



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

September 1, 2004

Environmental Resource Associates
PT Data Group
6000 West 54th Avenue
Arvada, Colorado 80002

To Whom It May Concern:

2004 DISCHARGE MONITORING REPORT – QUALITY ASSURANCE (DMR-QA) STUDY 24

The results of the 2004 DMR-QA Study 24 Laboratory Performance Evaluation obtained by TVA Sequoyah Nuclear Plant and supporting Laboratories are enclosed as required by NPDES Permit TN0026450.

Please contact me at (423) 843-6700 if you have any questions or comments.

Sincerely,

Stephanie A. Howard
Principal Environmental Engineer
Signatory Authority for
J. Randy Douet
Site Vice President
Sequoyah Nuclear Plant

Enclosure
cc (Enclosure)

Mr. Mark McAdoo
State of Tennessee
Dept. of Environment and Conservation
Division of Water Pollution Control
Enforcement & Compliance Section
6th Floor, L&C Annex
401 Church Street
Nashville, Tennessee 37243-1534

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

Mr. Wayne Turnbull
EPA Region IV
ESD/ASB/LE&QAS
980 College Station Road
Athens, Georgia 30605-2720

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



ENVIRONMENTAL
RESOURCE ASSOCIATES,®

DMR-QA 24 Inorganic Data Reporting Form

NPDES Permit #: **TN0026450**-

Permittee Name: **TVA SEQUOYAH NUCLEAR PLANT**

Laboratory: **TVA Sequoyah Nuclear Plant**

USEPA Lab Code: **TN00999**

Customer Number: **T2033-02**

INSTRUCTIONS:

Please fill in the results, method descriptions, and analysis dates for the analyte(s) you wish to report for ERA's DMR-QA 24 PT Study. Questions? See the DMR Data Reporting Instructions or call ERA at 1-800-372-0122. If you are reporting results for more than one method, photocopy this form. Please fill in the appropriate circle for method on each sheet.
 Method A Method B Method C

Anal. No.	Analyte	Less Than	Result	Units	Method Description	Analysis Date			*Permittee use only
						Month	Day	Year	
pH (Cat. # 577)									
0019	pH †	<0	8.18	S.U.	EPA 150.1	08	04	2004	<input checked="" type="checkbox"/>
Total Residual Chlorine (Cat. # 587)									
0098	Total Residual Chlorine †	<0	1.17	mg/L	EPA 330.4	08	11	2004	<input checked="" type="checkbox"/>

*For Permittee use only

* If using for DMR-QA 24, place an "X" in the box to the right for each analyte that is required in routine NPDES monitoring and should be included in the final permittee report.

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

† Indicates analytes included in ERA's NIST/NVLAP accreditation. Lab Code 200386-0



DMR-QA 24 Data Reporting Cover

a) LABORATORY INFORMATION

Customer Code: T2033-01

Below is the information we currently have on file for your laboratory. Please note that the address shown below is where ERA will send your final report. If there are any corrections, please fill in the boxes below the appropriate heading.

LAB NAME: TVA Central Laboratory Services

USEPA LAB CODE: TN00016

MAILING ADDRESS: 4601 N Access Rd

Distribution Ctr Bldg F

PHONE #: 423-876-4317

CITY: Chattanooga

ST: TN ZIP: 37415

FAX #: 423-876-4137

EMAIL ADDRESS FOR OFFICIAL LABORATORY CONTACT (optional):

MELAWLESST@TYA.GOV

b) Read and sign the ATTESTATION STATEMENT

Per the requirements of the USEPA's National Standards for Water Proficiency Testing Studies, please read this attestation statement. By affixing your signature below, you attest that your Proficiency Testing DMR-QA 24 study results have met the following criteria. 1) No results, or any other aspect of this study, have been revealed to or discussed with any unauthorized person or other laboratory prior to the close of the study. 2) The Proficiency Testing DMR-QA 24 study standards for which you are submitting results were not analyzed by any other laboratory. 3) Your laboratory has not knowingly received Proficiency Testing DMR-QA 24 study standards for analysis from any other laboratory. 4) No information was solicited from ERA or any other laboratories concerning the assigned values or acceptance ranges for Proficiency Testing DMR-QA 24 study standards. 5) All analyses met the criteria for the regulatory agencies to which the Proficiency Testing DMR-QA 24 study is being sent.

