



**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: Greg Denton
TDEC-WPC
6th Floor, L & C Tower Annex
401 Church Street
Nashville, TN 37243-1534

Michael Atchley
TDEC-WPC
Knoxville FO
3711 Middlebrook Pike
Knoxville, TN 37921

Lab ID: K00002600
Knoxville Regional Laboratory

Sampling Agency: TDEC: Division of Water Pollution Control

Billing Code: 327.34-20

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: K00002600001
Project Name:
Sample Description: Emory River mile 12.1
Sampler Project Name: TVA Ash Spill
Project Site No.: 1
Station No.: EMORY012.1RO
Date/Time Collected: 07/14/2009 10:02
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 07/24/2009
Date/Time Received: 07/14/2009 14:16
Received By: E McCrary

Field Determinations
pH: 7.48 pH Units
Chlorine, residual:
Conductivity: 120 uMHO
Temperature: 25.89
Dissolved Oxygen: 5.32 mg/L
Other:
Flow: CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	32	mg/L	3.8	10	M Chen	7/15/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	26	mg/L	0.7	1	M Chen	7/20/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	7/15/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peoples	7/17/2009

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

Lab-Sample Number: K00002600002
Project Name:
Sample Description: Emory River mile 2.1
Sampler Project Name: TVA Ash Spill
Project Site No.: 2
Station No.: EMORY002.1RO
Date/Time Collected: 07/14/2009 10:54
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 07/24/2009
Date/Time Received: 07/14/2009 14:16
Received By: E McCrary

Field Determinations
pH: 7.82 pH Units
Chlorine, residual:
Conductivity: 131 uMHO
Temperature: 27.46
Dissolved Oxygen: 7.87 mg/L
Other:
Flow: CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	39	mg/L	3.8	10	M Chen	7/15/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	39	mg/L	0.7	1	M Chen	7/20/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	7/15/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	21	mg/L	10	10	A Peebles	7/17/2009

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

Lab-Sample Number: K00002600003

Project Name:

Sample Description: Approx 100' downstream from middle dredge pc

Sampler Project Name: TVA Ash Spill

Project Site No.: 2A

Station No.: Dredge Plume

Date/Time Collected: 07/14/2009 11:05

Sampler's Name: Geoff Klein

County: ROANE - 73

Sample Matrix: Water

EFO: Knoxville

Sampling Agency: TDEC-WPC

Billing Code: 327.34-20

Send Report To: TDEC-WPC

Agency Invoiced: TDEC-WPC

Priority Date: 07/24/2009

Date/Time Received: 07/14/2009 14:16

Received By: E McCrary

Field Determinations

pH: 7.87 pH Units

Chlorine, residual: uMHO

Conductivity: 158 uMHO

Temperature: 26.55 mg/L

Dissolved Oxygen: 7.96 mg/L

Other:

Flow: CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	99	mg/L	3.8	10	M Chen	7/15/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	82	mg/L	0.7	1	M Chen	7/20/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	7/15/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	13	mg/L	10	10	A Peebles	7/17/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected

Lab-Sample Number: K00002600004
Project Name:
Sample Description: Emory River mile 1.9 at underwater weir
Sampler Project Name: TVA Ash Spill
Project Site No.: 2B
Station No.: EMORY001.9RO
Date/Time Collected: 07/14/2009 11:12
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 07/24/2009
Date/Time Received: 07/14/2009 14:16
Received By: E McCrary

Field Determinations
pH: 7.83 pH Units
Chlorine, residual:
Conductivity: 191 uMHO
Temperature: 25.67
Dissolved Oxygen: 7.94 mg/L
Other:
Flow: CFS

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	7/15/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	74	mg/L	0.7	1	M Chen	7/20/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	7/15/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	11	mg/L	10	10	A Peoples	7/17/2009

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

Lab-Sample Number: K00002600005
Project Name:
Sample Description: Emory River mile 1.7
Sampler Project Name: TVA Ash Spill
Project Site No.: 3
Station No.: EMORY001.7RO
Date/Time Collected: 07/14/2009 11:22
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 07/24/2009
Date/Time Received: 07/14/2009 14:16
Received By: E McCrary

Field Determinations
pH: 8.26 pH Units
Chlorine, residual:
Conductivity: 203 uMHO
Temperature: 26.19
Dissolved Oxygen: 9.02 mg/L
Other:
Flow: CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	95	mg/L	3.8	10	M Chen	7/15/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	85	mg/L	0.7	1	M Chen	7/20/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	7/15/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peoples	7/17/2009

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

Lab-Sample Number: K00002600006
Project Name:
Sample Description: Emory River mile 1.7
Sampler Project Name: TVA Ash Spill
Project Site No.: 3FD
Station No.: EMORY001.7RO
Date/Time Collected: 07/14/2009 11:22
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 07/24/2009
Date/Time Received: 07/14/2009 14:16
Received By: E McCrary

