



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

August 26, 2003

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

To Whom It May Concern:

2003 DISCHARGE MONITORING REPORT – QUALITY ASSURANCE (DMR-QA) STUDY 23

The results of the 2003 DMR-QA Study 23 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
Acting Environmental Supervisor
Signatory Authority for
Richard T. Purcell
Site Vice President
Sequoyah Nuclear Plant

Enclosure
cc (Enclosure)

Mr. Mark McAdoo
State of Tennessee
Department 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
SESD/OOADI
980 College Station Road
Athens, Georgia 30605-2720

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

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ENVIRONMENTAL
RESOURCE ASSOCIATES®

DMR-QA 23 Data Reporting Cover

a) LABORATORY INFORMATION

Customer Code: S1228-01

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: Scientific Sales Inc

USEPA LAB CODE: KY01008

TENNESSEE VALLEY AUTHORITY

TN00999

MAILING ADDRESS: Sequoyah Nuclear Plant

Power Storeroom

P.O. BOX 2000 SB-2A

PHONE #: 865-483-9332

423-843-6700

CITY: Soddy Daisy

ST: TN ZIP: 37379

FAX #: 865-483-0241

37384-2000

423-843-7080

EMAIL ADDRESS FOR OFFICIAL LABORATORY CONTACT (optional):

SAHOWARD@TVA.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 23 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 23 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 23 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 23 study standards. 5) All analyses met the criteria for the regulatory agencies to which the Proficiency Testing DMR-QA 23 study is being sent.

Official Laboratory Contact (signature)

Stephanie A. Howard

Title

ACTING ENVIRONMENTAL SUPERVISOR
SIGNATORY AUTHORITY FOR
RICHARD T. PURCELL
SITE VICE PRESIDENT

Phone Number

423-843-6700

Official Laboratory Contact (please print)

STEPHANIE A HOWARD

Month Day

Date

08 26 2003

- Return the Data Reporting Cover Sheet plus your "DMR-QA 23 DATA REPORTING FORM(S)" to ERA by FAX or Mail.
- Deadline for receipt of data is August 29, 2003. ERA's PT group fax number is 1-720-898-6382.
- Total Pages: 10

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

NVLAP
Labcode: 200306-0

USEPA

DMR-QA 23

NPDES PERMITTEE DATA REPORT FORM



ENVIRONMENTAL
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The Industry Standard

USEPA NPDES TN0026450

Permit Number:

Permit Extension:

Permittee/Facility Name and Address

Permittee Name: Sequoyah Nuclear Plant

TENNESSEE VALLEY AUTHORITY

Facility Name (if any):

SEQUOYAH NUCLEAR PLANT

Facility Address: PO Box 2000

P.O. BOX 2000 SB-2A

City: Soddy-daisy

State: TN

Zip: 37381-2000

SODDY DAISY

37384 - 2000

Name of

Certification by Permit Holder or Authorized Representative

Cerifying Official: Mike Beavers

Phone Number: 423-843-6700

STEPHANIE A HOWARD

- -

Title: Environmental Supervisor

Fax Number: 423-843-7080

- -

Email Address: mmgbeavers@tva.gov

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

ACTING ENVIRONMENTAL SUPERVISOR
SIGNATORY AUTHORITY FOR

Date Signed: 08/26/2003

USEPA

DMR-QA 23

IDENTIFICATION OF ALL CHEMISTRY & WET LABORATORIES



ENVIRONMENTAL
RESOURCE ASSOCIATES,
The Industry Standard™

USEPA NPDES

TN0026450

Permit Number:

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Permit Extension:

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Laboratory Name and Address:

USEPA
Assigned
Lab Code:

Lab
Analysis
Put an "X" in all
boxes that apply

Lab
Type
Put an "X" in the
box that applies

Chem

WET

In-
House

Contract

Name: ENVIROMENTAL TESTING SOLUTIONS, LLC

ENVIRONMENTAL TESTING SOLUTIONS, INC.

Address: RESEARCH BLD

(line 1)

Address: 1 ECUSTA RD

(line 2) 351 DEPOT STREET

City: BREVARD

State: NC

Zip: 28712

ASHEVILLE 28801 -

NC01230

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Name: TVA ENVIRONMENTAL CHEMISTRY

TVA CENTRAL LABORATORY SERVICES

Address: HWY 153 NORTH ACCESS ROAD

(line 1) CHICKAMAUGA POWER SERVICE CENTER PSC1B-C

Address:

(line 2) NORTH SIDE CHICKAMAUGA RESERVATION

City: CHATTANOOGA

State: TN

Zip: 37402

37415 -

TN00016

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Name: TVA SEQUOYAH NUCLEAR PLANT