Official Laboratory Contact (signature)

Title

Phone Number

Official Laboratory Contact (please print)

Month Day

Date

2004

MELVDY D LAWLESST

08 19

- Return the Data Reporting Cover Sheet plus your "DMR-QA 24 DATA REPORTING FORM(S)" to ERA by FAX or Mail:
- Deadline for receipt of data is September 3, 2004. ERA's PT group fax number is 1-720-898-6382.
- Total Pages: 4

Fax your results to ERA at 1-720-898-6382 or enter your results on-line at www.eraqc.com



DMR-QA 24 Data Reporting Form

NPDES Permit #: **TN0026450** -

Please fill in NPDES Permit # and Permittee Name fields before reporting to ERA.

Permittee Name: **TVA SEQUOYAH NUCLEAR PLANT**

Laboratory: TVA Central Laboratory Services

USEPA Lab Code: TN00016

Customer Number: T2033-01

Anal. No.	Analyte	Result	Units	Method Description	Analysis Date MM/DD/YY	Report* For DMRQA
Hardness - Method 1						
0072	Non-Filterable Residue (TSS)	80	mg/L	EPA 160.2	06/24/04	<input checked="" type="checkbox"/>
0023	Calcium	35	mg/L	EPA 200.7	06/25/04	<input type="checkbox"/>
0024	Magnesium	24	mg/L	EPA 200.7	06/25/04	<input type="checkbox"/>
0022	Total Hardness as CaCO ₃	186	mg/L	SM 2340 B	06/29/04	<input type="checkbox"/>
Demand - Method 1						
0038	BOD	58	mg/L	EPA 405.1	07/06/04	<input type="checkbox"/>
0036	COD	104	mg/L	EPA 410.4	06/23/04	<input type="checkbox"/>
0037	TOC	43.6	mg/L	EPA 415.1	07/12/04	<input type="checkbox"/>
Simple Nutrients - Method 1						
0031	Ammonia as N	17.2	mg/L	EPA 350.1	07/08/04	<input type="checkbox"/>
0032	Nitrate as N	11.7	mg/L	EPA 353.2	07/08/04	<input type="checkbox"/>
1820	Nitrate + Nitrite as N	11.7	mg/L	EPA 353.2	07/08/04	<input type="checkbox"/>
0033	Ortho-phosphate as P	2.51	mg/L	EPA 365.1	07/07/04	<input type="checkbox"/>

*** Permittees:**

If using for DMR-QA 24, place an "X" in the box to the right for each analyte that is required in routine NPDES monitoring and should be included in the permittee report package.



DMR-QA 24 Data Reporting Form

NPDES Permit #: **TN00026450** -

Please fill in NPDES Permit # and Permittee Name fields before reporting to ERA.

Permittee Name: **TVA SEQUOYAH NUCLEAR PLANT**

Laboratory: **TVA Central Laboratory Services**

USEPA Lab Code: **TN00016**

Customer Number: **T2033-01**

Anal. No.	Analyte	Result	Units	Method Description	Analysis Date MM/DD/YY	Report* For DMRQA
Complex Nutrients - Method 1						
0034	Total Kjeldahl Nitrogen	15.9	mg/L	EPA 351.2	06/25/04	<input type="checkbox"/>
0035	Total phosphorus as P	3.46	mg/L	EPA 365.4	06/23/04	<input checked="" type="checkbox"/>
Grease and Oil - Method 1						
0104	Grease & Oil (Gravimetric)	21	mg/L	EPA 1664A	06/22/04	<input checked="" type="checkbox"/>
Trace Metals - Method 1						
0001	Aluminum	520	µg/L	EPA 200.7	06/25/04	<input type="checkbox"/>
0016	Antimony	423	µg/L	EPA 204.2	07/08/04	<input type="checkbox"/>
0002	Arsenic	306	µg/L	EPA 206.2	08/10/04	<input type="checkbox"/>
1015	Barium	664	µg/L	EPA 200.7	06/25/04	<input type="checkbox"/>
0003	Beryllium	227	µg/L	EPA 200.7	06/25/04	<input type="checkbox"/>
1025	Boron	709	µg/L	EPA 200.7	06/25/04	<input checked="" type="checkbox"/>
0004	Cadmium	214	µg/L	EPA 213.2	07/08/04	<input type="checkbox"/>
0006	Chromium	286	µg/L	EPA 218.2	07/07/04	<input type="checkbox"/>
0005	Cobalt	458	µg/L	EPA 219.2	08/10/04	<input type="checkbox"/>
0007	Copper	324	µg/L	EPA 220.2	07/06/04	<input checked="" type="checkbox"/>

*** Permittees:**

If using for DMR-QA 24, place an "X" in the box to the right for each analyte that is required in routine NPDES monitoring and should be included in the permittee report package.