Field Determinations
pH: 8.26 pH Units
Chlorine, residual:
Conductivity: 203 uMHO
Temperature: 26.19
Dissolved Oxygen: 9.02 mg/L
Other:
Flow: CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	96	mg/L	3.8	10	M Chen	7/15/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	86	mg/L	0.7	1	M Chen	7/20/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	7/15/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peebles	7/17/2009

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

Lab-Sample Number: K00002600007
Project Name:
Sample Description: Emory River mile 1.7
Sampler Project Name: TVA Ash Spill
Project Site No.: 3FB
Station No.: EMORY001.7RO
Date/Time Collected: 07/14/2009 11:22
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 07/24/2009
Date/Time Received: 07/14/2009 14:16
Received By: E McCrary

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	U	mg/L	3.8	10	M Chen	7/15/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	U	mg/L	0.7	1	M Chen	7/20/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peoples	7/17/2009

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

Lab-Sample Number: K00002600008
Project Name:
Sample Description: Emory River mile 0.1
Sampler Project Name: TVA Ash Spill
Project Site No.: 4
Station No.: EMORY000.1RO
Date/Time Collected: 07/14/2009 11:34
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 07/24/2009
Date/Time Received: 07/14/2009 14:16
Received By: E McCrary

Field Determinations
pH: 8.61 pH Units
Chlorine, residual:
Conductivity: 262 uMHO
Temperature: 25.99
Dissolved Oxygen: 11.14 mg/L
Other:
Flow: CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	110	mg/L	3.8	10	M Chen	7/15/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	93	mg/L	0.7	1	M Chen	7/20/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	7/15/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	28	mg/L	10	10	A Peoples	7/17/2009

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

Lab-Sample Number: K00002600009
Project Name:
Sample Description: Clinch River mile 2.3
Sampler Project Name: TVA Ash Spill
Project Site No.: 5
Station No.: CLINC002.3RO
Date/Time Collected: 07/14/2009 11:45
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 07/24/2009
Date/Time Received: 07/14/2009 14:16
Received By: E McCrary

Field Determinations
pH: 8.52 pH Units
Chlorine, residual:
Conductivity: 269 uMHO
Temperature: 26.48
Dissolved Oxygen: 10.27 mg/L
Other:
Flow: CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	100	mg/L	3.8	10	M Chen	7/15/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	82	mg/L	0.7	1	M Chen	7/20/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	7/15/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peoples	7/17/2009

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

Lab-Sample Number: K00002600010
Project Name:
Sample Description: Clinch River TVA Discharge Point
Sampler Project Name: TVA Ash Spill
Project Site No.: 5A
Station No.: King AshOutF2
Date/Time Collected: 07/14/2009 11:52
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 07/24/2009
Date/Time Received: 07/14/2009 14:16
Received By: E McCrary

Field Determinations
pH: 8.02 pH Units
Chlorine, residual:
Conductivity: 272 uMHO
Temperature: 26.07
Dissolved Oxygen: 8.26 mg/L
Other:
Flow: CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Total Alkalinity	96	mg/L	3.8	10	M Chen	7/15/2009	

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Calcium hardness	82	mg/L	0.7	1	M Chen	7/20/2009	

TEST: Residue, Settleable		METHOD: SM 2540F					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	7/15/2009	

TEST: Residue, Suspended		METHOD: SM 2540D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Total Suspended Solids	17	mg/L	10	10	A Peoples	7/17/2009	

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

Lab-Sample Number: K00002600011
Project Name:
Sample Description: Clinch River mile 4.5 near Sugar Grove Valley R
Sampler Project Name: TVA Ash Spill
Project Site No.: 6
Station No.: CLINC004.5RO
Date/Time Collected: 07/14/2009 12:05
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 07/24/2009
Date/Time Received: 07/14/2009 14:16
Received By: E McCrary

Field Determinations
pH: 8.50 pH Units
Chlorine, residual:
Conductivity: 275 uMHO
Temperature: 25.58
Dissolved Oxygen: 10.74 mg/L
Other:
Flow: CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	110	mg/L	3.8	10	M Chen	7/15/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	89	mg/L	0.7	1	M Chen	7/20/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	7/15/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peoples	7/17/2009

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

Lab-Sample Number: K00002600012
Project Name:
Sample Description: Trip Blank
Sampler Project Name: TVA Ash Spill
Project Site No.:
Station No.: Trip Blank
Date/Time Collected: 07/14/2009 09:10
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 07/24/2009
Date/Time Received: 07/14/2009 14:16
Received By: E McCrary

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	U	mg/L	3.8	10	M Chen	7/15/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	U	mg/L	0.7	1	M Chen	7/20/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peebles	7/17/2009

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
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Knoxville, TN 37920
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6th Floor, L & C Tower Annex
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Nashville, TN 37243-1534

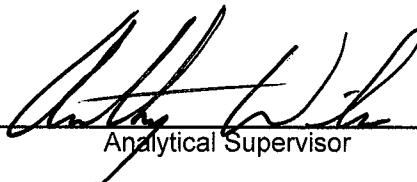
Michael Atchley
TDEC-WPC
Knoxville FO
3711 Middlebrook Pike
Knoxville, TN 37921