Address: P.O. BOX 2000

(line 1) P.O. BOX 2000 SB-2A

Address: SEQUOYAH ACCESS ROAD

(line 2)

City: SODDY-DAISY

State: TN

Zip: 37381-2000

37384 - 2000

TN00999

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ENVIRONMENTAL
RESOURCE ASSOCIATES,

DMR-QA 23 Inorganic Data Reporting Form

NPDES Permit #: **TN0026450**

Permittee Name: **TVA SEQUOYAH NUCLEAR PLANT**

Laboratory: ~~Scientific Sales Inc~~

USEPA Lab Code: KY01008

Customer Number: S1228-01

TVA-SEQUOYAH NUCLEAR PLANT

TN00999

INSTRUCTIONS:

Please fill in the results, method descriptions, and analysis dates for the analyte(s) you wish to report for ERA's DMR-QA 23 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 Month Day Year	Report* For DMRQA
pH (Cat. # 577)							
0019	pH †	<0	8.67	S.U.	EPA 150.1	07 24 2003	<input checked="" type="checkbox"/>
Total Residual Chlorine (Cat. # 587)							
0098	Total Residual Chlorine †	<0	1.47	mg/L	EPA 330.4	06 26 2003	<input checked="" type="checkbox"/>

* If using for DMR-QA 23, 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.

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

S1228-01

318552



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DMR-QA 23 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
pH - Method 1						
0019	pH	8.26	S.U.	EPA 150.1	06/30/03	<input type="checkbox"/>
Hardness - Method 1						
0072	Non-Filterable Residue (TSS)	32.4	mg/L	EPA 160.2	06/24/03	<input checked="" type="checkbox"/>
0023	Calcium	28.0	mg/L	EPA 200.7	07/07/03	<input type="checkbox"/>
0024	Magnesium	7.0	mg/L	EPA 200.7	07/07/03	<input type="checkbox"/>
0022	Total Hardness as CaCO ₃	98.4	mg/L	SM 2340 B	07/07/03	<input type="checkbox"/>
Demand - Method 1						
0038	BOD	35.0	mg/L	EPA 405.1	07/14/03	<input type="checkbox"/>
0036	COD	235	mg/L	EPA 410.4	07/02/03	<input type="checkbox"/>
0037	TOC	29.3	mg/L	EPA 415.1	07/14/03	<input type="checkbox"/>
Simple Nutrients - Method 1						
0031	Ammonia as N	4.94	mg/L	EPA 350.1	07/11/03	<input type="checkbox"/>
0032	Nitrate as N	5.63	mg/L	EPA 353.2	07/11/03	<input type="checkbox"/>
0033	Ortho-phosphate as P	2.07	mg/L	EPA 365.1	07/11/03	<input type="checkbox"/>

*** Permittees:**

If using for DMR-QA 23, 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.



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RESOURCE ASSOCIATES.

DMR-QA 23 Data Reporting Form

NPDES Permit #: TW0026450-

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	9.22	mg/L	EPA 351.2	07/11/03	<input type="checkbox"/>
0035	Total phosphorus as P	1.39	mg/L	EPA 365.4	07/11/03	<input checked="" type="checkbox"/>
Grease and Oil - Method 1						
0104	Grease & Oil (Gravimetric)	31.0	mg/L	EPA 1664A	06/30/03	<input checked="" type="checkbox"/>
Total Residual Chlorine - Method 1						
0098	Total Residual Chlorine	0.9	mg/L	EPA 330.3	07/24/03	<input type="checkbox"/>
Trace Metals - Method 1						
0001	Aluminum	402	µg/L	EPA 200.7	07/07/03	<input type="checkbox"/>
0002	Arsenic	243	µg/L	EPA 200.7	07/07/03	<input type="checkbox"/>
0004	Cadmium	140	µg/L	EPA 200.7	07/07/03	<input type="checkbox"/>
0006	Chromium	533	µg/L	EPA 200.7	07/07/03	<input type="checkbox"/>
0005	Cobalt	322	µg/L	EPA 200.7	07/07/03	<input type="checkbox"/>
0007	Copper	293	µg/L	EPA 200.7	07/07/03	<input checked="" type="checkbox"/>
0008	Iron	608	µg/L	EPA 200.7	07/07/03	<input checked="" type="checkbox"/>
0012	Lead	168	µg/L	EPA 200.7	07/07/03	<input type="checkbox"/>

* Permittees:

If using for DMR-QA 23, 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.



