



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

August 13, 2010

Ms. Dana Borum  
State of Tennessee  
Department of Environment and Conservation  
Division of Water Pollution Control  
6<sup>th</sup> Floor, L&C Annex  
401 Church Street  
Nashville, Tennessee 37243-1534

Ms. Borum:

**2010 DISCHARGE MONITORING REPORT – QUALITY ASSURANCE (DMR-QA) STUDY 30  
PROVIDER-GRADED TEST RESULTS FINAL REPORT**

Please find enclosed the provider-graded test results of the 2010 DMR-QA Study 30  
Laboratory Performance Evaluation obtained by TVA Sequoyah Nuclear Plant (SQN) and  
supporting Laboratories as required by NPDES Permit TN0026450.

If you have any questions or need additional information, please contact Stephanie Howard of  
Sequoyah's Environmental staff at (423) 843-6700.

Sincerely,

Christopher R. Church  
Site Vice President  
Sequoyah Nuclear Plant

Enclosure  
cc (Enclosure):  
Mr. Ray Terhune  
U. S. EPA Region IV  
SESD/MTSB/QAS  
980 College Station Road  
Athens, Georgia 30605-2720

Chattanooga Environmental Field Office  
Division of Water Pollution Control  
State Office Building, Suite 550  
540 McCallie Avenue  
Chattanooga, Tennessee 37402-2013

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, D.C. 20555

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NRR



**United States  
ENVIRONMENTAL PROTECTION AGENCY**

**Washington, D.C. 20460**

**Laboratory DMR-QA Evaluation Study 30**

**Laboratory Performance Evaluation**

Office of Enforcement and Compliance Assurance

(These data are collected under the authority of the Federal Water Pollution Control Act.)

**NPDES Permittee Data Report Form**

**Due August  
20, 2010**

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

State	NPDES Permit Number	Permit Extension
TN	0026450	

Permittee name

Current Permittee mailing address

City  State  Zip Code

Phone Number  FAX Number

e-Mail

SAH 8/12/10

For DMR-QA Study 30, conducted in ~~2009~~ <sup>2010</sup>, the Permittee ensured that their laboratory(s) performing the required analyses:

Received PT Samples	SAH 8/12/10	Submitted Complete and Accurate Data by July 2, 2010	Received a Graded Report by July 23, 2010
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 C.F.R. Section 122.22 - see instructions.)

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  Title

Signature  Date

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

Address  Phone No.

City  State  Zip Code  e-Mail



**United States  
ENVIRONMENTAL PROTECTION AGENCY**

**Washington, D.C. 20460**

**Laboratory DMR-QA Evaluation Study 30  
Laboratory Performance Evaluation**

Office of Enforcement and Compliance Assurance

(These data are collected under the authority of the Federal Water Pollution Control Act.)

Permittee name	TENNESSEE VALLEY AUTHORITY - SEQUOYAH NUCLEAR PLANT	State	TN	NPDES Permit No.	0026450	Permit Extension	
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**Identification of all CHEM, MICRO and WET laboratories who did analyses for this permit**

Name of Laboratory	Address of Laboratory	U.S. EPA Lab Code	Lab Analysis Check box(es) that apply			Lab Type*
			CHEM	MICRO	WET	
ENVIRONMENTAL SCIENCE CORPORATION	12065 LEBANON ROAD MT. JULIET, TENNESSEE 37122	TN00003	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Commercial
ENVIRONMENTAL TESTING SOLUTIONS, INC	P.O. BOX 7565 ASHEVILLE, NORTH CAROLINA 28802-7565	NC01230	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Commercial
TVA SEQUOYAH NUCLEAR PLANT	P.O. BOX 2000 MAILSTOP: OPS-4A-SQN SODDY DAISY, TENNESSEE 37384-2000	TN00999	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Federal
			<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

