



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

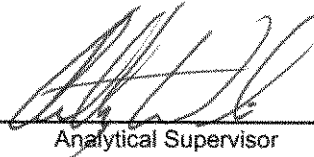
**Sent To:** Steve Roberts  
TDEC-DWS  
Knoxville FO  
3711 Middlebrook Pike  
Knoxville, TN 37921

**Lab ID:** K00003899  
Knoxville Regional 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.



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Analytical Supervisor

Lab-Sample Number: K00003899001  
 Project Name:  
 Sample Description: Kingston WTP

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

Sampler Project Name: Raw  
 Project Site No.:  
 Station No.:  
 Date/Time Collected: 07/07/2010 08:30  
 Sampler's Name: Geoff Klein  
 County: ROANE - 73  
 Sample Matrix: Water  
 EFO: Knoxville  
 Sampling Agency: TDEC-DWS  
 Billing Code: 327.39-12  
 Send Report To: TDEC-DWS  
 Priority Date: 07/17/2010  
 Date/Time Received: 07/07/2010 12:43

Agency Invoiced: TDEC-DWS  
 Received By: Ken Hitchman

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	07/08/2010				A Wilson	7/8/2010

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Arsenic	1.6J	µg/L	0.82	5	M Pattanayek	7/8/2010
Barium	26	µg/L	0.26	5	M Pattanayek	7/8/2010
Beryllium	U	µg/L	0.21	1	M Pattanayek	7/8/2010
Cadmium	U	µg/L	0.5	1	M Pattanayek	7/8/2010
Chromium	U	µg/L	0.89	5	M Pattanayek	7/8/2010
Cobalt	U	µg/L	0.36	1	M Pattanayek	7/8/2010
Lead	U	µg/L	0.51	1	M Pattanayek	7/8/2010
Manganese	24	µg/L	0.59	1	M Pattanayek	7/8/2010
Selenium	U	µg/L	1.9	5	M Pattanayek	7/8/2010
Thallium	U	µg/L	0.25	1	M Pattanayek	7/8/2010
Vanadium	U	µg/L	2	5	M Pattanayek	7/8/2010

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.038	0.2	A Bass	7/9/2010

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

Lab-Sample Number: K00003899002  
 Project Name:  
 Sample Description: Kingston WTP

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

Sampler Project Name: Finish  
 Project Site No.:  
 Station No.:  
 Date/Time Collected: 07/07/2010 08:35  
 Sampler's Name: Geoff Klein  
 County: ROANE - 73  
 Sample Matrix: Water  
 EFO: Knoxville  
 Sampling Agency: TDEC-DWS  
 Billing Code: 327.39-12  
 Send Report To: TDEC-DWS  
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 Received By: Ken Hitchman

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	07/08/2010				A Wilson	7/8/2010

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Arsenic	U	µg/L	0.82	5	M Pattanayek	7/8/2010
Barium	23	µg/L	0.26	5	M Pattanayek	7/8/2010
Beryllium	U	µg/L	0.21	1	M Pattanayek	7/8/2010
Cadmium	U	µg/L	0.5	1	M Pattanayek	7/8/2010
Chromium	U	µg/L	0.89	5	M Pattanayek	7/8/2010
Cobalt	U	µg/L	0.36	1	M Pattanayek	7/8/2010
Lead	U	µg/L	0.51	1	M Pattanayek	7/8/2010
Manganese	U	µg/L	0.59	1	M Pattanayek	7/8/2010
Selenium	U	µg/L	1.9	5	M Pattanayek	7/8/2010
Thallium	U	µg/L	0.25	1	M Pattanayek	7/8/2010
Vanadium	U	µg/L	2	5	M Pattanayek	7/8/2010

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.038	0.2	A Bass	7/9/2010

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

Lab-Sample Number: K00003899004  
 Project Name:  
 Sample Description: Rockwood WTP

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

Sampler Project Name: Raw  
 Project Site No.:  
 Station No.:  
 Date/Time Collected: 07/07/2010 10:00  
 Sampler's Name: Geoff Klein  
 County: ROANE - 73  
 Sample Matrix: Water  
 EFO: Knoxville  
 Sampling Agency: TDEC-DWS  
 Billing Code: 327.39-12  
 Send Report To: TDEC-DWS  
 Priority Date: 07/17/2010  
 Date/Time Received: 07/07/2010 12:43

Agency Invoiced: TDEC-DWS  
 Received By: Ken Hitchman

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	07/08/2010				A Wilson	7/8/2010

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Arsenic	0.93J	µg/L	0.82	5	M Pattanayek	7/8/2010
Barium	28	µg/L	0.26	5	M Pattanayek	7/8/2010
Beryllium	U	µg/L	0.21	1	M Pattanayek	7/8/2010
Cadmium	U	µg/L	0.5	1	M Pattanayek	7/8/2010
Chromium	U	µg/L	0.89	5	M Pattanayek	7/8/2010
Cobalt	U	µg/L	0.36	1	M Pattanayek	7/8/2010
Lead	3.3	µg/L	0.51	1	M Pattanayek	7/8/2010
Manganese	63	µg/L	0.59	1	M Pattanayek	7/8/2010
Selenium	U	µg/L	1.9	5	M Pattanayek	7/8/2010
Thallium	U	µg/L	0.25	1	M Pattanayek	7/8/2010
Vanadium	U	µg/L	2	5	M Pattanayek	7/8/2010

