



Tennessee Valley Authority, Post Office Box 2000, Soddy Daisy, Tennessee 37384-2000

August 28, 2017

Ms. Barbara Loudermilk
State of Tennessee
Department of Environment and Conservation
Division of Water Resources
Compliance & Enforcement Unit
William R. Snodgrass TN Tower
312 Rosa Parks Blvd. 11th Floor
Nashville, Tennessee 37243

Ms. Loudermilk:

TENNESSEE VALLEY AUTHORITY (TVA) - SEQUOYAH NUCLEAR PLANT (SQN) -
NPDES PERMIT NO. TN0026450 - DISCHARGE MONITORING REPORT QUALITY
ASSURANCE (DMR-QA) STUDY 37 -- PROVIDER-GRADED TEST RESULTS

Please find enclosed the provider-graded test results and checklists for the 2017 DMR-QA Study 37 Laboratory Performance Evaluation. These results were obtained by TVA Sequoyah Nuclear Plant and supporting laboratories as required by NPDES Permit TN0026450.

If you have any questions or need additional information, please contact Millicent Garland at (423) 843-6714 of Sequoyah's Environmental staff.

Sincerely,

Anthony L. Williams
Site Vice President
Sequoyah Nuclear Plant

Enclosure
cc (Enclosure)
Chattanooga Environmental Field Office
Division of Water Pollution Control
1301 Riverfront Parkway, #206
Chattanooga, Tennessee 37402-2013

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

IE25
D030
NRR



United States Environmental Protection Agency
Office of Enforcement and Compliance Assurance
 1200 Pennsylvania Ave NW, Mail Code 2227A
 Washington, DC 20460

DMR-QA Study 37

(This data is collected under the authority of Section 308 of the Clean Water Act.)

NPDES Permittee Data Report Form

Attention: Follow the instructions on the previous page to complete this form and submit data for evaluation.

Due September 1, 2017

State	NPDES Permit Number	Permit Extension
TN	0026450	

Permittee Name
 TVA - Sequoyah Nuclear Plant

Current Permittee Mailing Address
 P.O. Box 2000, Mailstop OPS 4A-SQN

City	State	Zip Code
Soddy-Daisy	TN	37384

Phone Number	Fax Number	E-mail
+1 (423) 843-7001		alwilliams12@tva.gov

Optional: If WP Study was used, list PT Provider name(s):	Optional: WP Study Number(s)

For DMR-QA Study 37, conducted in 2017, the Permittee ensured that their laboratory(s) performing the required analyses:

Received PT Samples	Submitted Complete and Accurate Data by July 7, 2017	Received a Graded Report by August 4, 2017
Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Certification by Permit Holder or Authorized Representative
 (as per 40 CFR Section 122.22)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. Each reported value was produced from a single analytical run using the analytical system that routinely performs these analyses to produce compliance monitoring data required under our National Pollutant Discharge Elimination System (NPDES) permit. Neither I nor any of my subordinates compared our results with results from independent analyses conducted by us or any other laboratory before we reported our results to the U.S.EPA. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name of Certifying Official
 Anthony I. Williams

Signature

Address, phone number and e-mail of certifying official are required if different from above.

Address

City	State	Zip Code

Title
 Site Vice President

Date
 8/28/2017

Phone Number

E-mail



United States Environmental Protection Agency
Office of Enforcement and Compliance Assurance
 1200 Pennsylvania Ave NW, Mail Code 2227A
 Washington, DC 20460

DMR-QA Study 37

(This data is collected under the authority of Section 308 of the Clean Water Act.)

Permittee Name	State	NPDES Permit No.	Permit Extension
TVA - Sequoyah Nuclear Plant	TN	0026450	

Identification of all CHEM, MICRO and WET laboratories who performed analyses for this permit

Name of Laboratory	Address of Laboratory	U.S. EPA Lab Code	Lab Analysis Check box(es) that apply			Lab Type*	State-certified Lab**
			Chem	Micro	WET		
Pace Analytical	2225 Riverside Drive Asheville, NC 28804	NC00030	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	C	<input type="checkbox"/>
TVA- Sequoyah Nuclear Plant	P.O. Box 2000 Mailstop OPS 5N Soddy-Daisy, TN 37384-2000	TN00999	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	F	<input type="checkbox"/>
Environmental Testing Solutions	351 Depot Street Asheville, NC 28801	NC01230	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	C	<input type="checkbox"/>
Pace Analytical	9800 Kincey Avenue Suite 100 Huntersville, NC 28078	NC00014	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	C	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>

* Lab Types: C = Commercial F = Federal G = Local Government I = Industrial O = Other S = State

** See Footnote on page 2 (Frequently Asked Questions) for the current list of states with lab accreditation programs

If you need additional space, please make a copy of this page for additional laboratories.

