



**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: K00003918
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: K00003918001
 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: 07/12/2010 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: 07/22/2010
 Date/Time Received: 07/12/2010 12:55

Agency Invoiced: TDEC-DWS
 Received By: E McCrary

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	07/13/2010				A Wilson	7/13/2010

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Arsenic	1.7J	µg/L	0.82	5	M Pattanayek	7/14/2010
Barium	33	µg/L	0.26	5	M Pattanayek	7/14/2010
Beryllium	U	µg/L	0.21	1	M Pattanayek	7/14/2010
Cadmium	U	µg/L	0.5	1	M Pattanayek	7/14/2010
Chromium	0.94J	µg/L	0.89	5	M Pattanayek	7/14/2010
Cobalt	U	µg/L	0.36	1	M Pattanayek	7/14/2010
Lead	U	µg/L	0.51	1	M Pattanayek	7/14/2010
Manganese	31	µg/L	0.59	1	M Pattanayek	7/14/2010
Selenium	U	µg/L	1.9	5	M Pattanayek	7/14/2010
Thallium	U	µg/L	0.25	1	M Pattanayek	7/14/2010
Vanadium	U	µg/L	2	5	M Pattanayek	7/14/2010

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.038	0.2	A Bass	7/13/2010

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

Lab-Sample Number: K00003918002
 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: 07/12/2010 08:40
 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: 07/22/2010
 Date/Time Received: 07/12/2010 12:55

Agency Invoiced: TDEC-DWS
 Received By: E McCrary

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	07/13/2010				A Wilson	7/13/2010

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Arsenic	U	µg/L	0.82	5	M Pattanayek	7/14/2010
Barium	25	µg/L	0.26	5	M Pattanayek	7/14/2010
Beryllium	U	µg/L	0.21	1	M Pattanayek	7/14/2010
Cadmium	U	µg/L	0.5	1	M Pattanayek	7/14/2010
Chromium	U	µg/L	0.89	5	M Pattanayek	7/14/2010
Cobalt	U	µg/L	0.36	1	M Pattanayek	7/14/2010
Lead	U	µg/L	0.51	1	M Pattanayek	7/14/2010
Manganese	U	µg/L	0.59	1	M Pattanayek	7/14/2010
Selenium	U	µg/L	1.9	5	M Pattanayek	7/14/2010
Thallium	U	µg/L	0.25	1	M Pattanayek	7/14/2010
Vanadium	U	µg/L	2	5	M Pattanayek	7/14/2010

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.038	0.2	A Bass	7/13/2010

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

Lab-Sample Number: K00003918003
 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: 07/12/2010 09:15
 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: 07/22/2010
 Date/Time Received: 07/12/2010 12:55

Agency Invoiced: TDEC-DWS
 Received By: E McCrary

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	07/13/2010				A Wilson	7/13/2010

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Arsenic	U	µg/L	0.82	5	M Pattanayek	7/14/2010
Barium	29	µg/L	0.26	5	M Pattanayek	7/14/2010
Beryllium	U	µg/L	0.21	1	M Pattanayek	7/14/2010
Cadmium	U	µg/L	0.5	1	M Pattanayek	7/14/2010
Chromium	U	µg/L	0.89	5	M Pattanayek	7/14/2010
Cobalt	U	µg/L	0.36	1	M Pattanayek	7/14/2010
Lead	U	µg/L	0.51	1	M Pattanayek	7/14/2010
Manganese	16	µg/L	0.59	1	M Pattanayek	7/14/2010
Selenium	U	µg/L	1.9	5	M Pattanayek	7/14/2010
Thallium	U	µg/L	0.25	1	M Pattanayek	7/14/2010
Vanadium	U	µg/L	2	5	M Pattanayek	7/14/2010

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.038	0.2	A Bass	7/13/2010

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

Lab-Sample Number: K00003918004
 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: 07/12/2010 09:20
 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: 07/22/2010
 Date/Time Received: 07/12/2010 12:55

Agency Invoiced: TDEC-DWS
 Received By: E McCrary

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	07/13/2010				A Wilson	7/13/2010

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Arsenic	U	µg/L	0.82	5	M Pattanayek	7/13/2010
Barium	26	µg/L	0.26	5	M Pattanayek	7/13/2010
Beryllium	U	µg/L	0.21	1	M Pattanayek	7/13/2010
Cadmium	U	µg/L	0.5	1	M Pattanayek	7/13/2010
Chromium	U	µg/L	0.89	5	M Pattanayek	7/13/2010
Cobalt	U	µg/L	0.36	1	M Pattanayek	7/13/2010
Lead	U	µg/L	0.51	1	M Pattanayek	7/13/2010
Manganese	U	µg/L	0.59	1	M Pattanayek	7/13/2010
Selenium	U	µg/L	1.9	5	M Pattanayek	7/13/2010
Thallium	U	µg/L	0.25	1	M Pattanayek	7/13/2010
Vanadium	U	µg/L	2	5	M Pattanayek	7/13/2010

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.038	0.2	A Bass	7/13/2010

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

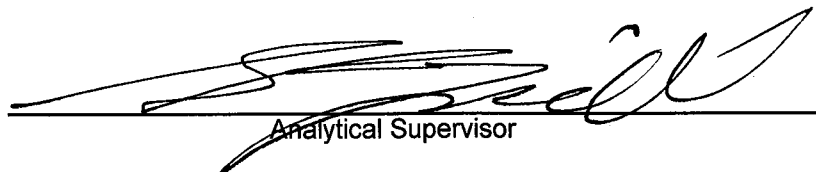
Sent To: Steve Roberts
TDEC-DWS
Knoxville FO
3711 Middlebrook Pike
Knoxville, TN 37921

Lab ID: K00003918
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: K00003918001
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: 07/12/2010 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: 07/22/2010
Date/Time Received: 07/12/2010 12:55

Agency Invoiced: TDEC-DWS
Received By: E McCrary

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	69	mg/L	3.8	10	M Chen	7/14/2010

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	54	mg/L	0.7	1	M Chen	7/13/2010

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

Lab-Sample Number: K00003918002
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: 07/12/2010 08:40
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: 07/22/2010
Date/Time Received: 07/12/2010 12:55

Agency Invoiced: TDEC-DWS
Received By: E McCrary

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	60	mg/L	3.8	10	M Chen	7/14/2010

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	50	mg/L	0.7	1	M Chen	7/13/2010

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

Lab-Sample Number: K00003918003
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: 07/12/2010 09:15
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: 07/22/2010
Date/Time Received: 07/12/2010 12:55

Agency Invoiced: TDEC-DWS
Received By: E McCrary

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	73	mg/L	3.8	10	M Chen	7/14/2010

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	55	mg/L	0.7	1	M Chen	7/13/2010

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

Lab-Sample Number: K00003918004
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: 07/12/2010 09:20
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: 07/22/2010
Date/Time Received: 07/12/2010 12:55

Agency Invoiced: TDEC-DWS
Received By: E McCrary

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	66	mg/L	3.8	10	M Chen	7/14/2010

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	57	mg/L	0.7	1	M Chen	7/13/2010

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