Lab ID: K00002600
Knoxville Regional Laboratory

Sampling Agency: TDEC: Division of Water Pollution Control

Billing Code: 327.34-20

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: K00002600001
Project Name:
Sample Description: Emory River mile 12.1
Sampler Project Name: TVA Ash Spill
Project Site No.: 1
Station No.: EMORY012.1RO
Date/Time Collected: 07/14/2009 10:02
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 07/24/2009
Date/Time Received: 07/14/2009 14:16
Received By: E McCrary

Field Determinations
pH: 7.48 pH Units
Chlorine, residual:
Conductivity: 120 uMHO
Temperature: 25.89
Dissolved Oxygen: 5.32 mg/L
Other:
Flow: CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	07/16/2009				W Frye	7/16/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	140	µg/L	2.9	10	S Ufegbu	7/18/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	51	µg/L	6.4	10	M Pattanayek	7/20/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	7/20/2009
Arsenic	U	µg/L	0.93	5	M Pattanayek	7/20/2009
Barium	33	µg/L	2.5	5	M Pattanayek	7/20/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	7/20/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	7/20/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	7/20/2009
Cobalt	0.15J	µg/L	0.04	1	M Pattanayek	7/20/2009
Copper	1.2	µg/L	0.38	1	M Pattanayek	7/20/2009
Lead	0.32J	µg/L	0.10	1	M Pattanayek	7/20/2009
Manganese	54	µg/L	0.42	1	M Pattanayek	7/20/2009
Nickel	1.0	µg/L	0.25	1	M Pattanayek	7/20/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	7/21/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	7/20/2009
Thallium	0.040J	µg/L	0.03	1	M Pattanayek	7/20/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	7/20/2009
Zinc	2.9J	µg/L	1.9	5	M Pattanayek	7/20/2009

Lab-Sample Number: K00002600001
Project Name:
Sample Description: Emory River mile 12.1
Sampler Project Name: TVA Ash Spill
Project Site No.: 1
Station No.: EMORY012.1RO
Date/Time Collected: 07/14/2009 10:02
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 07/24/2009
Date/Time Received: 07/14/2009 14:16
Received By: E McCrary

Field Determinations
pH: 7.48 pH Units
Chlorine, residual:
Conductivity: 120 uMHO
Temperature: 25.89
Dissolved Oxygen: 5.32 mg/L
Other:
Flow: CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	0.11J	µg/L	0.029	0.2	A Wilson	7/21/2009

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

Lab-Sample Number: K00002600002
Project Name:
Sample Description: Emory River mile 2.1
Sampler Project Name: TVA Ash Spill
Project Site No.: 2
Station No.: EMORY002.1RO
Date/Time Collected: 07/14/2009 10:54
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 07/24/2009
Date/Time Received: 07/14/2009 14:16
Received By: E McCrary

Field Determinations
pH: 7.82 pH Units
Chlorine, residual:
Conductivity: 131 uMHO
Temperature: 27.46
Dissolved Oxygen: 7.87 mg/L
Other:
Flow: CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	07/16/2009				W Frye	7/16/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	210	µg/L	2.9	10	S Ufegbu	7/18/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	270	µg/L	6.4	10	M Pattanayek	7/21/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	7/20/2009
Arsenic	6.1	µg/L	0.93	5	M Pattanayek	7/20/2009
Barium	52	µg/L	2.5	5	M Pattanayek	7/20/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	7/20/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	7/20/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	7/20/2009
Cobalt	0.48J	µg/L	0.04	1	M Pattanayek	7/20/2009
Copper	1.3	µg/L	0.38	1	M Pattanayek	7/20/2009
Lead	0.43J	µg/L	0.10	1	M Pattanayek	7/20/2009
Manganese	91	µg/L	0.42	1	M Pattanayek	7/20/2009
Nickel	1.3	µg/L	0.25	1	M Pattanayek	7/20/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	7/21/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	7/20/2009
Thallium	0.58J	µg/L	0.03	1	M Pattanayek	7/20/2009
Vanadium	5.1	µg/L	3.4	5	M Pattanayek	7/20/2009
Zinc	2.3J	µg/L	1.9	5	M Pattanayek	7/20/2009

Lab-Sample Number: K00002600002
Project Name:
Sample Description: Emory River mile 2.1
Sampler Project Name: TVA Ash Spill
Project Site No.: 2
Station No.: EMORY002.1RO
Date/Time Collected: 07/14/2009 10:54
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 07/24/2009
Date/Time Received: 07/14/2009 14:16
Received By: E McCrary

Field Determinations
pH: 7.82 pH Units
Chlorine, residual:
Conductivity: 131 uMHO
Temperature: 27.46
Dissolved Oxygen: 7.87 mg/L
Other:
Flow: CFS

TEST: Mercury		METHOD: EPA 245.1					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Mercury	U	µg/L	0.029	0.2	A Wilson	7/21/2009	