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DMR-QA 23 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

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 23 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	
Fathead minnow (Test Code 13)													
0754	48Hr., Acute, Non-Renewal, 25° C, MHSF	LC50	<	>				%				2003	<input type="checkbox"/>
Fathead minnow (Test Code 15)													
0756	7-day Short term Chronic, Daily Renewal, MHSF	NOEC Survival	<	>				%				2003	<input type="checkbox"/>
0808	7-day Short term Chronic, Daily Renewal, MHSF	IC25 (ON) Growth	<	>	49.3			%	EPA 821 R 02013	06	17	2003	<input checked="" type="checkbox"/>
0809	7-day Short term Chronic, Daily Renewal, MHSF	IC25 (SN) Growth	<	>				%				2003	<input type="checkbox"/>
0810	7-day Short term Chronic, Daily Renewal, MHSF	NOEC (ON) Growth	<	>				%				2003	<input type="checkbox"/>
0811	7-day Short term Chronic, Daily Renewal, MHSF	NOEC (SN) Growth	<	>				%				2003	<input type="checkbox"/>
Ceriodaphnia dubia (Test Code 19)													
0764	48Hr., Acute Renewal, 25° C, MHSF	LC50	<	>				%				2003	<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 23 report package.

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

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

E5597-01

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ENVIRONMENTAL
RESOURCE ASSOCIATES.

DMR-QA 23 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

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 23 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	<	>			%					2003	<input type="checkbox"/>	
0767	7-day Short term Chronic, Daily Renewal, MHSF	IC25 Reproduction	<	>	31.3		%	EPA 821 R02013			06	17	2003	<input checked="" type="checkbox"/>
0768	7-day Short term Chronic, Daily Renewal, MHSF	NOEC Reproduction	<	>			%						2003	<input type="checkbox"/>
<i>Mysid (Test Code 42)</i>														
0798	48Hr., Acute, Non-Renewal, 20° C, 40 FSW	LC50	<	>			%						2003	<input type="checkbox"/>
<i>Inland silverside (Test Code 44)</i>														
0803	48Hr., Acute, Non-Renewal, 20° C, 40 FSW	LC50	<	>			%						2003	<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 23 report package.

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

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

E5597-01

5/1/03

STAPLE HERE

NPDES PERMITTEE DATA REPORT FORM

Form Approved. OMB No. 2080-0021 Approval Expires 5/31/2003



United States Environmental Protection Agency
Laboratory DMR-QA Evaluation Study 23
Laboratory Performance Evaluation
(These data are collected under the authority of
the Federal Water Pollution Control Act.)

EPA USE
ONLY

N	1
1	2

NPDES Permit Number

T	N	0	0	2	6	4	5	0
3	4	5	6	7	8	9	10	11

Permit
Extension

12	13

Current Permittee Mailing Address

NPDES Permit Number: **TN0026450** Phone **423-843-6700**
TVA - SEQUOYAH NUCLEAR PLANT
P.O. BOX 2000 JB-2A
JODDY-DAISY, TN 37384-2000

ATTENTION:

Follow the checklist on next page
for instructions on completing this
form and submitting data for
evaluation.

Enter Permittee Name as it Should Appear in Report Heading:

T	V	A		S	E	Q	U	O	Y	A	H		N	U	C	L	E	A	R		P	L	A	N	T											
14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	

For DMR-QA Study 22, conducted in 2002, the permittee:

Received Samples:

YES	NO
X	
50	51

Submitted Data:

YES	NO
X	
52	53

Received a Report in Response:

YES	NO
X	
54	55

Certification by Permit Holder or Authorized Representative
(as per 40 CFR Part 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 USEPA. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name and Title of Certifying Official (Type or Print)

STEPHANIE A HOWARD, ACTING ENV. SUPERVISOR
SIGNATORY AUTHORITY FOR RICHARD T. PURCELL
SITE VICE PRESIDENT, SEQUOYAH NUCLEAR PLANT

Signature

Stephanie A. Howard

Date Signed

8/26/2003

Address of Certifying Official (if different from Permittee address above.)

Telephone Number

423-843-6700



United States Environmental Protection Agency
DMR-QA Study 23
Laboratory Performance Evaluation
(These data are collected under the authority of Federal Water Pollution Control Act.)

NPDES Permit Number

TN0026450

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	
ENVIRONMENTAL TESTING SOLUTIONS, INC.	351 DEPOT STREET ASHEVILLE, NC 28801	NC 01230		X	C
		3 4 5 6 7 8 9	10	11	12
TVA CENTRAL LABORATORY SERVICES	CHICKAMAUGA POWER SERVICE CENTER NORTH SIDE CHICKAMAUGA RESERVATION CHATTANOOGA, TN 37415	TN 00016	X		F
		13 14 15 16 17 18 19	20	21	22
TVA SEQUOYAH NUCLEAR PLANT	P.O. BOX 2000 SB-2A SODDY-DAISY, TN 37384-2000	TN 00999	X		F
		23 24 25 26 27 28 29	30	31	32
		33 34 35 36 37 38 39	40	41	42