



**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: K00003356
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: K00003356001
Project Name:
Sample Description: Kingston WTP-Raw
Sampler Project Name: Raw
Project Site No.:
Station No.:
Date/Time Collected: 02/02/2010 08:30
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Drinking Water
EFO: Knoxville
Sampling Agency: TDEC-DWS
Billing Code: 327.39-12
Send Report To: TDEC-DWS
Agency Invoiced: TDEC-DWS
Priority Date: 02/12/2010
Date/Time Received: 02/02/2010 13:55
Received By: E McCrary

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	02/03/2010				A Wilson	2/3/2010

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Arsenic	U	µg/L	0.93	5	M Pattanayek	2/4/2010
Barium	20	µg/L	2.5	5	M Pattanayek	2/4/2010
Beryllium	U	µg/L	0.11	1	M Pattanayek	2/4/2010
Cadmium	U	µg/L	0.41	1	M Pattanayek	2/4/2010
Chromium	U	µg/L	2.0	5	M Pattanayek	2/4/2010
Cobalt	0.041J	µg/L	0.04	1	M Pattanayek	2/4/2010
Lead	0.22J	µg/L	0.10	1	M Pattanayek	2/4/2010
Manganese	34	µg/L	0.42	1	M Pattanayek	2/4/2010
Selenium	U	µg/L	1.3	5	M Pattanayek	2/4/2010
Thallium	0.085J	µg/L	0.03	1	M Pattanayek	2/4/2010
Vanadium	U	µg/L	3.4	5	M Pattanayek	2/4/2010

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.029	0.2	A Wilson	2/4/2010

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

Lab-Sample Number: K00003356002
Project Name:
Sample Description: Kingston WTP-Finish
Sampler Project Name: Finish
Project Site No.:
Station No.:
Date/Time Collected: 02/02/2010 08:35
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Drinking Water
EFO: Knoxville
Sampling Agency: TDEC-DWS
Billing Code: 327.39-12
Send Report To: TDEC-DWS
Agency Invoiced: TDEC-DWS
Priority Date: 02/12/2010
Date/Time Received: 02/02/2010 13:55
Received By: E McCrary

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	02/03/2010				A Wilson	2/3/2010

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Arsenic	U	µg/L	0.93	5	M Pattanayek	2/4/2010
Barium	19	µg/L	2.5	5	M Pattanayek	2/4/2010
Beryllium	U	µg/L	0.11	1	M Pattanayek	2/4/2010
Cadmium	U	µg/L	0.41	1	M Pattanayek	2/4/2010
Chromium	U	µg/L	2.0	5	M Pattanayek	2/4/2010
Cobalt	U	µg/L	0.04	1	M Pattanayek	2/4/2010
Lead	U	µg/L	0.10	1	M Pattanayek	2/4/2010
Manganese	U	µg/L	0.42	1	M Pattanayek	2/4/2010
Selenium	U	µg/L	1.3	5	M Pattanayek	2/4/2010
Thallium	U	µg/L	0.03	1	M Pattanayek	2/4/2010
Vanadium	U	µg/L	3.4	5	M Pattanayek	2/4/2010

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.029	0.2	A Wilson	2/4/2010

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

Lab-Sample Number: K00003356003
Project Name:
Sample Description: Rockwood WTP-Finish
Sampler Project Name: Finish
Project Site No.:
Station No.:
Date/Time Collected: 02/02/2010 09:10
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Drinking Water
EFO: Knoxville
Sampling Agency: TDEC-DWS
Billing Code: 327.39-12
Send Report To: TDEC-DWS
Agency Invoiced: TDEC-DWS
Priority Date: 02/12/2010
Date/Time Received: 02/02/2010 13:55
Received By: E McCrary

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	02/03/2010				A Wilson	2/3/2010

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Arsenic	U	µg/L	0.93	5	M Pattanayek	2/4/2010
Barium	29	µg/L	2.5	5	M Pattanayek	2/4/2010
Beryllium	U	µg/L	0.11	1	M Pattanayek	2/4/2010
Cadmium	U	µg/L	0.41	1	M Pattanayek	2/4/2010
Chromium	2.1J	µg/L	2.0	5	M Pattanayek	2/4/2010
Cobalt	0.29J	µg/L	0.04	1	M Pattanayek	2/4/2010
Lead	U	µg/L	0.10	1	M Pattanayek	2/4/2010
Manganese	1.1	µg/L	0.42	1	M Pattanayek	2/4/2010
Selenium	U	µg/L	1.3	5	M Pattanayek	2/4/2010
Thallium	U	µg/L	0.03	1	M Pattanayek	2/4/2010
Vanadium	U	µg/L	3.4	5	M Pattanayek	2/4/2010

