



**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

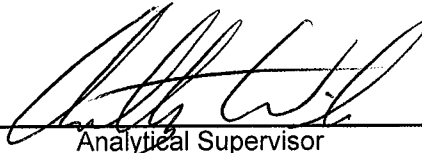
Michael Atchley
TDEC-WPC
Knoxville FO
3711 Middlebrook Pike
Knoxville, TN 37921

Lab ID: K00003038
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: K00003038001
Project Name: TVA-Ash Spill
Sample Description: Emory River mile 12.1
Sampler Project Name: TVA Ash Spill
Project Site No.: 1
Station No.: EMORY012.1RO
Date/Time Collected: 10/27/2009 11:47
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: 11/06/2009
Date/Time Received: 10/27/2009 12:55
Received By: Ken Hitchman

Field Determinations
pH: 7.63 pH Units
Chlorine, residual:
Conductivity: 57 uMHO
Temperature: 12.77
Dissolved Oxygen: 11.25 mg/L
Other:
Flow: CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	10/28/2009				A Wilson	10/28/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	200	µg/L	2.9	10	A Wilson	10/30/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	69	µg/L	6.4	10	M Pattanayek	10/29/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	10/29/2009
Arsenic	U	µg/L	0.93	5	M Pattanayek	10/29/2009
Barium	29	µg/L	2.5	5	M Pattanayek	10/29/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	10/29/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	10/29/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	10/29/2009
Cobalt	0.29J	µg/L	0.04	1	M Pattanayek	10/29/2009
Copper	U	µg/L	0.38	1	M Pattanayek	10/29/2009
Lead	0.11J	µg/L	0.10	1	M Pattanayek	10/29/2009
Manganese	160	µg/L	0.42	1	M Pattanayek	10/29/2009
Nickel	1.2	µg/L	0.25	1	M Pattanayek	10/29/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	10/29/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	10/29/2009
Thallium	0.14J	µg/L	0.03	1	M Pattanayek	10/29/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	10/29/2009
Zinc	U	µg/L	1.9	5	M Pattanayek	10/29/2009

Lab-Sample Number: K00003038001
Project Name: TVA-Ash Spill
Sample Description: Emory River mile 12.1
Sampler Project Name: TVA Ash Spill
Project Site No.: 1
Station No.: EMORY012.1RO
Date/Time Collected: 10/27/2009 11:47
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: 11/06/2009
Date/Time Received: 10/27/2009 12:55
Received By: Ken Hitchman

Field Determinations
pH: 7.63 pH Units
Chlorine, residual:
Conductivity: 57 uMHO
Temperature: 12.77
Dissolved Oxygen: 11.25 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 Bass	11/3/2009

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

Lab-Sample Number: K00003038002
Project Name: TVA-Ash Spill
Sample Description: Emory River mile 2.1
Sampler Project Name: TVA Ash Spill
Project Site No.: 2
Station No.: EMORY002.1RO
Date/Time Collected: 10/27/2009 09:58
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: 11/06/2009
Date/Time Received: 10/27/2009 12:55
Received By: Ken Hitchman

Field Determinations
pH: 8.34 pH Units
Chlorine, residual:
Conductivity: 54 uMHO
Temperature: 12.37
Dissolved Oxygen: 11.3 mg/L
Other:
Flow: CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	10/28/2009				A Wilson	10/28/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	340	µg/L	2.9	10	A Wilson	10/30/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	400	µg/L	6.4	10	M Pattanayek	10/29/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	10/29/2009
Arsenic	2.6J	µg/L	0.93	5	M Pattanayek	10/29/2009
Barium	35	µg/L	2.5	5	M Pattanayek	10/29/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	10/29/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	10/29/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	10/29/2009
Cobalt	0.37J	µg/L	0.04	1	M Pattanayek	10/29/2009
Copper	1.1	µg/L	0.38	1	M Pattanayek	10/29/2009
Lead	0.55J	µg/L	0.10	1	M Pattanayek	10/29/2009
Manganese	64	µg/L	0.42	1	M Pattanayek	10/29/2009
Nickel	1.5	µg/L	0.25	1	M Pattanayek	10/29/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	10/29/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	10/29/2009
Thallium	0.12J	µg/L	0.03	1	M Pattanayek	10/29/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	10/29/2009
Zinc	U	µg/L	1.9	5	M Pattanayek	10/29/2009

Lab-Sample Number: K00003038002
Project Name: TVA-Ash Spill
Sample Description: Emory River mile 2.1
Sampler Project Name: TVA Ash Spill
Project Site No.: 2
Station No.: EMORY002.1RO
Date/Time Collected: 10/27/2009 09:58
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: 11/06/2009
Date/Time Received: 10/27/2009 12:55
Received By: Ken Hitchman

Field Determinations
pH: 8.34 pH Units
Chlorine, residual:
Conductivity: 54 uMHO
Temperature: 12.37
Dissolved Oxygen: 11.3 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 Bass	11/3/2009

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

Lab-Sample Number:	K00003038003	Field Determinations	
Project Name:	TVA-Ash Spill	pH:	8.02 pH Units
Sample Description:	Approx 100' downstream from middle dredge pc	Chlorine, residual:	
Sampler Project Name:	TVA Ash Spill	Conductivity:	54 uMHO
Project Site No.:	2A	Temperature:	12.76
Station No.:	Dredge Plume	Dissolved Oxygen:	11.65 mg/L
Date/Time Collected:	10/27/2009 10:10	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:	11/06/2009		
Date/Time Received:	10/27/2009 12:55		
Received By:	Ken Hitchman		

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	10/28/2009				A Wilson	10/28/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	260	µg/L	2.9	10	A Wilson	10/30/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	200	µg/L	6.4	10	M Pattanayek	10/29/2009
Antimony	0.50J	µg/L	0.33	1	M Pattanayek	10/29/2009
Arsenic	1.3J	µg/L	0.93	5	M Pattanayek	10/29/2009
Barium	30	µg/L	2.5	5	M Pattanayek	10/29/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	10/29/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	10/29/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	10/29/2009
Cobalt	0.25J	µg/L	0.04	1	M Pattanayek	10/29/2009
Copper	0.38J	µg/L	0.38	1	M Pattanayek	10/29/2009
Lead	0.31J	µg/L	0.10	1	M Pattanayek	10/29/2009
Manganese	59	µg/L	0.42	1	M Pattanayek	10/29/2009
Nickel	1.1	µg/L	0.25	1	M Pattanayek	10/29/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	10/29/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	10/29/2009
Thallium	0.06J	µg/L	0.03	1	M Pattanayek	10/29/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	10/29/2009
Zinc	U	µg/L	1.9	5	M Pattanayek	10/29/2009

Lab-Sample Number:	K00003038003	Field Determinations	
Project Name:	TVA-Ash Spill	pH:	8.02 pH Units
Sample Description:	Approx 100' downstream from middle dredge pc	Chlorine, residual:	
Sampler Project Name:	TVA Ash Spill	Conductivity:	54 uMHO
Project Site No.:	2A	Temperature:	12.76
Station No.:	Dredge Plume	Dissolved Oxygen:	11.65 mg/L
Date/Time Collected:	10/27/2009 10:10	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:	11/06/2009		
Date/Time Received:	10/27/2009 12:55		
Received By:	Ken Hitchman		

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.029	0.2	A Bass	11/3/2009

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

Lab-Sample Number: K00003038004
Project Name: TVA-Ash Spill
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: 10/27/2009 10:18
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: 11/06/2009
Date/Time Received: 10/27/2009 12:55
Received By: Ken Hitchman

Field Determinations
pH: 7.79 pH Units
Chlorine, residual:
Conductivity: 57 uMHO
Temperature: 12.63
Dissolved Oxygen: 11.35 mg/L
Other:
Flow: CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MLQ	ANALYZED BY:	DATE
Digestion Metals	10/28/2009				A Wilson	10/28/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MLQ	ANALYZED BY:	DATE
Iron	440	µg/L	2.9	10	A Wilson	10/30/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MLQ	ANALYZED BY:	DATE
Aluminum	800	µg/L	6.4	10	M Pattanayek	10/29/2009
Antimony	0.55J	µg/L	0.33	1	M Pattanayek	10/29/2009
Arsenic	9.1	µg/L	0.93	5	M Pattanayek	10/29/2009
Barium	54	µg/L	2.5	5	M Pattanayek	10/29/2009
Beryllium	0.15J	µg/L	0.11	1	M Pattanayek	10/29/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	10/29/2009
Chromium	2.4J	µg/L	2.0	5	M Pattanayek	10/29/2009
Cobalt	0.63J	µg/L	0.04	1	M Pattanayek	10/29/2009
Copper	2.1	µg/L	0.38	1	M Pattanayek	10/29/2009
Lead	1.1	µg/L	0.10	1	M Pattanayek	10/29/2009
Manganese	64	µg/L	0.42	1	M Pattanayek	10/29/2009
Nickel	2.2	µg/L	0.25	1	M Pattanayek	10/29/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	10/29/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	10/29/2009
Thallium	0.13J	µg/L	0.03	1	M Pattanayek	10/29/2009
Vanadium	6.8	µg/L	3.4	5	M Pattanayek	10/29/2009
Zinc	4.7J	µg/L	1.9	5	M Pattanayek	10/29/2009

Lab-Sample Number: K00003038004
Project Name: TVA-Ash Spill
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: 10/27/2009 10:18
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: 11/06/2009
Date/Time Received: 10/27/2009 12:55
Received By: Ken Hitchman

Field Determinations
pH: 7.79 pH Units
Chlorine, residual:
Conductivity: 57 uMHO
Temperature: 12.63
Dissolved Oxygen: 11.35 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 Bass	11/3/2009

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

Lab-Sample Number: K00003038005
Project Name: TVA-Ash Spill
Sample Description: Emory River mile 1.7
Sampler Project Name: TVA Ash Spill
Project Site No.: 3
Station No.: EMORY001.7RO
Date/Time Collected: 10/27/2009 10:30
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: 11/06/2009
Date/Time Received: 10/27/2009 12:55
Received By: Ken Hitchman

Field Determinations
pH: 7.56 pH Units
Chlorine, residual:
Conductivity: 57 uMHO
Temperature: 13.11
Dissolved Oxygen: 11.49 mg/L
Other:
Flow: CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MLQ	ANALYZED BY:	DATE
Digestion Metals	10/28/2009				A Wilson	10/28/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MLQ	ANALYZED BY:	DATE
Iron	340	µg/L	2.9	10	A Wilson	10/27/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MLQ	ANALYZED BY:	DATE
Aluminum	470	µg/L	6.4	10	M Pattanayek	10/29/2009
Antimony	0.36J	µg/L	0.33	1	M Pattanayek	10/29/2009
Arsenic	4.6J	µg/L	0.93	5	M Pattanayek	10/29/2009
Barium	42	µg/L	2.5	5	M Pattanayek	10/29/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	10/29/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	10/29/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	10/29/2009
Cobalt	0.42J	µg/L	0.04	1	M Pattanayek	10/29/2009
Copper	1.2	µg/L	0.38	1	M Pattanayek	10/29/2009
Lead	0.67J	µg/L	0.10	1	M Pattanayek	10/29/2009
Manganese	64	µg/L	0.42	1	M Pattanayek	10/29/2009
Nickel	1.6	µg/L	0.25	1	M Pattanayek	10/29/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	10/29/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	10/29/2009
Thallium	0.08J	µg/L	0.03	1	M Pattanayek	10/29/2009
Vanadium	3.6J	µg/L	3.4	5	M Pattanayek	10/29/2009
Zinc	2.4J	µg/L	1.9	5	M Pattanayek	10/29/2009

Lab-Sample Number: K00003038005
Project Name: TVA-Ash Spill
Sample Description: Emory River mile 1.7
Sampler Project Name: TVA Ash Spill
Project Site No.: 3
Station No.: EMORY001.7RO
Date/Time Collected: 10/27/2009 10:30
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: 11/06/2009
Date/Time Received: 10/27/2009 12:55
Received By: Ken Hitchman

Field Determinations
pH: 7.56 pH Units
Chlorine, residual:
Conductivity: 57 uMHO
Temperature: 13.11
Dissolved Oxygen: 11.49 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 Bass	11/3/2009	

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected

Lab-Sample Number: K00003038006
Project Name: TVA-Ash Spill
Sample Description: Emory River mile 0.1
Sampler Project Name: TVA Ash Spill
Project Site No.: 4
Station No.: EMORY000.1RO
Date/Time Collected: 10/27/2009 10:45
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: 11/06/2009
Date/Time Received: 10/27/2009 12:55
Received By: Ken Hitchman

Field Determinations
pH: 7.52 pH Units
Chlorine, residual:
Conductivity: 86 uMHO
Temperature: 13.47
Dissolved Oxygen: 10.65 mg/L
Other:
Flow: CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	10/28/2009				A Wilson	10/28/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	230	µg/L	2.9	10	A Wilson	10/30/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	230	µg/L	6.4	10	M Pattanayek	10/29/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	10/29/2009
Arsenic	2.2J	µg/L	0.93	5	M Pattanayek	10/29/2009
Barium	37	µg/L	2.5	5	M Pattanayek	10/29/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	10/29/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	10/29/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	10/29/2009
Cobalt	0.23J	µg/L	0.04	1	M Pattanayek	10/29/2009
Copper	0.64J	µg/L	0.38	1	M Pattanayek	10/29/2009
Lead	0.38J	µg/L	0.10	1	M Pattanayek	10/29/2009
Manganese	45	µg/L	0.42	1	M Pattanayek	10/29/2009
Nickel	1.2	µg/L	0.25	1	M Pattanayek	10/29/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	10/29/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	10/29/2009
Thallium	0.05J	µg/L	0.03	1	M Pattanayek	10/29/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	10/29/2009
Zinc	2.5J	µg/L	1.9	5	M Pattanayek	10/29/2009

Lab-Sample Number: K00003038006
Project Name: TVA-Ash Spill
Sample Description: Emory River mile 0.1
Sampler Project Name: TVA Ash Spill
Project Site No.: 4
Station No.: EMORY000.1RO
Date/Time Collected: 10/27/2009 10:45
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: 11/06/2009
Date/Time Received: 10/27/2009 12:55
Received By: Ken Hitchman

Field Determinations
pH: 7.52 pH Units
Chlorine, residual:
Conductivity: 86 uMHO
Temperature: 13.47
Dissolved Oxygen: 10.65 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 Bass	11/3/2009

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

Lab-Sample Number: K00003038007
Project Name: TVA-Ash Spill
Sample Description: Clinch River mile 2.3
Sampler Project Name: TVA Ash Spill
Project Site No.: 5.
Station No.: CLINC002.3RO
Date/Time Collected: 10/27/2009 11:03
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: 11/06/2009
Date/Time Received: 10/27/2009 12:55
Received By: Ken Hitchman

Field Determinations
pH: 7.58 pH Units
Chlorine, residual:
Conductivity: 202 uMHO
Temperature: 14.01
Dissolved Oxygen: 4.44 mg/L
Other:
Flow: CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	10/28/2009				A Wilson	10/28/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	150	µg/L	2.9	10	A Wilson	10/30/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	190	µg/L	6.4	10	M Pattanayek	10/29/2009
Antimony	0.61J	µg/L	0.33	1	M Pattanayek	10/29/2009
Arsenic	2.7J	µg/L	0.93	5	M Pattanayek	10/29/2009
Barium	38	µg/L	2.5	5	M Pattanayek	10/29/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	10/29/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	10/29/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	10/29/2009
Cobalt	0.19J	µg/L	0.04	1	M Pattanayek	10/29/2009
Copper	0.69J	µg/L	0.38	1	M Pattanayek	10/29/2009
Lead	0.27J	µg/L	0.10	1	M Pattanayek	10/29/2009
Manganese	36	µg/L	0.42	1	M Pattanayek	10/29/2009
Nickel	1.2	µg/L	0.25	1	M Pattanayek	10/29/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	10/29/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	10/29/2009
Thallium	0.06J	µg/L	0.03	1	M Pattanayek	10/29/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	10/29/2009
Zinc	U	µg/L	1.9	5	M Pattanayek	10/29/2009

Lab-Sample Number: K00003038007
Project Name: TVA-Ash Spill
Sample Description: Clinch River mile 2.3
Sampler Project Name: TVA Ash Spill
Project Site No.: 5.
Station No.: CLINC002.3RO
Date/Time Collected: 10/27/2009 11:03
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: 11/06/2009
Date/Time Received: 10/27/2009 12:55
Received By: Ken Hitchman

Field Determinations
pH: 7.58 pH Units
Chlorine, residual:
Conductivity: 202 uMHO
Temperature: 14.01
Dissolved Oxygen: 4.44 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 Bass	11/3/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected

Lab-Sample Number: K00003038008
Project Name: TVA-Ash Spill
Sample Description: Clinch River mile 2.3
Sampler Project Name: TVA Ash Spill
Project Site No.: 5-FD
Station No.: CLINC002.3RO-FD
Date/Time Collected: 10/27/2009 11:03
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: 11/06/2009
Date/Time Received: 10/27/2009 12:55
Received By: Ken Hitchman

Field Determinations
pH: 7.58 pH Units
Chlorine, residual:
Conductivity: 202 uMHO
Temperature: 14.01
Dissolved Oxygen: 1.44 mg/L
Other:
Flow: CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	10/28/2009				A Wilson	10/28/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	170	µg/L	2.9	10	A Wilson	10/30/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	240	µg/L	6.4	10	M Pattanayek	10/29/2009
Antimony	0.59J	µg/L	0.33	1	M Pattanayek	10/29/2009
Arsenic	3.9J	µg/L	0.93	5	M Pattanayek	10/29/2009
Barium	46	µg/L	2.5	5	M Pattanayek	10/29/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	10/29/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	10/29/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	10/29/2009
Cobalt	0.27J	µg/L	0.04	1	M Pattanayek	10/29/2009
Copper	0.94J	µg/L	0.38	1	M Pattanayek	10/29/2009
Lead	0.34J	µg/L	0.10	1	M Pattanayek	10/29/2009
Manganese	44	µg/L	0.42	1	M Pattanayek	10/29/2009
Nickel	1.5	µg/L	0.25	1	M Pattanayek	10/29/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	10/29/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	10/29/2009
Thallium	0.06J	µg/L	0.03	1	M Pattanayek	10/29/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	10/29/2009
Zinc	U	µg/L	1.9	5	M Pattanayek	10/29/2009

Lab-Sample Number: K00003038008
Project Name: TVA-Ash Spill
Sample Description: Clinch River mile 2.3
Sampler Project Name: TVA Ash Spill
Project Site No.: 5-FD
Station No.: CLINC002.3RO-FD
Date/Time Collected: 10/27/2009 11:03
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: 11/06/2009
Date/Time Received: 10/27/2009 12:55
Received By: Ken Hitchman

Field Determinations
pH: 7.58 pH Units
Chlorine, residual:
Conductivity: 202 uMHO
Temperature: 14.01
Dissolved Oxygen: 1.44 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 Bass	11/3/2009

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

Lab-Sample Number: K00003038009
Project Name: TVA-Ash Spill
Sample Description: Clinch River mile 2.3
Sampler Project Name: TVA Ash Spill
Project Site No.: 5-FB
Station No.: CLINC002.3RO-FB
Date/Time Collected: 10/27/2009 11:03
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: 11/06/2009
Date/Time Received: 10/27/2009 12:55
Received By: Ken Hitchman

Field Determinations

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

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	SQL	ANALYZED BY:	DATE
Digestion Metals	10/28/2009				A Wilson	10/28/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	SQL	ANALYZED BY:	DATE
Iron	U	µg/L	2.9	10	A Wilson	10/30/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	SQL	ANALYZED BY:	DATE
Aluminum	U	µg/L	6.4	10	M Pattanayek	10/29/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	10/29/2009
Arsenic	U	µg/L	0.93	5	M Pattanayek	10/29/2009
Barium	U	µg/L	2.5	5	M Pattanayek	10/29/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	10/29/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	10/29/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	10/29/2009
Cobalt	U	µg/L	0.04	1	M Pattanayek	10/29/2009
Copper	U	µg/L	0.38	1	M Pattanayek	10/29/2009
Lead	U	µg/L	0.10	1	M Pattanayek	10/29/2009
Manganese	U	µg/L	0.42	1	M Pattanayek	10/29/2009
Nickel	U	µg/L	0.25	1	M Pattanayek	10/29/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	10/29/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	10/29/2009
Thallium	U	µg/L	0.03	1	M Pattanayek	10/29/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	10/29/2009
Zinc	U	µg/L	1.9	5	M Pattanayek	10/29/2009

Lab-Sample Number: K00003038009
Project Name: TVA-Ash Spill
Sample Description: Clinch River mile 2.3
Sampler Project Name: TVA Ash Spill
Project Site No.: 5-FB
Station No.: CLINC002.3RO-FB
Date/Time Collected: 10/27/2009 11:03
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: 11/06/2009
Date/Time Received: 10/27/2009 12:55
Received By: Ken Hitchman

Field Determinations

pH:
Chlorine, residual:
Conductivity:
Temperature:
Dissolved Oxygen:
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 Bass	11/3/2009

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

Lab-Sample Number: K00003038010
Project Name: TVA-Ash Spill
Sample Description: Clinch River TVA discharge point
Sampler Project Name: TVA Ash Spill
Project Site No.: 5A
Station No.: KingAshOutF2
Date/Time Collected: 10/27/2009 11:20
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: 11/06/2009
Date/Time Received: 10/27/2009 12:55
Received By: Ken Hitchman

Field Determinations
pH: 7.67 pH Units
Chlorine, residual:
Conductivity: 65 uMHO
Temperature: 12.95
Dissolved Oxygen: 11.85 mg/L
Other:
Flow: CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	10/28/2009				A Wilson	10/28/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	270	µg/L	2.9	10	A Wilson	10/30/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	390	µg/L	6.4	10	M Pattanayek	10/29/2009
Antimony	1.2	µg/L	0.33	1	M Pattanayek	10/29/2009
Arsenic	9.7	µg/L	0.93	5	M Pattanayek	10/29/2009
Barium	41	µg/L	2.5	5	M Pattanayek	10/29/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	10/29/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	10/29/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	10/29/2009
Cobalt	0.31J	µg/L	0.04	1	M Pattanayek	10/29/2009
Copper	2.0	µg/L	0.38	1	M Pattanayek	10/29/2009
Lead	0.46J	µg/L	0.10	1	M Pattanayek	10/29/2009
Manganese	57	µg/L	0.42	1	M Pattanayek	10/29/2009
Nickel	1.4	µg/L	0.25	1	M Pattanayek	10/29/2009
Selenium	2.1J	µg/L	1.3	5	M Pattanayek	10/29/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	10/29/2009
Thallium	0.09J	µg/L	0.03	1	M Pattanayek	10/29/2009
Vanadium	10	µg/L	3.4	5	M Pattanayek	10/29/2009
Zinc	2.3J	µg/L	1.9	5	M Pattanayek	10/29/2009

Lab-Sample Number: K00003038010
Project Name: TVA-Ash Spill
Sample Description: Clinch River TVA discharge point
Sampler Project Name: TVA Ash Spill
Project Site No.: 5A
Station No.: KingAshOutF2
Date/Time Collected: 10/27/2009 11:20
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: 11/06/2009
Date/Time Received: 10/27/2009 12:55
Received By: Ken Hitchman

Field Determinations
pH: 7.67 pH Units
Chlorine, residual:
Conductivity: 65 uMHO
Temperature: 12.95
Dissolved Oxygen: 11.85 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 Bass	11/3/2009

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

Lab-Sample Number:	K00003038011	Field Determinations	
Project Name:	TVA-Ash Spill	pH:	7.39 pH Units
Sample Description:	Clinch River mile 4.5 near Sugar Grove Valley R	Chlorine, residual:	
Sampler Project Name:	TVA Ash Spill	Conductivity:	222 uMHO
Project Site No.:	6	Temperature:	14.13
Station No.:	CLINC004.5RO	Dissolved Oxygen:	9.76 mg/L
Date/Time Collected:	10/27/2009 10:50	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:	11/06/2009		
Date/Time Received:	10/27/2009 12:55		
Received By:	Ken Hitchman		

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	10/28/2009				A Wilson	10/28/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	110	µg/L	2.9	10	A Wilson	10/30/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	110	µg/L	6.4	10	M Pattanayek	10/29/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	10/29/2009
Arsenic	U	µg/L	0.93	5	M Pattanayek	10/29/2009
Barium	41	µg/L	2.5	5	M Pattanayek	10/29/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	10/29/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	10/29/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	10/29/2009
Cobalt	0.17J	µg/L	0.04	1	M Pattanayek	10/29/2009
Copper	0.42J	µg/L	0.38	1	M Pattanayek	10/29/2009
Lead	0.22J	µg/L	0.10	1	M Pattanayek	10/29/2009
Manganese	35	µg/L	0.42	1	M Pattanayek	10/29/2009
Nickel	1.4	µg/L	0.25	1	M Pattanayek	10/29/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	10/29/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	10/29/2009
Thallium	0.03J	µg/L	0.03	1	M Pattanayek	10/29/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	10/29/2009
Zinc	U	µg/L	1.9	5	M Pattanayek	10/29/2009

Lab-Sample Number:	K00003038011	Field Determinations	
Project Name:	TVA-Ash Spill	pH:	7.39 pH Units
Sample Description:	Clinch River mile 4.5 near Sugar Grove Valley R	Chlorine, residual:	
Sampler Project Name:	TVA Ash Spill	Conductivity:	222 uMHO
Project Site No.:	6	Temperature:	14.13
Station No.:	CLINC004.5RO	Dissolved Oxygen:	9.76 mg/L
Date/Time Collected:	10/27/2009 10:50	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:	11/06/2009		
Date/Time Received:	10/27/2009 12:55		
Received By:	Ken Hitchman		

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.029	0.2	A Bass	11/3/2009

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
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: K00003038
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: K00003038001
Project Name: TVA-Ash Spill
Sample Description: Emory River mile 12.1
Sampler Project Name: TVA Ash Spill
Project Site No.: 1
Station No.: EMORY012.1RO
Date/Time Collected: 10/27/2009 11:47
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: 11/06/2009
Date/Time Received: 10/27/2009 12:55
Received By: Ken Hitchman

Field Determinations
pH: 7.63 pH Units
Chlorine, residual:
Conductivity: 57 uMHO
Temperature: 12.77
Dissolved Oxygen: 11.25 mg/L
Other:
Flow: CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	20	mg/L	3.8	10	M Chen	11/3/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	19	mg/L	0.7	1	M Chen	11/2/2009

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	10/28/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peebles	10/30/2009

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

Lab-Sample Number: K00003038002
Project Name: TVA-Ash Spill
Sample Description: Emory River mile 2.1
Sampler Project Name: TVA Ash Spill
Project Site No.: 2
Station No.: EMORY002.1RO
Date/Time Collected: 10/27/2009 09:58
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: 11/06/2009
Date/Time Received: 10/27/2009 12:55
Received By: Ken Hitchman

Field Determinations
pH: 8.34 pH Units
Chlorine, residual:
Conductivity: 54 uMHO
Temperature: 12.37
Dissolved Oxygen: 11.3 mg/L
Other:
Flow: CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	20	mg/L	3.8	10	M Chen	11/3/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	18	mg/L	0.7	1	M Chen	11/2/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	m/L	0.10	0.10	P Leathers	10/28/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	14	mg/L	10	10	A Peebles	10/30/2009

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

Lab-Sample Number: K00003038003
Project Name: TVA-Ash Spill
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: 10/27/2009 10:10
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: 11/06/2009
Date/Time Received: 10/27/2009 12:55
Received By: Ken Hitchman

Field Determinations
pH: 8.02 pH Units
Chlorine, residual:
Conductivity: 54 uMHO
Temperature: 12.76
Dissolved Oxygen: 11.65 mg/L
Other:
Flow: CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	18	mg/L	3.8	10	M Chen	11/3/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	18	mg/L	0.7	1	M Chen	11/2/2009

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	10/28/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peebles	10/30/2009

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

Lab-Sample Number: K00003038004
Project Name: TVA-Ash Spill
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: 10/27/2009 10:18
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: 11/06/2009
Date/Time Received: 10/27/2009 12:55
Received By: Ken Hitchman

Field Determinations
pH: 7.79 pH Units
Chlorine, residual:
Conductivity: 57 uMHO
Temperature: 12.63
Dissolved Oxygen: 11.35 mg/L
Other:
Flow: CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	20	mg/L	3.8	10	M Chen	11/3/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	19	mg/L	0.7	1	M Chen	11/2/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	0.1	ml/L	0.10	0.10	P Leathers	10/28/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	33	mg/L	10	10	A Peebles	10/30/2009

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

Lab-Sample Number: K00003038005
Project Name: TVA-Ash Spill
Sample Description: Emory River mile 1.7
Sampler Project Name: TVA Ash Spill
Project Site No.: 3
Station No.: EMORY001.7RO
Date/Time Collected: 10/27/2009 10:30
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: 11/06/2009
Date/Time Received: 10/27/2009 12:55
Received By: Ken Hitchman

Field Determinations
pH: 7.56 pH Units
Chlorine, residual:
Conductivity: 57 uMHO
Temperature: 13.11
Dissolved Oxygen: 11.49 mg/L
Other:
Flow: CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	20	mg/L	3.8	10	M Chen	11/3/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	20	mg/L	0.7	1	M Chen	11/2/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	0.1	ml/L	0.10	0.10	P Leathers	10/28/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	15	mg/L	10	10	A Peebles	10/30/2009

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

Lab-Sample Number: K00003038006
Project Name: TVA-Ash Spill
Sample Description: Emory River mile 0.1
Sampler Project Name: TVA Ash Spill
Project Site No.: 4
Station No.: EMORY000.1RO
Date/Time Collected: 10/27/2009 10:45
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: 11/06/2009
Date/Time Received: 10/27/2009 12:55
Received By: Ken Hitchman

Field Determinations
pH: 7.52 pH Units
Chlorine, residual:
Conductivity: 86 uMHO
Temperature: 13.47
Dissolved Oxygen: 10.65 mg/L
Other:
Flow: CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	51	mg/L	3.8	10	M Chen	11/3/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	43	mg/L	0.7	1	M Chen	11/2/2009

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	10/28/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peebles	10/30/2009

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

Lab-Sample Number: K00003038007
Project Name: TVA-Ash Spill
Sample Description: Clinch River mile 2.3
Sampler Project Name: TVA Ash Spill
Project Site No.: 5.
Station No.: CLINC002.3RO
Date/Time Collected: 10/27/2009 11:03
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: 11/06/2009
Date/Time Received: 10/27/2009 12:55
Received By: Ken Hitchman

Field Determinations
pH: 7.58 pH Units
Chlorine, residual:
Conductivity: 202 uMHO
Temperature: 14.01
Dissolved Oxygen: 4.44 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	11/3/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	79	mg/L	0.7	1	M Chen	11/2/2009

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	10/28/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peebles	10/30/2009

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

Lab-Sample Number: K00003038008
Project Name: TVA-Ash Spill
Sample Description: Clinch River mile 2.3
Sampler Project Name: TVA Ash Spill
Project Site No.: 5-FD
Station No.: CLINC002.3RO-FD
Date/Time Collected: 10/27/2009 11:03
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: 11/06/2009
Date/Time Received: 10/27/2009 12:55
Received By: Ken Hitchman

Field Determinations
pH: 7.58 pH Units
Chlorine, residual:
Conductivity: 202 uMHO
Temperature: 14.01
Dissolved Oxygen: 1.44 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	11/3/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	81	mg/L	0.7	1	M Chen	11/2/2009

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	10/28/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peoples	10/30/2009

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

Lab-Sample Number: K00003038009
Project Name: TVA-Ash Spill
Sample Description: Clinch River mile 2.3
Sampler Project Name: TVA Ash Spill
Project Site No.: 5-FB
Station No.: CLINC002.3RO-FB
Date/Time Collected: 10/27/2009 11:03
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: 11/06/2009
Date/Time Received: 10/27/2009 12:55
Received By: Ken Hitchman

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	11/3/2009

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	11/2/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peeples	10/30/2009

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

Lab-Sample Number: K00003038010
Project Name: TVA-Ash Spill
Sample Description: Clinch River TVA discharge point
Sampler Project Name: TVA Ash Spill
Project Site No.: 5A
Station No.: KingAshOutF2
Date/Time Collected: 10/27/2009 11:20
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: 11/06/2009
Date/Time Received: 10/27/2009 12:55
Received By: Ken Hitchman

Field Determinations
pH: 7.67 pH Units
Chlorine, residual:
Conductivity: 65 uMHO
Temperature: 12.95
Dissolved Oxygen: 11.85 mg/L
Other:
Flow: CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	22	mg/L	3.8	10	M Chen	11/3/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	25	mg/L	0.7	1	M Chen	11/2/2009

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	10/28/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peoples	10/30/2009

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

Lab-Sample Number: K00003038011
Project Name: TVA-Ash Spill
Sample Description: Clinch River mile 4.5 near Sugar Grove Valley F
Sampler Project Name: TVA Ash Spill
Project Site No.: 6
Station No.: CLINC004.5RO
Date/Time Collected: 10/27/2009 10:50
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: 11/06/2009
Date/Time Received: 10/27/2009 12:55
Received By: Ken Hitchman

Field Determinations
pH: 7.39 pH Units
Chlorine, residual:
Conductivity: 222 uMHO
Temperature: 14.13
Dissolved Oxygen: 9.76 mg/L
Other:
Flow: CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	120	mg/L	3.8	10	M Chen	11/3/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	92	mg/L	0.7	1	M Chen	11/2/2009

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	10/28/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peebles	10/30/2009

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