Number:** K00002689004  
**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:** 08/04/2009 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:** 08/14/2009  
**Date/Time Received:** 08/04/2009 13:30  
**Received By:** Ken Hitchman

**Field Determinations**

**pH:** 7.00 pH Units  
**Chlorine, residual:**  
**Conductivity:** 96 uMHO  
**Temperature:** 23.84  
**Dissolved Oxygen:** 6.49 mg/L  
**Other:**  
**Flow:** CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	08/06/2009				W Frye	8/6/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	230	µg/L	2.9	10	A Bass	8/10/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	97	µg/L	6.4	10	M Pattanayek	8/11/2009
Antimony	0.36J	µg/L	0.33	1	M Pattanayek	8/11/2009
Arsenic	U	µg/L	0.93	5	M Pattanayek	8/12/2009
Barium	32	µg/L	2.5	5	M Pattanayek	8/11/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	8/11/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	8/11/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	8/12/2009
Cobalt	0.22J	µg/L	0.04	1	M Pattanayek	8/11/2009
Copper	1.8	µg/L	0.38	1	M Pattanayek	8/11/2009
Lead	U	µg/L	0.10	1	M Pattanayek	8/11/2009
Manganese	75	µg/L	0.42	1	M Pattanayek	8/11/2009
Nickel	1.1	µg/L	0.25	1	M Pattanayek	8/11/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	8/11/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	8/11/2009
Thallium	U	µg/L	0.03	1	M Pattanayek	8/11/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	8/11/2009
Zinc	3.0J	µg/L	1.9	5	M Pattanayek	8/11/2009

**Lab-Sample Number:** K00002689004  
**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:** 08/04/2009 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:** 08/14/2009  
**Date/Time Received:** 08/04/2009 13:30  
**Received By:** Ken Hitchman

**Field Determinations**  
**pH:** 7.00 pH Units  
**Chlorine, residual:**  
**Conductivity:** 96 uMHO  
**Temperature:** 23.84  
**Dissolved Oxygen:** 6.49 mg/L  
**Other:**  
**Flow:** CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	0.04J	µg/L	0.029	0.2	A Bass	8/11/2009

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

**Lab-Sample Number:** K00002689005  
**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:** 08/04/2009 10:37  
**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:** 08/14/2009  
**Date/Time Received:** 08/04/2009 13:30  
**Received By:** Ken Hitchman

**Field Determinations**  
**pH:** 6.97 pH Units  
**Chlorine, residual:**  
**Conductivity:** 105 uMHO  
**Temperature:** 24.44  
**Dissolved Oxygen:** 6.10 mg/L  
**Other:**  
**Flow:** CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	ML	ANALYZED BY:	DATE
Digestion Metals	08/06/2009				W Frye	8/6/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	ML	ANALYZED BY:	DATE
Iron	180	µg/L	2.9	10	A Bass	8/10/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	ML	ANALYZED BY:	DATE
Aluminum	93	µg/L	6.4	10	M Pattanayek	8/11/2009
Antimony	0.37J	µg/L	0.33	1	M Pattanayek	8/11/2009
Arsenic	2.0J	µg/L	0.93	5	M Pattanayek	8/12/2009
Barium	37	µg/L	2.5	5	M Pattanayek	8/11/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	8/11/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	8/11/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	8/12/2009
Cobalt	0.22J	µg/L	0.04	1	M Pattanayek	8/11/2009
Copper	2.4	µg/L	0.38	1	M Pattanayek	8/11/2009
Lead	0.17J	µg/L	0.10	1	M Pattanayek	8/11/2009
Manganese	80	µg/L	0.42	1	M Pattanayek	8/11/2009
Nickel	1.2	µg/L	0.25	1	M Pattanayek	8/11/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	8/11/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	8/11/2009
Thallium	0.081J	µg/L	0.03	1	M Pattanayek	8/11/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	8/11/2009
Zinc	2.9J	µg/L	1.9	5	M Pattanayek	8/11/2009

**Lab-Sample Number:** K00002689005  
**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:** 08/04/2009 10:37  
**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:** 08/14/2009  
**Date/Time Received:** 08/04/2009 13:30  
**Received By:** Ken Hitchman

**Field Determinations**  
**pH:** 6.97 pH Units  
**Chlorine, residual:**  
**Conductivity:** 105 uMHO  
**Temperature:** 24.44  
**Dissolved Oxygen:** 6.10 mg/L  
**Other:**  
**Flow:** CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	0.04J	µg/L	0.029	0.2	A Bass	8/11/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected

**Lab-Sample Number:** K00002689006  
**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:** 08/04/2009 10:54  
**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:** 08/14/2009  
**Date/Time Received:** 08/04/2009 13:30  
**Received By:** Ken Hitchman

**Field Determinations**  
**pH:** 7.57 pH Units  
**Chlorine, residual:**  
**Conductivity:** 158 uMHO  
**Temperature:** 26.82  
**Dissolved Oxygen:** 7.94 mg/L  
**Other:**  
**Flow:** CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	ML	ANALYZED BY:	DATE
Digestion Metals	08/06/2009				W Frye	8/6/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	ML	ANALYZED BY:	DATE
Iron	130	µg/L	2.9	10	A Bass	8/10/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	ML	ANALYZED BY:	DATE
Aluminum	90	µg/L	6.4	10	M Pattanayek	8/11/2009
Antimony	0.38J	µg/L	0.33	1	M Pattanayek	8/11/2009
Arsenic	1.4J	µg/L	0.93	5	M Pattanayek	8/12/2009
Barium	39	µg/L	2.5	5	M Pattanayek	8/11/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	8/11/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	8/11/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	8/12/2009
Cobalt	0.19J	µg/L	0.04	1	M Pattanayek	8/11/2009
Copper	3.0	µg/L	0.38	1	M Pattanayek	8/11/2009
Lead	0.15J	µg/L	0.10	1	M Pattanayek	8/11/2009
Manganese	52	µg/L	0.42	1	M Pattanayek	8/11/2009
Nickel	1.1	µg/L	0.25	1	M Pattanayek	8/11/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	8/11/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	8/11/2009
Thallium	0.079J	µg/L	0.03	1	M Pattanayek	8/11/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	8/11/2009
Zinc	3.4J	µg/L	1.9	5	M Pattanayek	8/11/2009

**Lab-Sample Number:** K00002689006  
**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:** 08/04/2009 10:54  
**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:** 08/14/2009  
**Date/Time Received:** 08/04/2009 13:30  
**Received By:** Ken Hitchman

**Field Determinations**  
**pH:** 7.57 pH Units  
**Chlorine, residual:**  
**Conductivity:** 158 uMHO  
**Temperature:** 26.82  
**Dissolved Oxygen:** 7.94 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	8/11/2009

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

**Lab-Sample Number:** K00002689007  
**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:** 08/04/2009 11:07  
**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:** 08/14/2009  
**Date/Time Received:** 08/04/2009 13:30  
**Received By:** Ken Hitchman

**Field Determinations**  
**pH:** 7.15 pH Units  
**Chlorine, residual:**  
**Conductivity:** 137 uMHO  
**Temperature:** 28.09  
**Dissolved Oxygen:** 6.18 mg/L  
**Other:**  
**Flow:** CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	08/06/2009				W Frye	8/6/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	220	µg/L	2.9	10	A Bass	8/10/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	190	µg/L	6.4	10	M Pattanayek	8/11/2009
Antimony	0.42J	µg/L	0.33	1	M Pattanayek	8/11/2009
Arsenic	2.7J	µg/L	0.93	5	M Pattanayek	8/12/2009
Barium	47	µg/L	2.5	5	M Pattanayek	8/11/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	8/11/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	8/11/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	8/12/2009
Cobalt	0.29J	µg/L	0.04	1	M Pattanayek	8/11/2009
Copper	7.2	µg/L	0.38	1	M Pattanayek	8/11/2009
Lead	0.14J	µg/L	0.10	1	M Pattanayek	8/11/2009
Manganese	81	µg/L	0.42	1	M Pattanayek	8/11/2009
Nickel	1.3	µg/L	0.25	1	M Pattanayek	8/11/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	8/11/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	8/11/2009
Thallium	0.088J	µg/L	0.03	1	M Pattanayek	8/11/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	8/11/2009
Zinc	5.2	µg/L	1.9	5	M Pattanayek	8/11/2009

**Lab-Sample Number:** K00002689007  
**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:** 08/04/2009 11:07  
**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:** 08/14/2009  
**Date/Time Received:** 08/04/2009 13:30  
**Received By:** Ken Hitchman

**Field Determinations**  
**pH:** 7.15 pH Units  
**Chlorine, residual:**  
**Conductivity:** 137 uMHO  
**Temperature:** 28.09  
**Dissolved Oxygen:** 6.18 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	8/11/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected

**Lab-Sample Number:** K00002689008  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Clinch River TVA Discharge Point  
**Sampler Project Name:** TVA ash spill  
**Project Site No.:** 5A Field Dup  
**Station No.:** KingAshOutF2-FD  
**Date/Time Collected:** 08/04/2009 11:07  
**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:** 08/14/2009  
**Date/Time Received:** 08/04/2009 13:30  
**Received By:** Ken Hitchman

**Field Determinations**  
**pH:** 7.15 pH Units  
**Chlorine, residual:**  
**Conductivity:** 137 uMHO  
**Temperature:** 28.09  
**Dissolved Oxygen:** 6.18 mg/L  
**Other:**  
**Flow:** CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	08/06/2009				W Frye	8/6/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	220	µg/L	2.9	10	A Bass	8/10/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	170	µg/L	6.4	10	M Pattanayek	8/11/2009
Antimony	0.40J	µg/L	0.33	1	M Pattanayek	8/11/2009
Arsenic	3.1J	µg/L	0.93	5	M Pattanayek	8/12/2009
Barium	45	µg/L	2.5	5	M Pattanayek	8/11/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	8/11/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	8/11/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	8/12/2009
Cobalt	0.29J	µg/L	0.04	1	M Pattanayek	8/11/2009
Copper	7.4	µg/L	0.38	1	M Pattanayek	8/11/2009
Lead	0.14J	µg/L	0.10	1	M Pattanayek	8/11/2009
Manganese	80	µg/L	0.42	1	M Pattanayek	8/11/2009
Nickel	1.2	µg/L	0.25	1	M Pattanayek	8/11/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	8/11/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	8/11/2009
Thallium	0.079J	µg/L	0.03	1	M Pattanayek	8/11/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	8/11/2009
Zinc	4.6J	µg/L	1.9	5	M Pattanayek	8/11/2009

**Lab-Sample Number:** K00002689008  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Clinch River TVA Discharge Point  
**Sampler Project Name:** TVA ash spill  
**Project Site No.:** 5A Field Dup  
**Station No.:** KingAshOutF2-FD  
**Date/Time Collected:** 08/04/2009 11:07  
**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:** 08/14/2009  
**Date/Time Received:** 08/04/2009 13:30  
**Received By:** Ken Hitchman

**Field Determinations**  
**pH:** 7.15 pH Units  
**Chlorine, residual:**  
**Conductivity:** 137 uMHO  
**Temperature:** 28.09  
**Dissolved Oxygen:** 6.18 mg/L  
**Other:**  
**Flow:** CFS

TEST: Mercury		METHOD: EPA 245.1					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Mercury	0.03J	µg/L	0.029	0.2	A Bass	8/11/2009	

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

**Lab-Sample Number:** K00002689009  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Clinch River TVA Discharge Point  
**Sampler Project Name:** TVA ash spill  
**Project Site No.:** 5A Field Blank  
**Station No.:** KingAshOutF2-FB  
**Date/Time Collected:** 08/04/2009 11:07  
**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:** 08/14/2009  
**Date/Time Received:** 08/04/2009 13:30  
**Received By:** Ken Hitchman

**Field Determinations**

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

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	08/06/2009				W Frye	8/6/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	U	µg/L	2.9	10	A Bass	8/10/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	U	µg/L	6.4	10	M Pattanayek	8/11/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	8/12/2009
Arsenic	U	µg/L	0.93	5	M Pattanayek	8/12/2009
Barium	U	µg/L	2.5	5	M Pattanayek	8/11/2009
Beryllium	0.15J	µg/L	0.11	1	M Pattanayek	8/11/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	8/11/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	8/12/2009
Cobalt	0.14J	µg/L	0.04	1	M Pattanayek	8/11/2009
Copper	U	µg/L	0.38	1	M Pattanayek	8/11/2009
Lead	0.14J	µg/L	0.10	1	M Pattanayek	8/11/2009
Manganese	U	µg/L	0.42	1	M Pattanayek	8/11/2009
Nickel	U	µg/L	0.25	1	M Pattanayek	8/11/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	8/11/2009
Silver	0.14J	µg/L	0.03	0.25	M Pattanayek	8/11/2009
Thallium	0.16J	µg/L	0.03	1	M Pattanayek	8/11/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	8/11/2009
Zinc	U	µg/L	1.9	5	M Pattanayek	8/11/2009

