



**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

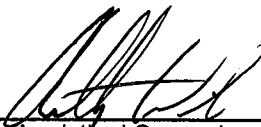
Sent To: Steve Roberts
TDEC-DWS
Knoxville FO
3711 Middlebrook Pike
Knoxville, TN 37921

Lab ID: K00003961
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: K00003961001
 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: 07/26/2010 08:10
 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: 08/05/2010
 Date/Time Received: 07/26/2010 12:43

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	07/27/2010				S Spence	7/27/2010

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Arsenic	1.4J	µg/L	0.82	5	M Pattanayek	7/27/2010
Barium	34	µg/L	0.26	5	M Pattanayek	7/27/2010
Beryllium	U	µg/L	0.21	1	M Pattanayek	7/27/2010
Cadmium	U	µg/L	0.5	1	M Pattanayek	7/27/2010
Chromium	U	µg/L	0.89	5	M Pattanayek	7/27/2010
Cobalt	U	µg/L	0.36	1	M Pattanayek	7/27/2010
Lead	U	µg/L	0.51	1	M Pattanayek	7/27/2010
Manganese	21	µg/L	0.59	1	M Pattanayek	7/27/2010
Selenium	U	µg/L	1.9	5	M Pattanayek	7/27/2010
Thallium	U	µg/L	0.25	1	M Pattanayek	7/27/2010
Vanadium	2.3J	µg/L	2	5	M Pattanayek	7/27/2010

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.038	0.2	A Bass	7/27/2010

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

Lab-Sample Number: K00003961002
 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: 07/26/2010 08:15
 Sampler's Name: Geoff Klein
 County: ROANE - 73
 Sample Matrix: Water
 EFO: Knoxville
 Sampling Agency: TDEC-DWS
 Billing Code: 327.39-12
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 Received By: E McCrary

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	07/27/2010				S Spence	7/27/2010

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Arsenic	1.0J	µg/L	0.82	5	M Pattanayek	7/27/2010
Barium	34	µg/L	0.26	5	M Pattanayek	7/27/2010
Beryllium	U	µg/L	0.21	1	M Pattanayek	7/27/2010
Cadmium	U	µg/L	0.5	1	M Pattanayek	7/27/2010
Chromium	U	µg/L	0.89	5	M Pattanayek	7/27/2010
Cobalt	U	µg/L	0.36	1	M Pattanayek	7/27/2010
Lead	U	µg/L	0.51	1	M Pattanayek	7/27/2010
Manganese	U	µg/L	0.59	1	M Pattanayek	7/27/2010
Selenium	U	µg/L	1.9	5	M Pattanayek	7/27/2010
Thallium	U	µg/L	0.25	1	M Pattanayek	7/27/2010
Vanadium	U	µg/L	2	5	M Pattanayek	7/27/2010

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.038	0.2	A Bass	7/27/2010

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

Lab-Sample Number: K00003961003
 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: 07/26/2010 08:55
 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: 08/05/2010
 Date/Time Received: 07/26/2010 12:43

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	07/27/2010				S Spence	7/27/2010

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Arsenic	U	µg/L	0.82	5	M Pattanayek	7/27/2010
Barium	25	µg/L	0.26	5	M Pattanayek	7/27/2010
Beryllium	U	µg/L	0.21	1	M Pattanayek	7/27/2010
Cadmium	U	µg/L	0.5	1	M Pattanayek	7/27/2010
Chromium	U	µg/L	0.89	5	M Pattanayek	7/27/2010
Cobalt	U	µg/L	0.36	1	M Pattanayek	7/27/2010
Lead	U	µg/L	0.51	1	M Pattanayek	7/27/2010
Manganese	U	µg/L	0.59	1	M Pattanayek	7/27/2010
Selenium	U	µg/L	1.9	5	M Pattanayek	7/27/2010
Thallium	U	µg/L	0.25	1	M Pattanayek	7/27/2010
Vanadium	U	µg/L	2	5	M Pattanayek	7/27/2010

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.038	0.2	A Bass	7/27/2010

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

Lab-Sample Number: K00003961004
 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: 07/26/2010 09:00
 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: 08/05/2010
 Date/Time Received: 07/26/2010 12:43

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	07/27/2010				S Spence	7/27/2010

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Arsenic	U	µg/L	0.82	5	M Pattanayek	7/27/2010
Barium	24	µg/L	0.26	5	M Pattanayek	7/27/2010
Beryllium	U	µg/L	0.21	1	M Pattanayek	7/27/2010
Cadmium	U	µg/L	0.5	1	M Pattanayek	7/27/2010
Chromium	U	µg/L	0.89	5	M Pattanayek	7/27/2010
Cobalt	U	µg/L	0.36	1	M Pattanayek	7/27/2010
Lead	U	µg/L	0.51	1	M Pattanayek	7/27/2010
Manganese	9.7	µg/L	0.59	1	M Pattanayek	7/27/2010
Selenium	U	µg/L	1.9	5	M Pattanayek	7/27/2010
Thallium	U	µg/L	0.25	1	M Pattanayek	7/27/2010
Vanadium	U	µg/L	2	5	M Pattanayek	7/27/2010

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.038	0.2	A Bass	7/27/2010

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



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TDEC-DWS
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3711 Middlebrook Pike
Knoxville, TN 37921

Lab ID: K00003961
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: K00003961001
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: 07/26/2010 08:10
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: 08/05/2010
Date/Time Received: 07/26/2010 12:43

Agency Invoiced: TDEC-DWS
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TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	74	mg/L	3.8	10	M Chen	7/28/2010

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	7/28/2010

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

Lab-Sample Number: K00003961002
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: 07/26/2010 08:15
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: 08/05/2010
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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	70	mg/L	3.8	10	M Chen	7/28/2010

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	7/28/2010

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

Lab-Sample Number: K00003961003
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: 07/26/2010 08:55
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: 08/05/2010
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TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	61	mg/L	3.8	10	M Chen	7/28/2010

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	7/28/2010

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

Lab-Sample Number: K00003961004
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: 07/26/2010 09:00
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: 08/05/2010
Date/Time Received: 07/26/2010 12:43

Agency Invoiced: TDEC-DWS
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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	7/28/2010

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	7/28/2010

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