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

Lab-Sample Number: K00002600003

Project Name:

Sample Description: Approx 100' downstream from middle dredge pc

Sampler Project Name: TVA Ash Spill

Project Site No.: 2A

Station No.: Dredge Plume

Date/Time Collected: 07/14/2009 11:05

Sampler's Name: Geoff Klein

County: ROANE - 73

Sample Matrix: Water

EFO: Knoxville

Sampling Agency: TDEC-WPC

Billing Code: 327.34-20

Send Report To: TDEC-WPC

Agency Invoiced: TDEC-WPC

Priority Date: 07/24/2009

Date/Time Received: 07/14/2009 14:16

Received By: E McCrary

Field Determinations

pH: 7.87 pH Units

Chlorine, residual:

Conductivity: 158 uMHO

Temperature: 26.55

Dissolved Oxygen: 7.96 mg/L

Other:

Flow: CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	07/16/2009				W Frye	7/16/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	150	µg/L	2.9	10	S Ufegbu	7/18/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	180	µg/L	6.4	10	M Pattanayek	7/20/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	7/20/2009
Arsenic	4.8J	µg/L	0.93	5	M Pattanayek	7/20/2009
Barium	50	µg/L	2.5	5	M Pattanayek	7/20/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	7/20/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	7/20/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	7/20/2009
Cobalt	32	µg/L	0.04	1	M Pattanayek	7/20/2009
Copper	3.3	µg/L	0.38	1	M Pattanayek	7/20/2009
Lead	0.37J	µg/L	0.10	1	M Pattanayek	7/20/2009
Manganese	62	µg/L	0.42	1	M Pattanayek	7/20/2009
Nickel	1.8	µg/L	0.25	1	M Pattanayek	7/20/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	7/21/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	7/20/2009
Thallium	0.34J	µg/L	0.03	1	M Pattanayek	7/20/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	7/20/2009
Zinc	3.4J	µg/L	1.9	5	M Pattanayek	7/20/2009

Lab-Sample Number:	K00002600003	Field Determinations	
Project Name:		pH:	7.87 pH Units
Sample Description:	Approx 100' downstream from middle dredge pc	Chlorine, residual:	
Sampler Project Name:	TVA Ash Spill	Conductivity:	158 uMHO
Project Site No.:	2A	Temperature:	26.55
Station No.:	Dredge Plume	Dissolved Oxygen:	7.96 mg/L
Date/Time Collected:	07/14/2009 11:05	Other:	
Sampler's Name:	Geoff Klein	Flow:	CFS
County:	ROANE - 73		
Sample Matrix:	Water		
EFO:	Knoxville		
Sampling Agency:	TDEC-WPC		
Billing Code:	327.34-20		
Send Report To:	TDEC-WPC		
Agency Invoiced:	TDEC-WPC		
Priority Date:	07/24/2009		
Date/Time Received:	07/14/2009 14:16		
Received By:	E McCrary		

TEST: Mercury		METHOD: EPA 245.1					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Mercury	0.065J	µg/L	0.029	0.2	A Wilson	7/21/2009	

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected

Lab-Sample Number: K00002600004
Project Name:
Sample Description: Emory River mile 1.9 at underwater weir
Sampler Project Name: TVA Ash Spill
Project Site No.: 2B
Station No.: EMORY001.9RO
Date/Time Collected: 07/14/2009 11:12
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 07/24/2009
Date/Time Received: 07/14/2009 14:16
Received By: E McCrary

Field Determinations
pH: 7.83 pH Units
Chlorine, residual:
Conductivity: 191 uMHO
Temperature: 25.67
Dissolved Oxygen: 7.94 mg/L
Other:
Flow: CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	07/16/2009				W Frye	7/16/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	150	µg/L	2.9	10	S Ufegbu	7/18/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	160	µg/L	6.4	10	M Pattanayek	7/20/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	7/20/2009
Arsenic	3.6J	µg/L	0.93	5	M Pattanayek	7/20/2009
Barium	46	µg/L	2.5	5	M Pattanayek	7/20/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	7/20/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	7/20/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	7/20/2009
Cobalt	0.27J	µg/L	0.04	1	M Pattanayek	7/20/2009
Copper	2.8	µg/L	0.38	1	M Pattanayek	7/20/2009
Lead	0.29J	µg/L	0.10	1	M Pattanayek	7/20/2009
Manganese	70	µg/L	0.42	1	M Pattanayek	7/20/2009
Nickel	1.3	µg/L	0.25	1	M Pattanayek	7/20/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	7/21/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	7/20/2009
Thallium	0.23J	µg/L	0.03	1	M Pattanayek	7/20/2009
Vanadium	5.5	µg/L	3.4	5	M Pattanayek	7/20/2009
Zinc	2.6J	µg/L	1.9	5	M Pattanayek	7/20/2009

Lab-Sample Number: K00002600004
Project Name:
Sample Description: Emory River mile 1.9 at underwater weir
Sampler Project Name: TVA Ash Spill
Project Site No.: 2B
Station No.: EMORY001.9RO
Date/Time Collected: 07/14/2009 11:12
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 07/24/2009
Date/Time Received: 07/14/2009 14:16
Received By: E McCrary

Field Determinations
pH: 7.83 pH Units
Chlorine, residual:
Conductivity: 191 uMHO
Temperature: 25.67
Dissolved Oxygen: 7.94 mg/L
Other:
Flow: CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	0.056J	µg/L	0.029	0.2	A Wilson	7/21/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected

Lab-Sample Number: K00002600005
Project Name:
Sample Description: Emory River mile 1.7
Sampler Project Name: TVA Ash Spill
Project Site No.: 3
Station No.: EMORY001.7RO
Date/Time Collected: 07/14/2009 11:22
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 07/24/2009
Date/Time Received: 07/14/2009 14:16
Received By: E McCrary

Field Determinations
pH: 8.26 pH Units
Chlorine, residual:
Conductivity: 203 uMHO
Temperature: 26.19
Dissolved Oxygen: 9.02 mg/L
Other:
Flow: CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	07/16/2009				W Frye	7/16/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	110	µg/L	2.9	10	S Ufegbu	7/18/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	120	µg/L	6.4	10	M Pattanayek	7/20/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	7/20/2009
Arsenic	2.5J	µg/L	0.93	5	M Pattanayek	7/20/2009
Barium	49	µg/L	2.5	5	M Pattanayek	7/20/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	7/20/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	7/20/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	7/20/2009
Cobalt	0.28J	µg/L	0.04	1	M Pattanayek	7/20/2009
Copper	2.0	µg/L	0.38	1	M Pattanayek	7/20/2009
Lead	0.25J	µg/L	0.10	1	M Pattanayek	7/20/2009
Manganese	54	µg/L	0.42	1	M Pattanayek	7/20/2009
Nickel	1.6	µg/L	0.25	1	M Pattanayek	7/20/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	7/21/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	7/20/2009
Thallium	0.19J	µg/L	0.03	1	M Pattanayek	7/20/2009
Vanadium	3.5J	µg/L	3.4	5	M Pattanayek	7/20/2009
Zinc	2.4J	µg/L	1.9	5	M Pattanayek	7/20/2009

Lab-Sample Number: K00002600005
Project Name:
Sample Description: Emory River mile 1.7
Sampler Project Name: TVA Ash Spill
Project Site No.: 3
Station No.: EMORY001.7RO
Date/Time Collected: 07/14/2009 11:22
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 07/24/2009
Date/Time Received: 07/14/2009 14:16
Received By: E McCrary

Field Determinations
pH: 8.26 pH Units
Chlorine, residual:
Conductivity: 203 uMHO
Temperature: 26.19
Dissolved Oxygen: 9.02 mg/L
Other:
Flow: CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	0.040J	µg/L	0.029	0.2	A Wilson	7/21/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected

Lab-Sample Number: K00002600006
Project Name:
Sample Description: Emory River mile 1.7
Sampler Project Name: TVA Ash Spill
Project Site No.: 3FD
Station No.: EMORY001.7RO
Date/Time Collected: 07/14/2009 11:22
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 07/24/2009
Date/Time Received: 07/14/2009 14:16
Received By: E McCrary

Field Determinations
pH: 8.26 pH Units
Chlorine, residual:
Conductivity: 203 uMHO
Temperature: 26.19
Dissolved Oxygen: 9.02 mg/L
Other:
Flow: CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	ML	ANALYZED BY:	DATE
Digestion Metals	07/16/2009				W Frye	7/16/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	ML	ANALYZED BY:	DATE
Iron	110	µg/L	2.9	10	S Ufegbu	7/18/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	ML	ANALYZED BY:	DATE
Aluminum	96	µg/L	6.4	10	M Pattanayek	7/20/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	7/20/2009
Arsenic	1.6J	µg/L	0.93	5	M Pattanayek	7/20/2009
Barium	37	µg/L	2.5	5	M Pattanayek	7/20/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	7/20/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	7/20/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	7/20/2009
Cobalt	0.19J	µg/L	0.04	1	M Pattanayek	7/20/2009
Copper	1.8	µg/L	0.38	1	M Pattanayek	7/20/2009
Lead	0.20J	µg/L	0.10	1	M Pattanayek	7/20/2009
Manganese	40	µg/L	0.42	1	M Pattanayek	7/20/2009
Nickel	1.3	µg/L	0.25	1	M Pattanayek	7/20/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	7/20/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	7/20/2009
Thallium	0.12J	µg/L	0.03	1	M Pattanayek	7/20/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	7/20/2009
Zinc	2.9J	µg/L	1.9	5	M Pattanayek	7/20/2009

Lab-Sample Number: K00002600006
Project Name:
Sample Description: Emory River mile 1.7
Sampler Project Name: TVA Ash Spill
Project Site No.: 3FD
Station No.: EMORY001.7RO
Date/Time Collected: 07/14/2009 11:22
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 07/24/2009
Date/Time Received: 07/14/2009 14:16
Received By: E McCrary

Field Determinations
pH: 8.26 pH Units
Chlorine, residual:
Conductivity: 203 uMHO
Temperature: 26.19
Dissolved Oxygen: 9.02 mg/L
Other:
Flow: CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	0.055J	µg/L	0.029	0.2	A Wilson	7/21/2009

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

Lab-Sample Number: K00002600007
Project Name:
Sample Description: Emory River mile 1.7
Sampler Project Name: TVA Ash Spill
Project Site No.: 3FB
Station No.: EMORY001.7RO
Date/Time Collected: 07/14/2009 11:22
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 07/24/2009
Date/Time Received: 07/14/2009 14:16
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	ML	ANALYZED BY:	DATE
Digestion Metals	07/16/2009				W Frye	7/16/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	ML	ANALYZED BY:	DATE
Iron	U	µg/L	2.9	10	S Ufegbu	7/18/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	ML	ANALYZED BY:	DATE
Aluminum	U	µg/L	6.4	10	M Pattanayek	7/20/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	7/20/2009
Arsenic	U	µg/L	0.93	5	M Pattanayek	7/20/2009
Barium	U	µg/L	2.5	5	M Pattanayek	7/20/2009
Beryllium	0.13J	µg/L	0.11	1	M Pattanayek	7/20/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	7/20/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	7/20/2009
Cobalt	0.13J	µg/L	0.04	1	M Pattanayek	7/20/2009
Copper	U	µg/L	0.38	1	M Pattanayek	7/20/2009
Lead	0.13J	µg/L	0.10	1	M Pattanayek	7/20/2009
Manganese	U	µg/L	0.42	1	M Pattanayek	7/20/2009
Nickel	U	µg/L	0.25	1	M Pattanayek	7/20/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	7/21/2009
Silver	0.072J	µg/L	0.03	0.25	M Pattanayek	7/20/2009
Thallium	0.67J	µg/L	0.03	1	M Pattanayek	7/20/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	7/20/2009
Zinc	U	µg/L	1.9	5	M Pattanayek	7/20/2009

Lab-Sample Number: K00002600007
Project Name:
Sample Description: Emory River mile 1.7
Sampler Project Name: TVA Ash Spill
Project Site No.: 3FB
Station No.: EMORY001.7RO
Date/Time Collected: 07/14/2009 11:22
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 07/24/2009
Date/Time Received: 07/14/2009 14:16
Received By: E McCrary

Field Determinations

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

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MLQ	ANALYZED BY:	DATE
Mercury	U	µg/L	0.029	0.2	A Wilson	7/21/2009

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

Lab-Sample Number: K00002600008
Project Name:
Sample Description: Emory River mile 0.1
Sampler Project Name: TVA Ash Spill
Project Site No.: 4
Station No.: EMORY000.1RO
Date/Time Collected: 07/14/2009 11:34
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 07/24/2009
Date/Time Received: 07/14/2009 14:16
Received By: E McCrary

Field Determinations
pH: 8.61 pH Units
Chlorine, residual:
Conductivity: 262 uMHO
Temperature: 25.99
Dissolved Oxygen: 11.14 mg/L
Other:
Flow: CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	07/16/2009				W Frye	7/16/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	300	µg/L	2.9	10	S Ufegbu	7/18/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	310	µg/L	6.4	10	M Pattanayek	7/21/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	7/20/2009
Arsenic	4.2J	µg/L	0.93	5	M Pattanayek	7/20/2009
Barium	50	µg/L	2.5	5	M Pattanayek	7/20/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	7/20/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	7/20/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	7/20/2009
Cobalt	0.51J	µg/L	0.04	1	M Pattanayek	7/20/2009
Copper	2.1	µg/L	0.38	1	M Pattanayek	7/20/2009
Lead	0.62J	µg/L	0.10	1	M Pattanayek	7/20/2009
Manganese	110	µg/L	0.42	1	M Pattanayek	7/20/2009
Nickel	1.8	µg/L	0.25	1	M Pattanayek	7/20/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	7/20/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	7/21/2009
Thallium	0.25J	µg/L	0.03	1	M Pattanayek	7/20/2009
Vanadium	3.9J	µg/L	3.4	5	M Pattanayek	7/20/2009
Zinc	2.9J	µg/L	1.9	5	M Pattanayek	7/20/2009

Lab-Sample Number: K00002600008
Project Name:
Sample Description: Emory River mile 0.1
Sampler Project Name: TVA Ash Spill
Project Site No.: 4
Station No.: EMORY000.1RO
Date/Time Collected: 07/14/2009 11:34
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 07/24/2009
Date/Time Received: 07/14/2009 14:16
Received By: E McCrary