**Lab-Sample Number:** K00002689009  
**Project Name:** TVA-Ash Spill  
**Sample Description:** Clinch River TVA Discharge Point  
**Sampler Project Name:** TVA ash spill  
**Project Site No.:** 5A Field Blank  
**Station No.:** KingAshOutF2-FB  
**Date/Time Collected:** 08/04/2009 11:07  
**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:** 08/14/2009  
**Date/Time Received:** 08/04/2009 13:30  
**Received By:** Ken Hitchman

**Field Determinations**

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

TEST: Mercury		METHOD: EPA 245.1					
ANALYTE	RESULT	UNITS	MDL	MLQ	ANALYZED BY:	DATE	
Mercury	U	µg/L	0.029	0.2	A Bass	8/11/2009	

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected

**Lab-Sample Number:** K00002689010  
**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:** 08/04/2009 11:21  
**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:** 08/14/2009  
**Date/Time Received:** 08/04/2009 13:30  
**Received By:** Ken Hitchman

**Field Determinations**  
**pH:** 7.20 pH Units  
**Chlorine, residual:**  
**Conductivity:** 116 uMHO  
**Temperature:** 25.24  
**Dissolved Oxygen:** 7.48 mg/L  
**Other:**  
**Flow:** CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	ML	ANALYZED BY:	DATE
Digestion Metals	08/06/2009				W Frye	8/6/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	ML	ANALYZED BY:	DATE
Iron	140	µg/L	2.9	10	A Bass	8/10/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	ML	ANALYZED BY:	DATE
Aluminum	68	µg/L	6.4	10	M Pattanayek	8/11/2009
Antimony	0.58J	µg/L	0.33	1	M Pattanayek	8/11/2009
Arsenic	1.6J	µg/L	0.93	5	M Pattanayek	8/12/2009
Barium	34	µg/L	2.5	5	M Pattanayek	8/11/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	8/11/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	8/11/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	8/12/2009
Cobalt	0.19J	µg/L	0.04	1	M Pattanayek	8/11/2009
Copper	2.2	µg/L	0.38	1	M Pattanayek	8/11/2009
Lead	0.14J	µg/L	0.10	1	M Pattanayek	8/11/2009
Manganese	61	µg/L	0.42	1	M Pattanayek	8/11/2009
Nickel	1.1	µg/L	0.25	1	M Pattanayek	8/11/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	8/11/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	8/11/2009
Thallium	0.053J	µg/L	0.03	1	M Pattanayek	8/11/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	8/11/2009
Zinc	2.4J	µg/L	1.9	5	M Pattanayek	8/11/2009

<b>Lab-Sample Number:</b>	K00002689010	<b>Field Determinations</b>	
<b>Project Name:</b>	TVA-Ash Spill	<b>pH:</b>	7.20      pH Units
<b>Sample Description:</b>	Clinch River mile 4.5 near Sugar Grove Valley R	<b>Chlorine, residual:</b>	
<b>Sampler Project Name:</b>	TVA ash spill	<b>Conductivity:</b>	116      uMHO
<b>Project Site No.:</b>	6	<b>Temperature:</b>	25.24
<b>Station No.:</b>	CLINC004.5RO	<b>Dissolved Oxygen:</b>	7.48      mg/L
<b>Date/Time Collected:</b>	08/04/2009 11:21	<b>Other:</b>	
<b>Sampler's Name:</b>	Geoff Klein	<b>Flow:</b>	CFS
<b>County:</b>	ROANE - 73		
<b>Sample Matrix:</b>	Water		
<b>EFO:</b>	Knoxville		
<b>Sampling Agency:</b>	TDEC-WPC		
<b>Billing Code:</b>	327.34-20		
<b>Send Report To:</b>	TDEC-WPC		
<b>Agency Invoiced:</b>	TDEC-WPC		
<b>Priority Date:</b>	08/14/2009		
<b>Date/Time Received:</b>	08/04/2009 13:30		
<b>Received By:</b>	Ken Hitchman		

<b>TEST: Mercury</b>		<b>METHOD: EPA 245.1</b>				
<b>ANALYTE</b>	<b>RESULT</b>	<b>UNITS</b>	<b>MDL</b>	<b>MQL</b>	<b>ANALYZED BY:</b>	<b>DATE</b>
Mercury	0.04J	µg/L	0.029	0.2	A Bass	8/11/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected