



**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:** Geoff Klein  
TDEC-DWS  
200 East Race St  
Knoxville, TN 37763

**Lab ID:** N00004308  
Nashville Central Laboratory

**Sampling Agency:** TDEC: Division of Water Supply

**Billing Code:** 327.39-12

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

  
Analytical Supervisor

**Lab-Sample Number:** N00004308001  
**Project Name:**  
**Sample Description:** FINISHED  
**Sampler Project Name:** TVA ASH SPILL  
**Project Site No.:** KINGSTON WTP  
**Station No.:**  
**Date/Time Collected:** 03/23/2009 11:05  
**Sampler's Name:** JUSTIN FISHER  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-DWS  
**Billing Code:** 327.39-12  
**Send Report To:** TDEC-DWS  
**Agency Invoiced:** TDEC-DWS  
**Priority Date:**  
**Date/Time Received:** 03/23/2009 13:35  
**Received By:** P D Wilson

**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	65	mg/L	3.8	10	M Chen	3/24/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	53	mg/L	0.7	1	M Chen	3/24/2009

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

**Lab-Sample Number:** N00004308002  
**Project Name:**  
**Sample Description:** RAW  
**Sampler Project Name:** TVA ASH SPILL  
**Project Site No.:** KINGSTON WTP  
**Station No.:**  
**Date/Time Collected:** 03/23/2009 11:10  
**Sampler's Name:** JUSTIN FISHER  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-DWS  
**Billing Code:** 327.39-12  
**Send Report To:** TDEC-DWS  
**Agency Invoiced:** TDEC-DWS  
**Priority Date:**  
**Date/Time Received:** 03/23/2009 13:35  
**Received By:** P D Wilson

**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	67	mg/L	3.8	10	M Chen	3/24/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	52	mg/L	0.7	1	M Chen	3/24/2009

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

**Lab-Sample Number:** N00004308003  
**Project Name:**  
**Sample Description:** RAW  
**Sampler Project Name:** TVA ASH SPILL  
**Project Site No.:** ROCKWOOD WTP  
**Station No.:**  
**Date/Time Collected:** 03/23/2009 11:38  
**Sampler's Name:** JUSTIN FISHER  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-DWS  
**Billing Code:** 327.39-12  
**Send Report To:** TDEC-DWS  
**Agency Invoiced:** TDEC-DWS  
**Priority Date:**  
**Date/Time Received:** 03/23/2009 13:35  
**Received By:** P D Wilson

**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	84	mg/L	3.8	10	M Chen	3/24/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	57	mg/L	0.7	1	M Chen	3/24/2009

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

**Lab-Sample Number:** N00004308004  
**Project Name:**  
**Sample Description:** FINISHED  
**Sampler Project Name:** TVA ASH SPILL  
**Project Site No.:** ROCKWOOD WTP  
**Station No.:**  
**Date/Time Collected:** 03/23/2009 11:43  
**Sampler's Name:** JUSTIN FISHER  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-DWS  
**Billing Code:** 327.39-12  
**Send Report To:** TDEC-DWS  
**Agency Invoiced:** TDEC-DWS  
**Priority Date:**  
**Date/Time Received:** 03/23/2009 13:35  
**Received By:** P D Wilson

**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	70	mg/L	3.8	10	M Chen	3/24/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	53	mg/L	0.7	1	M Chen	3/24/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected



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**Sent To:** Geoff Klein  
TDEC-DWS  
200 East Race St  
Knoxville, TN 37763

**Lab ID:** N00004308  
Nashville Central Laboratory

**Sampling Agency:** TDEC: Division of Water Supply

**Billing Code:** 327.39-12

## **Preliminary Report**

Results on this report should only be considered preliminary, and the lab should be contacted for Actual Final Results.

# Preliminary Report

Results on this report should only be considered preliminary, and the lab should be contacted for Actual Final Results.

**Lab-Sample Number:** N00004308001  
**Project Name:**  
**Sample Description:** FINISHED  
**Sampler Project Name:** TVA ASH SPILL  
**Project Site No.:** KINGSTON WTP  
**Station No.:**  
**Date/Time Collected:** 03/23/2009 11:05  
**Sampler's Name:** JUSTIN FISHER  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-DWS  
**Billing Code:** 327.39-12  
**Send Report To:** TDEC-DWS  
**Agency Invoiced:** TDEC-DWS  
**Priority Date:**  
**Date/Time Received:** 03/23/2009 13:35  
**Received By:** P D Wilson

**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	03/24/2009				A Wilson	3/24/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Arsenic	U	µg/L	0.93	5	M Pattanayek	3/24/2009
Barium	20	µg/L	2.5	5	M Pattanayek	3/24/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	3/24/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	3/24/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	3/24/2009
Cobalt	0.10J	µg/L	0.04	1	M Pattanayek	3/24/2009
Lead	U	µg/L	0.10	1	M Pattanayek	3/24/2009
Manganese	U	µg/L	0.42	1	M Pattanayek	3/24/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	3/24/2009
Thallium	0.40J	µg/L	0.03	1	M Pattanayek	3/24/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	3/24/2009

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	PENDING	µg/L	0.13		NOT REPORTED	/ /

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

# Preliminary Report

Results on this report should only be considered preliminary, and the lab should be contacted for Actual Final Results.