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.038	0.2	A Bass	7/8/2010

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

Lab-Sample Number: K00003899005  
 Project Name:  
 Sample Description: Rockwood WTP

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

Sampler Project Name: Finish  
 Project Site No.:  
 Station No.:  
 Date/Time Collected: 07/07/2010 10:05  
 Sampler's Name: Geoff Klein  
 County: ROANE - 73  
 Sample Matrix: Water  
 EFO: Knoxville  
 Sampling Agency: TDEC-DWS  
 Billing Code: 327.39-12  
 Send Report To: TDEC-DWS  
 Priority Date: 07/17/2010  
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Agency Invoiced: TDEC-DWS  
 Received By: Ken Hitchman

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	07/08/2010				A Wilson	7/8/2010

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Arsenic	U	µg/L	0.82	5	M Pattanayek	7/8/2010
Barium	26	µg/L	0.26	5	M Pattanayek	7/8/2010
Beryllium	U	µg/L	0.21	1	M Pattanayek	7/8/2010
Cadmium	U	µg/L	0.5	1	M Pattanayek	7/8/2010
Chromium	U	µg/L	0.89	5	M Pattanayek	7/8/2010
Cobalt	U	µg/L	0.36	1	M Pattanayek	7/8/2010
Lead	U	µg/L	0.51	1	M Pattanayek	7/8/2010
Manganese	U	µg/L	0.59	1	M Pattanayek	7/8/2010
Selenium	U	µg/L	1.9	5	M Pattanayek	7/8/2010
Thallium	U	µg/L	0.25	1	M Pattanayek	7/8/2010
Vanadium	U	µg/L	2	5	M Pattanayek	7/8/2010

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.038	0.2	A Bass	7/8/2010

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



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

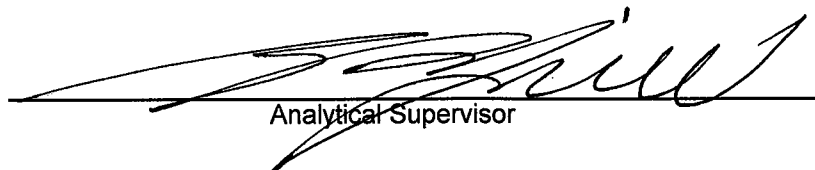
**Sent To:** Steve Roberts  
TDEC-DWS  
Knoxville FO  
3711 Middlebrook Pike  
Knoxville, TN 37921

**Lab ID:** K00003899  
Knoxville Regional 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:** K00003899001  
**Project Name:**  
**Sample Description:** Kingston WTP

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

**Sampler Project Name:** Raw  
**Project Site No.:**  
**Station No.:**  
**Date/Time Collected:** 07/07/2010 08:30  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-DWS  
**Billing Code:** 327.39-12  
**Send Report To:** TDEC-DWS  
**Priority Date:** 07/17/2010  
**Date/Time Received:** 07/07/2010 12:43

**Agency Invoiced:** TDEC-DWS

**Received By:** Ken Hitchman

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	62	mg/L	3.8	10	S Burchfield	7/9/2010

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	57	mg/L	0.7	1	P Leathers	7/9/2010

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

Lab-Sample Number: K00003899002  
Project Name:  
Sample Description: Kingston WTP

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

Sampler Project Name: Finish  
Project Site No.:  
Station No.:  
Date/Time Collected: 07/07/2010 08:35  
Sampler's Name: Geoff Klein  
County: ROANE - 73  
Sample Matrix: Water  
EFO: Knoxville  
Sampling Agency: TDEC-DWS  
Billing Code: 327.39-12  
Send Report To: TDEC-DWS  
Priority Date: 07/17/2010  
Date/Time Received: 07/07/2010 12:43

Agency Invoiced: TDEC-DWS

Received By: Ken Hitchman

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	55	mg/L	3.8	10	S Burchfield	7/9/2010

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	45	mg/L	0.7	1	P Leathers	7/9/2010

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

**Lab-Sample Number:** K00003899004  
**Project Name:**  
**Sample Description:** Rockwood WTP

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

**Sampler Project Name:** Raw  
**Project Site No.:**  
**Station No.:**  
**Date/Time Collected:** 07/07/2010 10:00  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-DWS  
**Billing Code:** 327.39-12  
**Send Report To:** TDEC-DWS  
**Priority Date:** 07/17/2010  
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**Agency Invoiced:** TDEC-DWS

**Received By:** Ken Hitchman

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	75	mg/L	3.8	10	S Burchfield	7/9/2010

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	58	mg/L	0.7	1	P Leathers	7/9/2010

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

**Lab-Sample Number:** K00003899005  
**Project Name:**  
**Sample Description:** Rockwood WTP

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

**Sampler Project Name:** Finish  
**Project Site No.:**  
**Station No.:**  
**Date/Time Collected:** 07/07/2010 10:05  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-DWS  
**Billing Code:** 327.39-12  
**Send Report To:** TDEC-DWS  
**Priority Date:** 07/17/2010  
**Date/Time Received:** 07/07/2010 12:43

**Agency Invoiced:** TDEC-DWS

**Received By:** Ken Hitchman

TEST: Alkalinity, Total		METHOD: EPA 310.2					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Total Alkalinity	65	mg/L	3.8	10	S Burchfield	7/9/2010	

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Calcium hardness	61	mg/L	0.7	1	P Leathers	7/9/2010	

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