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

Permittee Name: TVA - Sequoyah  
Nuclear Plant

Permit Number: TN0026450

EPA Lab Code: NC01230

### WET Organisms/Test Conditions/End Points Checklist

#### DMRQA Study 30

Analyte Number	Organisms / Conditions	End Points	Test Required	Laboratory's Graded Result	
				Acceptable	Not Acceptable (Corrective Action Required)
<b>Fathead minnow (Test Code 13)</b>					
0754	48Hr., Acute, Non-Renewal, 25° C, MHSF	LC50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Fathead minnow (Test Code 14)</b>					
0755	48Hr., Acute, Non-Renewal, 25° C, 20% DMW	LC50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Fathead minnow (Test Code 15)</b>					
0808	7-day Short term Chronic, Daily Renewal, MHSF	IC25 (ON) Growth	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0808	7-day Short term Chronic, Daily Renewal, MHSF	IC25 (ON) Growth	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
0810	7-day Short term Chronic, Daily Renewal, MHSF	NOEC (ON) Growth	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0756	7-day Short term Chronic, Daily Renewal, MHSF	NOEC Survival	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Fathead minnow (Test Code 16)</b>					
0812	7-day Short term Chronic, Daily Renewal, 20% DMW	IC25 (ON) Growth	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0814	7-day Short term Chronic, Daily Renewal, 20% DMW	NOEC (ON) Growth	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0759	7-day Short term Chronic, Daily Renewal, 20% DMW	NOEC Survival	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Ceriodaphnia dubia (Test Code 19)</b>					
0764	48Hr., Acute Renewal, 25° C, MHSF	LC50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Ceriodaphnia dubia (Test Code 20)</b>					
0765	48Hr., Acute Renewal, 25° C, 20% DMW	LC50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Ceriodaphnia dubia (Test Code 21)</b>					
0767	7-day Short term Chronic, Daily Renewal, MHSF	IC25 Reproduction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0767	7-day Short term Chronic, Daily Renewal, MHSF	IC25 Reproduction	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
0768	7-day Short term Chronic, Daily Renewal, MHSF	NOEC Reproduction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0766	7-day Short term Chronic, Daily Renewal, MHSF	NOEC Survival	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Ceriodaphnia dubia (Test Code 22)</b>					
0770	7-day Short term Chronic, Daily Renewal, 20% DMW	IC25 Reproduction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0771	7-day Short term Chronic, Daily Renewal, 20% DMW	NOEC Reproduction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0769	7-day Short term Chronic, Daily Renewal, 20% DMW	NOEC Survival	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Daphnia magna (Test Code 32)</b>					
0788	48Hr., Acute, Non-Renewal, 25° C, MHSF	LC50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Daphnia pulex (Test Code 38)</b>					
0794	48Hr., Acute, Non-Renewal, 25° C, MHSF	LC50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Mysid (Test Code 42)</b>					
0798	48Hr., Acute, Non-Renewal, 25° C, 40 FSW	LC50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Permittee Name: TVA - Sequoyah  
Nuclear Plant

Permit Number: TN0026450

EPA Lab Code: NC01230

**WET Organisms/Test Conditions/End Points Checklist**  
DMRQA Study 30

Analyte Number	Organisms / Conditions	End Points	Test Required	Laboratory's Graded Result	
				Acceptable	Not Acceptable (Corrective Action Required)
<b>Inland Silverside (Test Code 45)</b>					
0825	7-day Short term Chronic, Daily Renewal, 40 FSW	IC25 (ON) Growth	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0826	7-day Short term Chronic, Daily Renewal, 40 FSW	NOEC (ON) Growth	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0824	7-day Short term Chronic, Daily Renewal, 40 FSW	NOEC Survival	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Mysid (Test Code 43)</b>					
0816	7-day Short term Chronic, Daily Renewal, 40 FSW	IC25 (ON) Growth	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0818	7-day Short term Chronic, Daily Renewal, 40 FSW	NOEC (ON) Growth	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0799	7-day Short term Chronic, Daily Renewal, 40 FSW	NOEC Survival	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Inland silverside (Test Code 44)</b>					
0803	48Hr., Acute, Non-Renewal, 25° C, 40 FSW	LC50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Sheepshead minnow (Test Code 46)</b>					
0804	48Hr., Acute, Non-Renewal, 25° C, 40 FSW	LC50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Sheepshead minnow (Test Code 47)</b>					
0820	7-day Short term Chronic, Daily Renewal, 40 FSW	IC25 (ON) Growth	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0822	7-day Short term Chronic, Daily Renewal, 40 FSW	NOEC (ON) Growth	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0805	7-day Short term Chronic, Daily Renewal, 40 FSW	NOEC Survival	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

C.R. Church  
Print Name

[Signature]  
Signature/Title

Sequoyah Site Vice President

13 August 2010  
Date

Use a separate checklist for EACH lab used

Permittee Name: TVA - Sequoyah  
Nuclear Plant

Permit Number: TN0026450

EPA Lab Code: TN00003

### Chemistry/Microbiology Analyte Checklist

WP Study 180

Analyte Test / Method	Test Required	Laboratory's Graded Result	
		Acceptable	Not Acceptable (Corrective Action Required)
<u>Minerals</u> Alkalinity as CaCO <sub>3</sub> Chloride Conductivity at 25°C Fluoride Potassium Sodium Sulfate Total Dissolved Solids at 180°C Total Solids at 105°C			
<u>Hardness</u> Non-Filterable Residue (TSS) SM2540D Calcium Magnesium Calcium Hardness as CaCO <sub>3</sub> Total Hardness as CaCO <sub>3</sub>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<u>pH</u> pH			
<u>Settleable Solids</u> Settleable Solids SM2540F	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<u>Solids Concentrate</u> Non-Filterable Residue (TSS) Total Dissolved Solids at 180°C Total Solids at 105°C			
<u>Solids</u> Non-Filterable Residue (TSS) Total Dissolved Solids at 180°C Total Solids at 105°C			
<u>Simple Nutrients</u> Ammonia as N Nitrate + Nitrite as N Nitrate as N ortho-Phosphate as P			



Permittee Name: TVA - Sequoyah  
Nuclear Plant

Permit Number: TN0026450

EPA Lab Code: TN00003

### Chemistry/Microbiology Analyte Checklist

WP Study 180

Analyte Test / Method	Test Required	Laboratory's Graded Result	
		Acceptable	Not Acceptable (Corrective Action Required)
Thallium Vanadium Zinc			
<u>Mercury</u> Mercury			
<u>Low-Level Mercury</u> Low Level Mercury			
<u>Hexavalent Chromium</u> Hexavalent Chromium			
<u>Turbidity</u> Turbidity			
<u>Total Cyanide</u> Cyanide, total			
<u>Total Phenolics (4-AAP)</u> Phenolics, total			
<u>Total Residual Chlorine</u> Total Residual Chlorine			
<u>Low-Level Total Residual Chlorine</u> Low Level Total Residual Chlorine			
<u>WasteWatR™ Coliform MicrobE™</u> Total Coliforms (MF) Fecal Coliforms (MF) E.coli (MF) Total Coliforms (MPN) Fecal Coliforms (MPN) E.coli (MPN)			