**Lab-Sample Number:** N00004308002  
**Project Name:**  
**Sample Description:** RAW  
**Sampler Project Name:** TVA ASH SPILL  
**Project Site No.:** KINGSTON WTP  
**Station No.:**  
**Date/Time Collected:** 03/23/2009 11:10  
**Sampler's Name:** JUSTIN FISHER  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-DWS  
**Billing Code:** 327.39-12  
**Send Report To:** TDEC-DWS  
**Agency Invoiced:** TDEC-DWS  
**Priority Date:**  
**Date/Time Received:** 03/23/2009 13:35  
**Received By:** P D Wilson

**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	03/24/2009				A Wilson	3/24/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Arsenic	U	µg/L	0.93	5	M Pattanayek	3/24/2009
Barium	20	µg/L	2.5	5	M Pattanayek	3/24/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	3/24/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	3/24/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	3/24/2009
Cobalt	0.10J	µg/L	0.04	1	M Pattanayek	3/24/2009
Lead	U	µg/L	0.10	1	M Pattanayek	3/24/2009
Manganese	U	µg/L	0.42	1	M Pattanayek	3/24/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	3/24/2009
Thallium	0.23J	µg/L	0.03	1	M Pattanayek	3/24/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	3/24/2009

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	PENDING	µg/L	0.13		NOT REPORTED	/ /

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

# Preliminary Report

Results on this report should only be considered preliminary, and the lab should be contacted for Actual Final Results.

**Lab-Sample Number:** N00004308003  
**Project Name:**  
**Sample Description:** RAW  
**Sampler Project Name:** TVA ASH SPILL  
**Project Site No.:** ROCKWOOD WTP  
**Station No.:**  
**Date/Time Collected:** 03/23/2009 11:38  
**Sampler's Name:** JUSTIN FISHER  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-DWS  
**Billing Code:** 327.39-12  
**Send Report To:** TDEC-DWS  
**Agency Invoiced:** TDEC-DWS  
**Priority Date:**  
**Date/Time Received:** 03/23/2009 13:35  
**Received By:** P D Wilson

**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	03/24/2009				A Wilson	3/24/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Arsenic	U	µg/L	0.93	5	M Pattanayek	3/24/2009
Barium	26	µg/L	2.5	5	M Pattanayek	3/24/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	3/24/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	3/24/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	3/24/2009
Cobalt	0.12J	µg/L	0.04	1	M Pattanayek	3/24/2009
Lead	0.34J	µg/L	0.10	1	M Pattanayek	3/24/2009
Manganese	19	µg/L	0.42	1	M Pattanayek	3/24/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	3/24/2009
Thallium	0.11J	µg/L	0.03	1	M Pattanayek	3/24/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	3/24/2009

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	PENDING	µg/L	0.13		NOT REPORTED	/ /

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

# Preliminary Report

Results on this report should only be considered preliminary, and the lab should be contacted for Actual Final Results.

**Lab-Sample Number:** N00004308004  
**Project Name:**  
**Sample Description:** FINISHED  
**Sampler Project Name:** TVA ASH SPILL  
**Project Site No.:** ROCKWOOD WTP  
**Station No.:**  
**Date/Time Collected:** 03/23/2009 11:43  
**Sampler's Name:** JUSTIN FISHER  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-DWS  
**Billing Code:** 327.39-12  
**Send Report To:** TDEC-DWS  
**Agency Invoiced:** TDEC-DWS  
**Priority Date:**  
**Date/Time Received:** 03/23/2009 13:35  
**Received By:** P D Wilson

**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	03/24/2009				A Wilson	3/24/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Arsenic	U	µg/L	0.93	5	M Pattanayek	3/24/2009
Barium	25	µg/L	2.5	5	M Pattanayek	3/24/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	3/24/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	3/24/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	3/24/2009
Cobalt	0.08J	µg/L	0.04	1	M Pattanayek	3/24/2009
Lead	U	µg/L	0.10	1	M Pattanayek	3/24/2009
Manganese	U	µg/L	0.42	1	M Pattanayek	3/24/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	3/24/2009
Thallium	0.07J	µg/L	0.03	1	M Pattanayek	3/24/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	3/24/2009

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	PENDING	µg/L	0.13		NOT REPORTED	/ /

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