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.029	0.2	A Wilson	2/4/2010

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

Lab-Sample Number: K00003356004
Project Name:
Sample Description: Rockwood WTP-Raw
Sampler Project Name: Raw
Project Site No.:
Station No.:
Date/Time Collected: 02/02/2010 09:15
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Drinking Water
EFO: Knoxville
Sampling Agency: TDEC-DWS
Billing Code: 327.39-12
Send Report To: TDEC-DWS
Agency Invoiced: TDEC-DWS
Priority Date: 02/12/2010
Date/Time Received: 02/02/2010 13:55
Received By: E McCrary

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	02/03/2010				A Wilson	2/3/2010

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Arsenic	U	µg/L	0.93	5	M Pattanayek	2/4/2010
Barium	29	µg/L	2.5	5	M Pattanayek	2/4/2010
Beryllium	U	µg/L	0.11	1	M Pattanayek	2/4/2010
Cadmium	U	µg/L	0.41	1	M Pattanayek	2/4/2010
Chromium	U	µg/L	2.0	5	M Pattanayek	2/4/2010
Cobalt	U	µg/L	0.04	1	M Pattanayek	2/4/2010
Lead	U	µg/L	0.10	1	M Pattanayek	2/4/2010
Manganese	9.6	µg/L	0.42	1	M Pattanayek	2/4/2010
Selenium	U	µg/L	1.3	5	M Pattanayek	2/4/2010
Thallium	U	µg/L	0.03	1	M Pattanayek	2/4/2010
Vanadium	U	µg/L	3.4	5	M Pattanayek	2/4/2010

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.029	0.2	A Wilson	2/4/2010

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

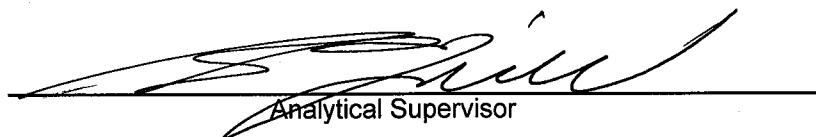
Sent To: Steve Roberts
TDEC-DWS
Knoxville FO
3711 Middlebrook Pike
Knoxville, TN 37921

Lab ID: K00003356
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: K00003356001
Project Name:
Sample Description: Kingston WTP-Raw
Sampler Project Name: Raw
Project Site No.:
Station No.:
Date/Time Collected: 02/02/2010 08:30
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Drinking Water
EFO: Knoxville
Sampling Agency: TDEC-DWS
Billing Code: 327.39-12
Send Report To: TDEC-DWS
Agency Invoiced: TDEC-DWS
Priority Date: 02/12/2010
Date/Time Received: 02/02/2010 13:55
Received By: E McCrary

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

TEST: Alkalinity, Total		METHOD: SM 2320 B					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Total Alkalinity	53	mg/L	1	1	M Chen	2/4/2010	

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Calcium hardness	42	mg/L	1	1	M Chen	2/3/2010	

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

Lab-Sample Number: K00003356002
Project Name:
Sample Description: Kingston WTP-Finish
Sampler Project Name: Finish
Project Site No.:
Station No.:
Date/Time Collected: 02/02/2010 08:35
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Drinking Water
EFO: Knoxville
Sampling Agency: TDEC-DWS
Billing Code: 327.39-12
Send Report To: TDEC-DWS
Agency Invoiced: TDEC-DWS
Priority Date: 02/12/2010
Date/Time Received: 02/02/2010 13:55
Received By: E McCrary

Field Determinations

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

TEST: Alkalinity, Total		METHOD: SM 2320 B				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	51	mg/L	1	1	M Chen	2/4/2010

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	41	mg/L	1	1	M Chen	2/3/2010

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

Lab-Sample Number: K00003356003
Project Name:
Sample Description: Rockwood WTP-Finish
Sampler Project Name: Finish
Project Site No.:
Station No.:
Date/Time Collected: 02/02/2010 09:10
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Drinking Water
EFO: Knoxville
Sampling Agency: TDEC-DWS
Billing Code: 327.39-12
Send Report To: TDEC-DWS
Agency Invoiced: TDEC-DWS
Priority Date: 02/12/2010
Date/Time Received: 02/02/2010 13:55
Received By: E McCrary

Field Determinations

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

TEST: Alkalinity, Total		METHOD: SM 2320 B						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE		
Total Alkalinity	68	mg/L	1	1	M Chen	2/4/2010		

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE		
Calcium hardness	53	mg/L	1	1	M Chen	2/3/2010		

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

Lab-Sample Number: K00003356004
Project Name:
Sample Description: Rockwood WTP-Raw
Sampler Project Name: Raw
Project Site No.:
Station No.:
Date/Time Collected: 02/02/2010 09:15
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Drinking Water
EFO: Knoxville
Sampling Agency: TDEC-DWS
Billing Code: 327.39-12
Send Report To: TDEC-DWS
Agency Invoiced: TDEC-DWS
Priority Date: 02/12/2010
Date/Time Received: 02/02/2010 13:55
Received By: E McCrary

Field Determinations

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

TEST: Alkalinity, Total		METHOD: SM 2320 B				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	78	mg/L	1	1	M Chen	2/4/2010

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	53	mg/L	1	1	M Chen	2/3/2010

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