DMR-QA 24 Data Reporting Form

NPDES Permit #: **TN0026450-00**

Please fill in NPDES Permit # and Permittee Name fields before reporting to ERA.

Permittee Name: **TVA SEQUOYAH NUCLEAR PLANT**

Laboratory: TVA Central Laboratory Services

USEPA Lab Code: TN00016

Customer Number: T2033-01

Anal. No.	Analyte	Result	Units	Method Description	Analysis Date MM/DD/YY	Report* For DMRQA
Trace Metals - Method 1 (Continued)						
0008	Iron	454	µg/L	EPA 200.7	08/25/04	<input checked="" type="checkbox"/>
0012	Lead	340	µg/L	EPA 239.2	07/07/04	<input type="checkbox"/>
0010	Manganese	258	µg/L	EPA 200.7	06/25/04	<input type="checkbox"/>
0074	Molybdenum	118	µg/L	EPA 200.7	06/25/04	<input type="checkbox"/>
0011	Nickel	552	µg/L	EPA 249.2	07/14/04	<input type="checkbox"/>
0013	Selenium	812	µg/L	EPA 270.2	08/09/04	<input type="checkbox"/>
0017	Silver	154	µg/L	EPA 272.2	07/14/04	<input type="checkbox"/>
0075	Strontium	162	µg/L	EPA 200.7	06/25/04	<input type="checkbox"/>
0018	Thallium	703	µg/L	EPA 279.2	07/12/04	<input type="checkbox"/>
0014	Vanadium	331	µg/L	EPA 200.7	06/25/04	<input type="checkbox"/>
0015	Zinc	700	µg/L	EPA 200.7	06/25/04	<input type="checkbox"/>
Mercury - Method 1						
0009	Mercury	11.7	µg/L	EPA 245.1	07/06/04	<input type="checkbox"/>

*** Permittees:**

If using for DMR-QA 24, place an "X" in the box to the right for each analyte that is required in routine NPDES monitoring and should be included in the permittee report package.



DMR-QA 24 WET Data Reporting Form

NPDES Permit #: **TW0026450**

Permittee Name: **TVA SEQUOYAH NUCLEAR PLANT**

Laboratory: Environmental Testing Solution

USEPA Lab Code: NC01230

Customer Number: E5597-01

NC01230

INSTRUCTIONS:

Please fill in the results, method descriptions, and analysis dates for the WET analyte(s) you wish to report for ERA's DMR-QA 24 PT Study. Questions? See the DMR Data Reporting Instructions or call ERA at 1-800-372-0122. If you are reporting results for more than one method, photocopy this form. Please fill in the appropriate circle for method on each sheet.

● Method A ○ Method B ○ Method C

Anal. No.	Test Conditions	Test Endpoint	Less Than	Greater Than	Result	Units	Method Description	Analysis Date			Report For DMRQA
								Month	Day	Year	
<i>Fathead minnow (Test Code 13)</i>											
0754	48Hr., Acute, Non-Renewal, 25° C, MHSF	LC50	<○	○>	29.7	%	EPA 2000.0	06	10	2004	<input type="checkbox"/>
<i>Fathead minnow (Test Code 15)</i>											
0756	7-day Short term Chronic, Daily Renewal, MHSF	NOEC Survival	<○	○>	50.0	%	EPA 1000.0	06	08	2004	<input type="checkbox"/>
0808	7-day Short term Chronic, Daily Renewal, MHSF	IC25 (ON) Growth	<○	○>	51.8	%	EPA 1000.0	06	08	2004	<input checked="" type="checkbox"/>
0809	7-day Short term Chronic, Daily Renewal, MHSF	IC25 (SN) Growth	<○	○>	53.0	%	EPA 1000.0	06	08	2004	<input type="checkbox"/>
0810	7-day Short term Chronic, Daily Renewal, MHSF	NOEC (ON) Growth	<○	○>	25.0	%	EPA 1000.0	06	08	2004	<input type="checkbox"/>
0811	7-day Short term Chronic, Daily Renewal, MHSF	NOEC (SN) Growth	<○	○>	25.0	%	EPA 1000.0	06	08	2004	<input type="checkbox"/>
<i>Ceriodaphnia dubia (Test Code 19)</i>											
0764	48Hr., Acute Renewal, 25° C, MHSF	LC50	<○	○>	35.4	%	EPA 2002.0	06	10	2004	<input type="checkbox"/>

* Place an "X" in the box to the right for each analyte that is required in routine NPDES monitoring and should be included in the permittee DMR-QA 24 report package.

DMR-QA 24 WET Data Reporting Form

 NPDES Permit #: **TN0026450**

 Permittee Name: **TVA SEQUOYAH NUCLEAR PLANT**

Laboratory: Environmental Testing Solution

USEPA Lab Code: NC01230

Customer Number: E5597-01

NC01230
INSTRUCTIONS:

Please fill in the results, method descriptions, and analysis dates for the WET analyte(s) you wish to report for ERA's DMR-QA 24 PT Study. Questions? See the DMR Data Reporting Instructions or call ERA at 1-800-372-0122. If you are reporting results for more than one method, photocopy this form. Please fill in the appropriate circle for method on each sheet.

● Method A ○ Method B ○ Method C

Anal. No.	Test Conditions	Test Endpoint	Less Than	Greater Than	Result	Units	Method Description	Analysis Date			Report* For DMRQA
								Month	Day	Year	
<i>Ceriodaphnia dubia (Test Code 21)</i>											
0766	7-day Short term Chronic, Daily Renewal, MHSF	NOEC Survival	<○	>○	25.0	%	EPA 1002.0	06	08	2004	<input type="checkbox"/>
0767	7-day Short term Chronic, Daily Renewal, MHSF	IC25 Reproduction	<○	>○	30.7	%	EPA 1002.0	06	08	2004	<input checked="" type="checkbox"/>
0768	7-day Short term Chronic, Daily Renewal, MHSF	NOEC Reproduction	<○	>○	25.0	%	EPA 1002.0	06	08	2004	<input type="checkbox"/>
<i>Mysid (Test Code 42)</i>											
0798	48Hr., Acute, Non-Renewal, 20° C, 40 FSW	LC50	<○	>○		%				2004	<input type="checkbox"/>
<i>Mysid (Test Code 43)</i>											
0799	7-day Short term Chronic, Daily Renewal, 40 FSW	NOEC Survival	<○	>○		%				2004	<input type="checkbox"/>
0816	7-day Short term Chronic, Daily Renewal, 40 FSW	IC25 (ON) Growth	<○	>○		%				2004	<input type="checkbox"/>
0817	7-day Short term Chronic, Daily Renewal, 40 FSW	IC25 (SN) Growth	<○	>○		%				2004	<input type="checkbox"/>
0818	7-day Short term Chronic, Daily Renewal, 40 FSW	NOEC (ON) Growth	<○	>○		%				2004	<input type="checkbox"/>
0819	7-day Short term Chronic, Daily Renewal, 40 FSW	NOEC (SN) Growth	<○	>○		%				2004	<input type="checkbox"/>

* Place an "X" in the box to the right for each analyte that is required in routine NPDES monitoring and should be included in the permittee DMR-QA 24 report package.



Permittee/Facility Name and Address

Permittee Name: Tennessee Valley Authority

Facility Name (if any):

Facility Address: Sequoyah Nuclear Plant

PO Box 2000 SB-2A

City: Soddy Daisy

State: TN

Zip: 37384-2000

Name of

Certification by Permit Holder or Authorized Representative

Certifying Official: Stephanie A Howard

Phone Number: 423-843-6700

Title: Environmental Supervisor

Fax Number: 423-843-7080

Email Address: sahoward@tva.gov

Mailing Address:

(enter only if different from address above)

City:

State:

Zip:

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 another laboratory before we reported our results to the USEPA. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature:

Stephanie A Howard

PRINCIPAL ENVIRONMENTAL ENGINEER
SIGNATORY AUTHORITY FOR J. RANDY DOUET

Date Signed:

09/01/2004

Laboratory Name and Address:

USEPA Assigned Lab Code:	Lab Analysis <small>Put an "X" in all boxes that apply</small>		Lab Type <small>Put an "X" in the box that applies</small>	
	Chem	WET	In- House	Contract

Name: ENVIROMENTAL TESTING SOLUTIONS, LLC

ENVIRONMENTAL TESTING SOLUTIONS INC

Address: RESEARCH BLD

(line 1) PO BOX 7565

Address: 1 ECUSTA RD

(line 2) 3511 DEPOT STREET

City: BREVARD

State: NC

Zip: 28712

ASHEVILLE - 28802

NC01230

Name: TVA ENVIRONMENTAL CHEMISTRY

TVA CENTRAL LABORATORY SERVICES

Address: HWY 153 NORTH ACCESS ROAD

(line 1) 4601 W ACCESS ROAD

Address:

(line 2) DISTRIBUTION CTR BLDG F

City: CHATTANOOGA

State: TN

Zip: 37402

- 37415

TN00016

Name: TVA SEQUOYAH NUCLEAR PLANT

Address: P.O. BOX 2000

(line 1) PO BOX 2000 MAILSTOP SB-2A

Address: SEQUOYAH ACCESS ROAD

(line 2)

City: SODDY-DAISY

State: TN

Zip: 37381-2000

- 37384 - 2000

TN00999

Permittee: TVA-SEQUOYAH
NUCLEAR PLANT
 Permit Number: TN0026450

**Analyte Check List
 DMR-QA Study 24**

NPDES Testing Requirement	Test Sample Ordered	Test Substance	Test Completed
<input type="checkbox"/>	<input type="checkbox"/>	Aluminum	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Arsenic	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Cadmium	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Chromium	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Cobalt	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Copper	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Iron	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Lead	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Manganese	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Mercury	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Nickel	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Selenium	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Vanadium	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Zinc	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Ammonia	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Nitrate	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Orthophosphate	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Total Kjeldahl nitrogen	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Total Phosphorus	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	COD	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	TOC	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	5-day BOD	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	5-day carbonaceous BOD	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	pH	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Total cyanide	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Non-filterable residues (TSS)	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Oil and grease	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Total Phenol (by the 4AAP method)	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Total residual chlorine	<input checked="" type="checkbox"/>

Signed: Stephanie Q. Howard Date: 09/01/2004

Contract Laboratory: This check list is to be used according to the instructions provided by the permittee.

Permittee: Return this check list with the final package sent to your regulatory authority.

→ PRINCIPAL ENVIRONMENTAL ENGINEER
SIGNATORY AUTHORITY FOR J. RANDY DOUET
SITE VICE PRESIDENT SEQUOYAH NUCLEAR PLANT



United States Environmental Protection Agency
 DMR-QA Study 24
 Laboratory Performance Evaluation
 (These data are collected under the authority of Federal Water Pollution Control Act.)

NPDES Permit Number
 TW0026450

Identification of All CHEM & TOX Laboratories who did Analyses for this Permit
 Permit Number:

N	2
1	2

Name	Address	Lab Code assigned by USEPA	Lab Analysis- Put an 'X' in all that apply:		Lab Type - choose one: F = Federal S = State G = Local Gov. C = Commercial I = Industrial O = Other
			Chem	Tox	
TVA-SEQUOYAH NUCLEAR PLANT	P.O. BOX 2000 MAILSTOP 5B-2A SODDY DAISY, TN 37384-2000	T N 0 0 9 9 9	X		F
		3 4 5 6 7 8 9	10	11	12
TVA-CENTRAL LABORATORY SERVICES	4601 N ACCESS ROAD DISTRIBUTION CTR BLDG F CHATTANOOGA, TN 37415	T N 0 0 0 1 6	X		F
		13 14 15 16 17 18 19	20	22	22
ENVIRONMENTAL TESTING SOLUTIONS, INC.	351 DEPOT STREET PO BOX 7565 ASHVILLE, NC 28802	N C 0 1 2 3 0		X	C
		24 24 25 26 27 28 29	30	31	32
		33 34 35 36 37 38 39	40	41	42