Field Determinations

pH: 8.61 pH Units
Chlorine, residual:
Conductivity: 262 uMHO
Temperature: 25.99
Dissolved Oxygen: 11.14 mg/L
Other:
Flow: CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MLQ	ANALYZED BY:	DATE
Mercury	0.033J	µg/L	0.029	0.2	A Wilson	7/21/2009

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

Lab-Sample Number: K00002600009
Project Name:
Sample Description: Clinch River mile 2.3
Sampler Project Name: TVA Ash Spill
Project Site No.: 5
Station No.: CLINC002.3RO
Date/Time Collected: 07/14/2009 11:45
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 07/24/2009
Date/Time Received: 07/14/2009 14:16
Received By: E McCrary

Field Determinations
pH: 8.52 pH Units
Chlorine, residual:
Conductivity: 269 uMHO
Temperature: 26.48
Dissolved Oxygen: 10.27 mg/L
Other:
Flow: CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	07/16/2009				W Frye	7/16/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	74	µg/L	2.9	10	S Ufegbu	7/18/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	U	µg/L	6.4	10	M Pattanayek	7/20/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	7/20/2009
Arsenic	2.7J	µg/L	0.93	5	M Pattanayek	7/20/2009
Barium	43	µg/L	2.5	5	M Pattanayek	7/20/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	7/20/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	7/20/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	7/20/2009
Cobalt	0.18J	µg/L	0.04	1	M Pattanayek	7/20/2009
Copper	3.1	µg/L	0.38	1	M Pattanayek	7/20/2009
Lead	0.16J	µg/L	0.10	1	M Pattanayek	7/20/2009
Manganese	34	µg/L	0.42	1	M Pattanayek	7/20/2009
Nickel	1.3	µg/L	0.25	1	M Pattanayek	7/20/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	7/21/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	7/20/2009
Thallium	0.14J	µg/L	0.03	1	M Pattanayek	7/20/2009
Vanadium	4.1J	µg/L	3.4	5	M Pattanayek	7/20/2009
Zinc	2.7J	µg/L	1.9	5	M Pattanayek	7/20/2009

Lab-Sample Number: K00002600009
Project Name:
Sample Description: Clinch River mile 2.3
Sampler Project Name: TVA Ash Spill
Project Site No.: 5
Station No.: CLINC002.3RO
Date/Time Collected: 07/14/2009 11:45
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 07/24/2009
Date/Time Received: 07/14/2009 14:16
Received By: E McCrary

Field Determinations
pH: 8.52 pH Units
Chlorine, residual:
Conductivity: 269 uMHO
Temperature: 26.48
Dissolved Oxygen: 10.27 mg/L
Other:
Flow: CFS

TEST: Mercury		METHOD: EPA 245.1					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Mercury	0.058J	µg/L	0.029	0.2	A Wilson	7/21/2009	

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

Lab-Sample Number: K00002600010
Project Name:
Sample Description: Clinch River TVA Discharge Point
Sampler Project Name: TVA Ash Spill
Project Site No.: 5A
Station No.: King AshOutF2
Date/Time Collected: 07/14/2009 11:52
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 07/24/2009
Date/Time Received: 07/14/2009 14:16
Received By: E McCrary

Field Determinations
pH: 8.02 pH Units
Chlorine, residual:
Conductivity: 272 uMHO
Temperature: 26.07
Dissolved Oxygen: 8.26 mg/L
Other:
Flow: CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	07/16/2009				W Frye	7/16/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	160	µg/L	2.9	10	S Ufegbu	7/18/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	180	µg/L	6.4	10	M Pattanayek	7/21/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	7/20/2009
Arsenic	4.6J	µg/L	0.93	5	M Pattanayek	7/20/2009
Barium	52	µg/L	2.5	5	M Pattanayek	7/20/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	7/20/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	7/20/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	7/20/2009
Cobalt	0.28J	µg/L	0.04	1	M Pattanayek	7/20/2009
Copper	5.0	µg/L	0.38	1	M Pattanayek	7/20/2009
Lead	0.31J	µg/L	0.10	1	M Pattanayek	7/20/2009
Manganese	56	µg/L	0.42	1	M Pattanayek	7/20/2009
Nickel	1.5	µg/L	0.25	1	M Pattanayek	7/20/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	7/21/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	7/20/2009
Thallium	0.14J	µg/L	0.03	1	M Pattanayek	7/20/2009
Vanadium	6.7	µg/L	3.4	5	M Pattanayek	7/20/2009
Zinc	3.0J	µg/L	1.9	5	M Pattanayek	7/20/2009

Lab-Sample Number: K00002600010
Project Name:
Sample Description: Clinch River TVA Discharge Point
Sampler Project Name: TVA Ash Spill
Project Site No.: 5A
Station No.: King AshOutF2
Date/Time Collected: 07/14/2009 11:52
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 07/24/2009
Date/Time Received: 07/14/2009 14:16
Received By: E McCrary

Field Determinations
pH: 8.02 pH Units
Chlorine, residual:
Conductivity: 272 uMHO
Temperature: 26.07
Dissolved Oxygen: 8.26 mg/L
Other:
Flow: CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	0.034J	µg/L	0.029	0.2	A Wilson	7/21/2009