Chemistry/Microbiology Analyte Checklist DMRQA37

Analyte Test	Test Required	Method Number Used (optional)	Laboratory's Graded Result		Analyte determined by state-certified Lab*
			Acceptable	Not Acceptable (Corrective Action Required)	
Microbiology					
E. Coli., MF or MPN	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fecal Coliform, MF or MPN	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Coliform, MF or MPN	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Trace Metals					
Aluminum	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Antimony	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Arsenic	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Barium	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Beryllium	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cadmium	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chromium, total	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chromium, hexavalent	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cobalt	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Copper	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Iron	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lead	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Manganese	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mercury	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Molybdenum	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nickel	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Selenium	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Silver	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Thallium	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vanadium	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Zinc	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Demands					
5-day BOD	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5-day Carbonaceous BOD	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COD	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TOC	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Minerals					
Alkalinity, total (CaCO3)	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chloride	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fluoride	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hardness, total (CaCO3)	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Specific conductance (25°C)	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sulfate	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Dissolved Solids (180°C)	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nutrients					
Ammonia as N	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nitrate as N	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nitrite as N	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Orthophosphate as P	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Kjeldahl-Nitrogen as N	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Phosphorous as P	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Misc. Analytes					
Non-Filterable Residue (TSS)	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Oil and Grease	<input type="checkbox"/>	EPA 1664B (HEM) 2010	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
pH	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Cyanide	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Phenolics (4-AAP)	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Residual Chlorine	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Settleable Solids	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Turbidity	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Name Anthony Williams

Signature [Signature]

Date 8/28/17

Chemistry/Microbiology Analyte Checklist

DMR-QA Study 37

Analyte Test	Test Required	Method Number Used (optional)	Laboratory's Graded Result		Analyte determined by state-certified lab*
			Acceptable	Not Acceptable (Corrective Action Required)	
Microbiology					
<i>E. coli.</i> , MF or MPN	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fecal Coliform, MF or MPN	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Coliform, MF or MPN	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Trace Metals					
Aluminum	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Antimony	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Arsenic	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Barium	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Beryllium	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cadmium	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chromium, total	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chromium, hexavalent	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cobalt	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Copper	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Iron	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lead	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Manganese	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mercury	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mercury (Low Level)	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Molybdenum	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nickel	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Selenium	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Silver	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Thallium	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vanadium	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Zinc	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Demands					
5-day BOD	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5-day Carbonaceous BOD	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COD	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TOC	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Minerals					
Alkalinity, total (CaCO ₃)	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chloride	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fluoride	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hardness, total (CaCO ₃)	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Specific conductance (25°C)	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sulfate	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Dissolved Solids (180°C)	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nutrients					
Ammonia as N	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nitrate as N	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nitrite as N	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Orthophosphate as P	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Kjeldahl-Nitrogen as N	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Phosphorus as P	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Misc. Analytes					
Non-Filterable Residue (TSS)	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Oil and Grease	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
pH	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Cyanide	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Phenolics (4-AAP)	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Residual Chlorine	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Residual Chlorine (Low Level)	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Settleable Solids	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Turbidity	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Name Anthony Williams

Signature 

Date 8/28/17

* See Footnote on page 2.

Chemistry/Microbiology Analyte Checklist

DMR-QA Study 37

Analyte Test	Test Required	Method Number Used (optional)	Laboratory's Graded Result		Analyte determined by state-certified lab*
			Acceptable	Not Acceptable (Corrective Action Required)	
Microbiology					
<i>E. coli</i> , MF or MPN	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fecal Coliform, MF or MPN	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Coliform, MF or MPN	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Trace Metals					
Aluminum	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Antimony	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Arsenic	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Barium	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Beryllium	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cadmium	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chromium, total	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chromium, hexavalent	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cobalt	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Copper	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Iron	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lead	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Manganese	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mercury	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mercury (Low Level)	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Molybdenum	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nickel	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Selenium	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Silver	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Thallium	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vanadium	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Zinc	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Demands					
5-day BOD	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5-day Carbonaceous BOD	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COD	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TOC	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Minerals					
Alkalinity, total (CaCO ₃)	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chloride	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fluoride	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hardness, total (CaCO ₃)	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Specific conductance (25°C)	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sulfate	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Dissolved Solids (180°C)	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nutrients					
Ammonia as N	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nitrate as N	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nitrite as N	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Orthophosphate as P	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Kjeldahl-Nitrogen as N	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Phosphorus as P	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Misc. Analytes					
Non-Filterable Residue (TSS)	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Oil and Grease	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
pH	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Cyanide	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Phenolics (4-AAP)	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Residual Chlorine	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Residual Chlorine (Low Level)	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Settleable Solids	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Turbidity	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Name Anthony Williams

Signature 

Date 8/28/17

* See Footnote on page 2.

WET Organisms/Test Conditions/End Points Checklist
DMRQA37

Analyte Number	Organism / Conditions	End Points	Test Required	Laboratory's Graded Result		Analyte determined by state-certified Lab*
				Acceptable	Not Acceptable (Corrective Action Required)	
Test Code 13 (refer to EPA Method 2000.0)						
754	Fathead minnow (<i>Pimephales promelas</i>) - MHSF 25°C	LC50	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Test Code 14 (refer to EPA Method 2000.0)						
755	Fathead minnow (<i>Pimephales promelas</i>) - 20% DMW	LC50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Test Code 15 (refer to EPA Method 1000.0)						
756	Fathead minnow (<i>Pimephales promelas</i>) - MHSF	NOEC SURVIVAL	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
808	Fathead minnow (<i>Pimephales promelas</i>) - MHSF	IC25 (ON) GROWTH	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
810	Fathead minnow (<i>Pimephales promelas</i>) - MHSF	NOEC (ON) GROWTH	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Test Code 16 (refer to EPA Method 1000.0)						
759	Fathead minnow (<i>Pimephales promelas</i>) - 20% DMW	NOEC SURVIVAL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
812	Fathead minnow (<i>Pimephales promelas</i>) - 20% DMW	IC25 (ON) GROWTH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
814	Fathead minnow (<i>Pimephales promelas</i>) - 20% DMW	NOEC (ON) GROWTH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Test Code 19 (refer to EPA Method 2002.0)						
764	Ceriodaphnia dubia - MHSF 25°C	LC50	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Test Code 20 (refer to EPA Method 2002.0)						
765	Ceriodaphnia dubia - 20% DMW 25°C	LC50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Test Code 21 (refer to EPA Method 1002.0)						
766	Ceriodaphnia dubia - MHSF	NOEC SURVIVAL	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
767	Ceriodaphnia dubia - MHSF	IC25 REPRODUCTION	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
768	Ceriodaphnia dubia - MHSF	NOEC REPRODUCTION	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Test Code 22 (refer to EPA Method 1002.0)						
769	Ceriodaphnia dubia - 20% DMW	NOEC SURVIVAL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
770	Ceriodaphnia dubia - 20% DMW	IC25 REPRODUCTION	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
771	Ceriodaphnia dubia - 20% DMW	NOEC REPRODUCTION	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Test Code 32 (refer to EPA Method 2021.0)						
788	Daphnia magna - MHSF 25°C	LC50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Test Code 38 (refer to EPA Method 2021.0)						
794	Daphnia pulex - MHSF 25°C	LC50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Test Code 42 (refer to EPA Method 2007.0)						
798	Mysid (<i>Americamysis bahia</i> , <i>Mysidopsis bahia</i>) 25°C	LC50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Test Code 43 (refer to EPA Method 1007.0)						
799	Mysid (<i>Americamysis bahia</i> , <i>Mysidopsis bahia</i>)	NOEC SURVIVAL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
816	Mysid (<i>Americamysis bahia</i> , <i>Mysidopsis bahia</i>)	IC25 (ON) GROWTH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
818	Mysid (<i>Americamysis bahia</i> , <i>Mysidopsis bahia</i>)	NOEC (ON) GROWTH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Test Code 44 (refer to EPA Method 2006.0)						
803	Inland silverside (<i>Menidia berylina</i>) 25°C	LC50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Test Code 45 (refer to EPA Method 1006.0)						
824	Inland silverside (<i>Menidia berylina</i>)	NOEC SURVIVAL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
825	Inland silverside (<i>Menidia berylina</i>)	IC25 (ON) GROWTH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
826	Inland silverside (<i>Menidia berylina</i>)	NOEC (ON) GROWTH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Test Code 46 (refer to EPA Method 2004.0)						
804	Sheepshead minnow (<i>Cyprinodon variegatus</i>) 25°C	LC50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Test Code 47 (refer to EPA Method 1004.0)						
805	Sheepshead minnow (<i>Cyprinodon variegatus</i>)	NOEC SURVIVAL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
820	Sheepshead minnow (<i>Cyprinodon variegatus</i>)	IC25 (ON) GROWTH	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
822	Sheepshead minnow (<i>Cyprinodon variegatus</i>)	NOEC (ON) GROWTH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Name Anthony Williams

Signature 

Date 8/28/17

DMRQA37 Graded Results Report

Study: DMRQA37-WET

Opening Date: March 24, 2017 - Closing Date: July 7, 2017

EPA Lab ID: NC01230

NPDES Permit ID: TN0026450

Laboratory: Environmental Testing Solutions, Inc.
351 Depot Street
Asheville, NC 28801
USA
Ms. Kelley Keenan
828-350-9364

Permittee Name: TVA / Sequoyah Nuclear Plant

Fathead Minnow Method 13 (PT-13-WET) Lot #: 8536-13

NELAC Code	Analyte	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
3410	Fathead Minnow Acute MHSF 25° - LC50	10213602	EPA 2000.0 - Fathead minnow, 48-hr Acute, nonrenewal, MHSF 25°C 2002	S.U.	33.2	34.2	15.6 - 50.8	Acceptable

Fathead Minnow Method 15 (PT-15-WET) Lot #: 8536-15

NELAC Code	Analyte	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
3410	Fathead Minnow Chronic MHSF - Survival NOEC	10214207	EPA 1000.0 - Fathead minnow, 7-day Chronic, daily renewal, MHSF 25°C 2002	S.U.	50	50	25 - 100	Acceptable
3410	Fathead Minnow Chronic MHSF - Growth IC25 (ON)	10214207	EPA 1000.0 - Fathead minnow, 7-day Chronic, daily renewal, MHSF 25°C 2002	S.U.	52.3	57.6	29.1 - 75.6	Acceptable
3410	Fathead Minnow Chronic MHSF - Growth NOEC (ON)	10214207	EPA 1000.0 - Fathead minnow, 7-day Chronic, daily renewal, MHSF 25°C 2002	S.U.	50	50	12.5 - 100	Acceptable

Ceriodaphnia Method 19 (PT-19-WET) Lot #: 8536-19

NELAC Code	Analyte	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
3315	Ceriodaphnia Acute MHSF 25° - LC50	10214809	EPA 2002.0 - Ceriodaphnia dubia, 48-hr Acute, renewal, MHSF 25°C 2002	S.U.	66.2	73.8	11.7 - >100	Acceptable

DMRQA37 Graded Results Report

Study: DMRQA37-WET

Opening Date: March 24, 2017 - Closing Date: July 7, 2017

EPA Lab ID: NC01230

NPDES Permit ID: TN0026450

Laboratory: Environmental Testing Solutions, Inc.
351 Depot Street
Asheville, NC 28801
USA
Ms. Kelley Keenan
828-350-9364

Permittee Name: TVA / Sequoyah Nuclear Plant

Ceriodaphnia Method 21 (PT-21-WET)								Lot #: 8536-21
NELAC Code	Analyte	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
3315	Ceriodaphnia Chronic MHSF - Survival NOEC	10215006	EPA 1002.0 - Ceriodaphnia dubia, 7-day Chronic, daily renewal, MHSF 25°C 2002	S.U.	50	50	25 - 100	Acceptable
3315	Ceriodaphnia Chronic MHSF - Reproduction IC25	10215006	EPA 1002.0 - Ceriodaphnia dubia, 7-day Chronic, daily renewal, MHSF 25°C 2002	S.U.	32.2	33.9	<6.25 - 64.0	Acceptable
3315	Ceriodaphnia Chronic MHSF - Reproduction NOEC	10215006	EPA 1002.0 - Ceriodaphnia dubia, 7-day Chronic, daily renewal, MHSF 25°C 2002	S.U.	25	25	6.25 - 50	Acceptable



A Waters Company

DMR-QA 37 Final Report

NPDES Permit #: TN0026450
 Permit Holder: Millicent Garland
 SQN Environmental Scientist
 TVA - Sequoyah Nuclear Plant
 P.O. Box 2000
 Mailstop: OPS-4A-SQN
 Soddy-Daisy, TN 37384-2000
 423-843-6714

ERA Customer Number: T203302
 Report Issued: 08/04/17
 Study Dates: 03/24/17 - 07/07/17

TNI Analyte Code	Analyte	Units	Performance Evaluation	Reported Value	Assigned Value	Acceptance Limits	Method Description	Study Mean	Study Standard Deviation	USEPA Lab Code	Study
DMRQA pH (cat# 577, lot# Q037-977)											
1900	pH	S.U.	Acceptable	5.53	5.54	5.34 - 5.74	SM4500H+ B 22nd ED 2011	5.53	0.0625	TN00999	DMRQA37
DMRQA Total Residual Chlorine (cat# 587, lot# Q037-501)											
1940	Total Residual Chlorine	mg/L	Acceptable	0.71	0.732	0.550 - 0.896	SM 4500-Cl B-2011 .2011	0.721	0.0639	TN00999	DMRQA37

All analytes are included in ERA's A2LA accreditation. Lab Code: 1539-01

16341 Table Mountain Pkwy • Golden, CO 80403 • 800.372.0122 • 303.431.8454 • fax 303.421.0159 • www.eraqc.com

Study #: DMR-QA 37





6390 Joyce Drive
100
Golden, CO 80403

Phone 303-940-0033
Fax 866-283-0269
www.phenova.com

DMRQA37 Graded Results Report

Study: WP0117 for DMRQA37

Opening Date: January 9, 2017 - Closing Date: February 23, 2017

EPA Lab ID: NC00030

NPDES Permit ID: TN0026450

Laboratory: Pace Analytical - Asheville
2225 Riverside Drive
Asheville, NC 28804
UNITED STATES
Mr. Barry Johnson, QAM
828-254-7176

Permittee Name: TVA-SEQUOYAH NUCLEAR

Minerals 2 - Hardness (PT-MIN2-WP)

Lot #: 8174-102

NELAC Code	Analyte	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1755	Total Hardness (as CaCO3)	20046406	SM 2340 B Rev.21st Ed 1997	mg/L	242	232	206 - 278	Acceptable
1755	Total Hardness (as CaCO3)	20046417	SM 2340 B Rev.22nd Ed 2011	mg/L	242	232	206 - 278	Acceptable

Specific Conductance (PT-COND-WP)

Lot #: 8174-72

NELAC Code	Analyte	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1610	Specific Conductance (25°C)	10006403	EPA 120.1 1982	µmhos/cm	718	645	646 - 790	Not Acceptable
1610	Specific Conductance (25°C)	20048208	SM 2510 B Rev.20th Ed 1997	µmhos/cm	718	645	646 - 790	Not Acceptable
1610	Specific Conductance (25°C)	20048413	SM 2510 B Rev.22nd Ed 2011	µmhos/cm	718	645	646 - 790	Not Acceptable

Solids (PT-SOL-WP)

Lot #: 8174-09

NELAC Code	Analyte	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1955	Total Dissolved Solids at 180° (TFR)	20050208	SM 2540 C Rev.21st Ed 1997	mg/L	704	690	633 - 774	Acceptable
1955	Total Dissolved Solids at 180° (TFR)	20050424	SM 2540 C Rev.22nd Ed 2011	mg/L	704	690	633 - 774	Acceptable
1960	Non-Filterable Residue (TSS)	20050800	SM 2540 D Rev.20th Ed 1997	mg/L	89.5	74.0	73.6 - 99.2	Acceptable
1960	Non-Filterable Residue (TSS)	20051018	SM 2540 D Rev.22nd Ed 2011	mg/L	89.5	74.0	73.6 - 99.2	Acceptable



phenovaTM
Certified Reference Materials

A Phenomenex
Company



6390 Joyce Drive
100
Golden, CO 80403

Phone 303-940-0033
Fax 866-283-0269
www.phenova.com

DMRQA37 Graded Results Report

Study: WP0117 for DMRQA37

Opening Date: January 9, 2017 - Closing Date: February 23, 2017

EPA Lab ID: NC00014

NPDES Permit ID: TN0026450

Laboratory: Pace Analytical - Huntersville
9800 Kinsey Avenue
Suite 100
Huntersville, NC 28078
UNITED STATES
Ms. Rhiannon Setzer, QAA
704-875-8092 x 928283

Permittee Name: TVA-SEQUOYAH NUCLEAR

Oil & Grease - 1L (PT-OGR1L-WP)

Lot #: 8174-103

NELAC Code	Analyte	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1803	n-Hexane Extractable Material (O&G) (Gravimetric)	10261617	EPA 1664B (HEM) 2010	mg/L	59.0	51.3	39.2 - 70.9	Acceptable