C. B. Church  
Print Name

[Signature]  
Signature/Title

Sequoyah Site Vice President

13 August 2010  
Date

Use a separate checklist for EACH lab used

Permittee Name: TVA - Sequoyah  
Nuclear Plant

Permit Number: TN0026450

EPA Lab Code: TN00999

### Chemistry/Microbiology Analyte Checklist

DMRQA Study 30

Analyte Test / Method	Test Required	Laboratory's Graded Result	
		Acceptable	Not Acceptable (Corrective Action Required)
<u>Minerals</u> Alkalinity as CaCO <sub>3</sub> Chloride Conductivity at 25°C Fluoride Potassium Sodium Sulfate Total Dissolved Solids at 180°C Total Solids at 105°C			
<u>Hardness</u> Non-Filterable Residue (TSS) Calcium Magnesium Calcium Hardness as CaCO <sub>3</sub> Total Hardness as CaCO <sub>3</sub>			
<u>pH</u> pH USGS I-1586-85	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<u>Settleable Solids</u> Settleable Solids			
<u>Solids Concentrate</u> Non-Filterable Residue (TSS) Total Dissolved Solids at 180°C Total Solids at 105°C			
<u>Solids</u> Non-Filterable Residue (TSS) Total Dissolved Solids at 180°C Total Solids at 105°C			
<u>Simple Nutrients</u> Ammonia as N Nitrate + Nitrite as N Nitrate as N ortho-Phosphate as P			
<u>Complex Nutrients</u> Total Kjeldahl Nitrogen			

### Chemistry/Microbiology Analyte Checklist

#### DMRQA Study 30

Analyte Test / Method	Test Required	Laboratory's Graded Result	
		Acceptable	Not Acceptable (Corrective Action Required)
Total phosphorus as P			
<u>Nitrite</u> Nitrite as N			
<u>Demand</u> BOD CBOD COD TOC			
<u>Oil &amp; Grease Concentrate</u> Oil & Grease (Gravimetric)			
<u>Oil &amp; Grease</u> Oil & Grease (Gravimetric) Oil & Grease (Infrared)			
<u>Trace Metals</u> Aluminum Antimony Arsenic Barium Beryllium Boron Cadmium Chromium Cobalt Copper Iron Lead Manganese Molybdenum Nickel Selenium Silver Strontium Thallium Vanadium Zinc			
<u>Mercury</u> Mercury			

Permittee Name: TVA - Sequoyah  
Nuclear Plant

Permit Number: TN0026450

EPA Lab Code: TN00999

### Chemistry/Microbiology Analyte Checklist DMRQA Study 30

Analyte Test / Method	Test Required	Laboratory's Graded Result	
		Acceptable	Not Acceptable (Corrective Action Required)
<u>Low-Level Mercury</u> Low Level Mercury			
<u>Hexavalent Chromium</u> Hexavalent Chromium			
<u>Turbidity</u> Turbidity			
<u>Total Cyanide</u> Cyanide, total			
<u>Total Phenolics (4-AAP)</u> Phenolics, total			
<u>Total Residual Chlorine</u> Total Residual Chlorine SM4500Cl G	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<u>Low-Level Total Residual Chlorine</u> Low Level Total Residual Chlorine			
<u>WasteWatR™ Coliform MicrobE™</u> Total Coliforms (MF) Fecal Coliforms (MF) E.coli (MF) Total Coliforms (MPN) Fecal Coliforms (MPN) E.coli (MPN)			

C. B. Church  
Print Name

[Signature]  
Signature/Title

Sequoyah Site Vice President

13 August 2000  
Date

Use a separate checklist for EACH lab used

Christopher R. Church  
TVA - Sequoyah Nuclear Plant  
PO Box 2000  
Mailstop: OPS-4A-SQN  
Soddy-Daisy, TN 37384-2000

*DMR-QA 30*  *Final Report*

**DMR-QA Proficiency Testing**

**DMR-QA Study**

**Open Date: 03/15/10**

**Close Date: 07/02/10**

**Report Issued Date: 07/21/10**

July 29, 2010

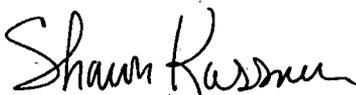
Christopher R. Church  
TVA - Sequoyah Nuclear Plant  
PO Box 2000  
Mailstop: OPS-4A-SQN  
Soddy-Daisy, TN 37384-2000

Enclosed is your final report for ERA's DMR-QA 30 Proficiency Testing study. Your final report includes an evaluation of every result submitted by your facility to ERA. Please note that reports were sent on your behalf to both the USEPA DMR-QA office and your state or regional DMR-QA Coordinator. You are responsible for reviewing, signing and forwarding the enclosed analyte checklists to your DMRQA coordinator by August 20, 2010.

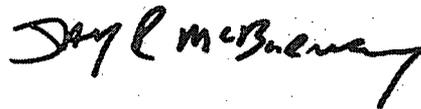
If you have any "Not Acceptable" evaluations for the DMR-QA 30 study, a letter of corrective action and an order form for the required remedial samples are attached for your convenience. If you have a "Not Acceptable" evaluation, but there is not an order form or a list of standards for your in-house or outside laboratories, ERA recommends that you contact your DMR-QA Coordinator for their corrective action requirements, if any.

Thank you for your participation in ERA's DMR-QA 30 Proficiency Testing study. If you have any questions, please contact myself or Curtis Wood, Quality Assurance Director, at 1-800-372-0122.

Sincerely,



Shawn Kassner  
Proficiency Testing Manager



Jay R. McBurney  
Quality Program Manager

attachments  
smk

# DMRQA-30 Definitions & Study Discussion

Study Dates: 03/15/10 - 07/02/10

Report Issued: 07/21/10

## DMRQA Study Definitions

The Reported Value is the value that the laboratory reported to ERA.

The ERA Assigned Values are compliant with the most current USEPA/NELAC FoPT tables. A parameter not added to the standard is given an Assigned Value of "0" per the guidelines contained in the USEPA's Criteria Document and NELAC standards.

The Acceptance Limits are established per the criteria contained in the most current USEPA/NELAC FoPT tables, or ERA's SOP for the Generation of Performance Acceptance Limits™ as applicable.

The Performance Evaluation:

- Acceptable = Reported Value falls within the Acceptance Limits.
- Not Acceptable = Reported Value falls outside the Acceptance Limits.
- No Evaluation = Reported Value cannot be evaluated.
- Not Reported = No Value reported.

The Method Description is the method the laboratory reported to ERA.

## DMRQA Study Discussion

ERA's DMR-QA 30 Proficiency Testing study has been reviewed by ERA senior management and certified compliant with the requirements of the USEPA's National Standards for Water Proficiency Testing Studies Criteria Document (December 1998), and the criteria contained in the most current NELAC FoPT tables.

ERA's DMR-QA 30 study standards were examined for any anomalies. A full review of all homogeneity, stability and accuracy verification data was completed. All analytical verification data for all analytes met the acceptance criteria contained in the USEPA's National Criteria Document for Water Proficiency Testing Studies, December 1998, and the criteria contained in the most current NELAC FoPT tables.

The data submitted by participating laboratories was also examined for study anomalies. There were four anomalies observed during the statistical review of the data. If your laboratory received the Solids Concentrate sample, catalog #4030, Complex Nutrients sample, catalog #579, the Inland Silverside (Test Code 44), catalog #WET018, or the Inland Silverside (Test Code 45) sample, catalog #WET013, these anomalies are addressed on the following page.

ERA's DMR-QA 30 study reports shall not be reproduced except in their entirety and not without the permission of the participating laboratories. The report must not be used by the participating laboratories to claim product endorsement by any agency of the U. S. government.

The data contained herein are confidential and intended for your use only.

If you have any questions or concerns regarding your assessment in ERA's DMRQA Proficiency Testing program, please contact Shawn Kassner, Proficiency Testing Manager, or Curtis Wood, Director of Regulatory Affairs and Business Development, at 1-800-372-0122.



Study: **DMRQA-30**

NPDES Permit #: **TN0026450**

Laboratory Name: **TVA - Sequoyah Nuclear  
Plant**

## Inorganic Results



# DMRQA-30 Final Complete Report

**NPDES Permit #:** TN0026450  
**Permit Holder:** Christopher R. Church  
 Sequoyah Site Vice President  
 TVA - Sequoyah Nuclear Plant  
 P.O. Box 2000  
 Mailstop: SB-2A-SQN  
 Soddy-Daisy, TN 37384-2000  
 423-843-7001

**ERA Customer Number:** T203302  
**Report Issued:** 07/21/10  
**Study Dates:** 03/15/10 - 07/02/10

Analyte	Performance Evaluation	Reported Value	Assigned Value	Acceptance Limits	Units	Method Description	USEPA Lab Code	Study
<b>Hardness</b>								
Non-Filterable Residue (TSS)	Acceptable	86.5	80.0	65.2 - 89.1	mg/L	SM2540D	TN00003	WP180
<b>pH</b>								
pH	Acceptable	6.34	6.30	6.10 - 6.50	S.U.	USGS I-1586-85	TN00999	DMRQA30
<b>Settleable Solids</b>								
Settleable Solids	Acceptable	20.0	18.4	14.0 - 23.8	mL/L	SM2540F	TN00003	WP180
<b>Complex Nutrients</b>								
Total phosphorus as P	Acceptable	1.36	1.39	1.09 - 1.74	mg/L	SM4500P E	TN00003	WP180
<b>Oil &amp; Grease</b>								
Oil & Grease (Gravimetric)	Acceptable	36.5	45.0	28.3 - 55.5	mg/L	EPA 1664A SPE	TN00003	WP180
<b>Trace Metals</b>								
Boron	Acceptable	1580.	1600.	1300 - 1860	µg/L	EPA 200.7	TN00003	WP180
Copper	Acceptable	754.	764.	688 - 840	µg/L	EPA 200.8	TN00003	WP180
Iron	Acceptable	1450.	1400.	1240 - 1580	µg/L	EPA 200.7	TN00003	WP180
<b>Total Residual Chlorine</b>								
Total Residual Chlorine	Acceptable	1.28	1.27	0.912 - 1.57	mg/L	SM4500Cl G	TN00999	DMRQA30



Study: **DMRQA-30**

NPDES Permit #: **TN0026450**

Laboratory Name: **TVA - Sequoyah Nuclear  
Plant**

**WET Results**



# DMRQA-30 Final Complete Report

NPDES Permit #: TN0026450  
 Permit Holder: Christopher R. Church  
 Sequoyah Site Vice President  
 TVA - Sequoyah Nuclear Plant  
 P.O. Box 2000  
 Mailstop: SB-2A-SQN  
 Soddy-Daisy, TN 37384-2000  
 423-843-7001

ERA Customer Number: T203302  
 Report Issued: 07/21/10  
 Study Dates: 03/15/10 - 07/02/10

Test End Point	Performance Evaluation	Reported Value %	Assigned Value %	Acceptance Limits %	Method Description	USEPA Lab Code	Study
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***Fathead minnow (Test Code 15)***  
***7-day Short term Chronic, Daily Renewal, MHSF***  
***Potassium chloride***

IC25 (ON) Growth	Acceptable	30.5	30.0	23.9 - 36.1	EPA 1000	NC01230	DMRQA30
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***Ceriodaphnia dubia (Test Code 21)***  
***7-day Short term Chronic, Daily Renewal, MHSF***  
***Potassium chloride***

IC25 Reproduction	Acceptable	29.2	23.4	6.43 - 40.4	EPA 1002	NC01230	DMRQA30
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# **CERTIFICATE OF RECOGNITION**

*ERA congratulates  
TVA - SEQUOYAH NUCLEAR PLANT  
for your participation and successful evaluation in DMRQA-30. We  
recognize the performance of this laboratory for achieving acceptable  
evaluations for the following analytes.*

pH

Total Residual Chlorine



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Shawn Kassner  
Manager, Proficiency Testing Programs

T203302