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

Lab-Sample Number: K00002600011

Project Name:

Sample Description: Clinch River mile 4.5 near Sugar Grove Valley R

Sampler Project Name: TVA Ash Spill

Project Site No.: 6

Station No.: CLINC004.5RO

Date/Time Collected: 07/14/2009 12:05

Sampler's Name: Geoff Klein

County: ROANE - 73

Sample Matrix: Water

EFO: Knoxville

Sampling Agency: TDEC-WPC

Billing Code: 327.34-20

Send Report To: TDEC-WPC

Agency Invoiced: TDEC-WPC

Priority Date: 07/24/2009

Date/Time Received: 07/14/2009 14:16

Received By: E McCrary

Field Determinations

pH: 8.50 pH Units

Chlorine, residual: Conductivity: 275 uMHO

Temperature: 25.58

Dissolved Oxygen: 10.74 mg/L

Other:

Flow: CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	07/16/2009				W Frye	7/16/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	86	µg/L	2.9	10	S Ufegbu	7/18/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	77	µg/L	6.4	10	M Pattanayek	7/20/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	7/20/2009
Arsenic	1.5J	µg/L	0.93	5	M Pattanayek	7/20/2009
Barium	34	µg/L	2.5	5	M Pattanayek	7/20/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	7/20/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	7/20/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	7/20/2009
Cobalt	0.17J	µg/L	0.04	1	M Pattanayek	7/20/2009
Copper	1.5	µg/L	0.38	1	M Pattanayek	7/20/2009
Lead	0.17J	µg/L	0.10	1	M Pattanayek	7/20/2009
Manganese	35	µg/L	0.42	1	M Pattanayek	7/20/2009
Nickel	1.4	µg/L	0.25	1	M Pattanayek	7/20/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	7/21/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	7/20/2009
Thallium	0.17J	µg/L	0.03	1	M Pattanayek	7/20/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	7/20/2009
Zinc	U	µg/L	1.9	5	M Pattanayek	7/20/2009

Lab-Sample Number:	K00002600011	Field Determinations	
Project Name:		pH:	8.50 pH Units
Sample Description:	Clinch River mile 4.5 near Sugar Grove Valley R	Chlorine, residual:	
Sampler Project Name:	TVA Ash Spill	Conductivity:	275 uMHO
Project Site No.:	6	Temperature:	25.58
Station No.:	CLINC004.5RO	Dissolved Oxygen:	10.74 mg/L
Date/Time Collected:	07/14/2009 12:05	Other:	
Sampler's Name:	Geoff Klein	Flow:	CFS
County:	ROANE - 73		
Sample Matrix:	Water		
EFO:	Knoxville		
Sampling Agency:	TDEC-WPC		
Billing Code:	327.34-20		
Send Report To:	TDEC-WPC		
Agency Invoiced:	TDEC-WPC		
Priority Date:	07/24/2009		
Date/Time Received:	07/14/2009 14:16		
Received By:	E McCrary		

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.029	0.2	A Wilson	7/21/2009

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

Lab-Sample Number: K00002600012
Project Name:
Sample Description: Trip Blank
Sampler Project Name: TVA Ash Spill
Project Site No.:
Station No.: Trip Blank
Date/Time Collected: 07/14/2009 09:10
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 07/24/2009
Date/Time Received: 07/14/2009 14:16
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	07/16/2009				W Frye	7/16/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	U	µg/L	2.9	10	S Ufegbu	7/18/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	U	µg/L	6.4	10	M Pattanayek	7/20/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	7/20/2009
Arsenic	U	µg/L	0.93	5	M Pattanayek	7/20/2009
Barium	U	µg/L	2.5	5	M Pattanayek	7/20/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	7/20/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	7/20/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	7/20/2009
Cobalt	0.38J	µg/L	0.04	1	M Pattanayek	7/20/2009
Copper	U	µg/L	0.38	1	M Pattanayek	7/20/2009
Lead	U	µg/L	0.10	1	M Pattanayek	7/20/2009
Manganese	U	µg/L	0.42	1	M Pattanayek	7/20/2009
Nickel	0.38J	µg/L	0.25	1	M Pattanayek	7/20/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	7/21/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	7/20/2009
Thallium	0.042J	µg/L	0.03	1	M Pattanayek	7/20/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	7/20/2009
Zinc	U	µg/L	1.9	5	M Pattanayek	7/20/2009

Lab-Sample Number: K00002600012
Project Name:
Sample Description: Trip Blank
Sampler Project Name: TVA Ash Spill
Project Site No.:
Station No.: Trip Blank
Date/Time Collected: 07/14/2009 09:10
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 07/24/2009
Date/Time Received: 07/14/2009 14:16
Received By: E McCrary

Field Determinations

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

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MLQ	ANALYZED BY:	DATE
Mercury	0.043J	µg/L	0.029	0.2	A Wilson	7/21/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected