PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if differ*

Name TVA-SEQUOYAH NUCLEAR PLANT
Address P.O. BOX 2000
(INTEROFFICE SB 2A)
SODDY-DAISY, TN 37379
Facility TVA-SEQUOYAH NUCLEAR PLANT
Location HAMILTON COUNTY

ATTN: DEBBIE BODINE, ENV. MGR.

NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM *(NPDES)*
DISCHARGE MONITORING REPORT *(DMR)*

TN0026450	101 G	*Diffuser Discharge*
PERMIT NUMBER	DISCHARGE NO.	

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
From:	98	09	01	To:	98	09	30

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	SAMPLE MEASUREMENT	********	1634	MGD	********	********	********		0	30 / 30	RCORDR
50050 1 0 0 101	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	NONE			CONT	RCORDR
TEMPERATURE, WATER DEG. CENTIGRADE	SAMPLE MEASUREMENT	********	********		********	********	41.556	DEG-C	0	30 / 30	RCORDR
00010 1 0 0 101	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	NONE			CONT	RCORDR
DELTA TEMPERATURE - C	SAMPLE MEASUREMENT	********	********		********	********	2.333	DEG-C	0	30 / 30	CALC
00016 1 0 0 101	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	3.0			CONT	CALC
PH	SAMPLE MEASUREMENT	********	********		7.58	********	7.87	PH UNIT	0	10 / 30	GRAB
00400 1 0 0 101	PERMIT REQUIREMENT	NONE	NONE		6.0	NONE	9.0			1/7	GRAB
SOLIDS, TOTAL SUSPENDED	SAMPLE MEASUREMENT	********	********		********	3.3	5	MG/L	0	5 / 30	GRAB
00530 1 0 0 101	PERMIT REQUIREMENT	NONE	NONE		NONE	30.000	100.000			1/7	GRAB
OIL & GREASE FREON EXTR-GRAV METH	SAMPLE MEASUREMENT	********	********		********	<5.0	<5.0	MG/L	0	5 / 30	GRAB
00556 1 0 0 101	PERMIT REQUIREMENT	NONE	NONE		NONE	15.000	20.000			1/7	GRAB
CHLORINE, TOTAL RESIDUAL	SAMPLE MEASUREMENT	********	********		********	********	0.015	MG/L	0	54 / 30	GRAB
50060 1 0 0 101	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	.058			5/7	CALC

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
Masoud Bajestani Site Vice President	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINES AND IMPRISONMENT. SEE 18 U.S.C. 1001 AND 33 U.S.C. 1319. (Penalties under these statutes may include fines up to $10,000 and or	Debra J. Bodine Environmental Supervisor	423	843-6700	98	10	09
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS *Reference all attachments here*

No closed mode operation in September, 1998. ERCW phosphate co-polymer blend & RCW H-130M (quaternary amine) injection occurred. Respective calculated maximum concentrations were 0.055 mg/L (limit of 0.1 mg/L) and 0.022 mg/L (limit of 0.05 mg/L. The Toxicity Report & CCW analyses results immediately follows this page.

9810230010 981013
PDR ADOCK 05000327
R PDR

(REPLACES EPA FORM T-40 WHICH MAY NOT BE USED)

Channel Discharge

Date:	Diesel Range Organics (mg/L)	Total Water Hydrocarbons (mg/L)	Comments
7/1/98	< 0.1	< 1.0	
7/8/98	< 0.1	< 1.0	
7/15/98	< 0.1	< 1.0	
7/22/98	< 0.1	< 1.0	
7/29/98	< 0.1	< 1.0	
8/5/98	< 0.1	< 1.0	
8/12/98	< 0.1	< 1.0	
8/19/98	< 0.1	< 1.0	
8/26/98	< 0.1	< 1.0	
9/2/98	< 0.1	< 1.0	
9/9/98	< 0.1	< 1.0	
9/16/98	< 0.1	< 1.0	
9/23/98	< 0.1	< 1.0	
9/30/98	< 0.1	< 1.0	

Trench Discharge Data

Date:	Diesel Range Organics (mg/L)	Total Water Hydrocarbons (mg/L)	Comments:
7/1/98	3.6	30	
7/1/98	2.6	7	Back-up sample collected on 7/1
7/8/98	1.3	2	
7/15/98	0.4	< 1.0	
7/22/98	0.8	< 1.0	
7/29/98	0.8	< 1.0	
8/5/98	1.3	< 1.0	
8/12/98	1.0	< 1.0	
8/19/98	1.0	< 1.0	
8/26/98	< 0.1	< 1.0	
9/2/98	0.9	< 1.0	
9/9/98	2.9	< 1.0	
9/16/98	1.7	< 1.0	
9/23/98	0.7	< 1.0	
9/30/98	0.9	< 1.0	

October 1, 1998

Debra J. Bodine, OPS 2B-SQN

SEQUOYAH NUCLEAR PLANT (SQN) TOXICITY BIOMONITORING, NPDES PERMIT NO. TN0026450, SEPTEMBER, 1998 REPORT

Attached are two copies of the subject report for submission to the state of Tennessee with the DMR package you submit for SQN. The report provides results of compliance tests required under the SQN NPDES permit. SQN Outfall 101 samples collected September 8-14, 1998, were not toxic to fathead minnows or daphnids (96-h LC_{50}'s > 100 percent and 7-day NOEC's, measured as IC_{25}'s, >100 percent). Exposure of test organisms to intake and upstream samples resulted in no toxicity to either species.

Call me at (256) 729-2779 if you have any questions or comments following your review of the report.

Cynthia L Russell

Cynthia L. Russell
Biologist
Toxicity Testing Laboratory
TTL 1A-BFN

CLR
Attachment
cc (Attachment):
D. C. Wade, CTR 2P-M
R. D. Davis, WT 10D-K
Files, WM, CST 17B-C

sqn-0998m.doc

TENNESSEE VALLEY AUTHORITY
TOXICITY TESTING LABORATORY
TOXICITY TEST REPORT

INTRODUCTION/EXECUTIVE SUMMARY

1) Facility/Discharger: Sequoyah Nuclear Plant/TVA Report Date: October 1, 1998

2) County/State: Hamilton/Tennessee 3) NPDES Permit #: TN0026450

4) Type of Facility: Nuclear-fueled electric generating plant

5) Design Flow (MGD): 3266

6) Receiving Stream: Tennessee River (TRM 483.6) 7) 1Q20 (MGD): 2992.4

8) Outfall Tested: 101 9) Dates Sampled: 09/08-14/98

10) Flow on day(s) sampled (MGD): 1622 1413 833 866 862 869 993

11) Site conditions: No unusual conditions reported.*

12) Test Dates: 09/09-16/98 13) Test Type: Short-term Chronic-Definitive

14) Test Species: Fathead Minnows (*Pimephales promelas*)
Daphnids (*Ceriodaphnia dubia*)

15) Concentrations Tested (%):

Outfall 101	25	39.2	49	80	100
Intake	100	____	____	____	____
Upstream (TRM 486.4)	100	____	____	____	____

16) Permit Limit Endpoint (%): Outfall 101 96 hrs LC_{50} = 100 NOEC = 49

17) Test Results (%): Outfall 101

Pimephales promelas: 96 hrs LC_{50} > 100 NOEC (IC_{25}) > 100
Ceriodaphnia dubia: 96 hrs LC_{50} > 100 NOEC (IC_{25}) > 100

18) Facility Contact: Debra J. Bodine 19) Phone #: (423) 843-6700

20) Consultant/Testing Lab Name: TVA Toxicity Testing Laboratory (TTL)

21) Lab Contact: Cynthia L. Russell Phone #: (256) 729-2779

23) Notes: Samples from Outfall 101 exhibited no toxicity to either species tested based on the applicable permit limits. Pertinent chemical data and summary of application is provided in Appendix B.

*Production/operation data will be provided in the event toxicity exceeds permit limits.

METHODS SUMMARY

Samples

1) Sampling Point: Outfall 101

2) Sample Type: Grab

3) Sample Information:

ID	Date/Time Collected (MM-DD/Time)	Date/Time Received (MM-DD/Time)	Arrival Temp. (°C)	Initial TRC* (mg/L)	Date/Time Used By (MM-DD/Time)
101	09-08/0937 EDT	09-09/1135 CDT	1.1	<0.1	09-09/1330 CDT
Intake	09-08/1055 EDT	09-09/1135 CDT	0.7	<0.1	09-09/1330 CDT
Upstream	09-08/0957 EDT	09-09/1135 CDT	0.7	<0.1	09-09/1330 CDT
101	09-09/0851 EDT	09-10/1020 CDT	1.5	<0.1	09-10/1340 CDT
Intake	09-09/0747 EDT	09-10/1020 CDT	0.8	<0.1	09-10/1340 CDT
Upstream	09-09/0910 EDT	09-10/1020 CDT	1.0	<0.1	09-10/1340 CDT
101	09-10/0855 EDT	09-11/0945 CDT	1.1	<0.1	09-11/1337 CDT
	-	-	1.3†	-	09-12/1335 CDT
Intake	09-10/0811 EDT	09-11/0945 CDT	0.7	<0.1	09-11/1337 CDT
	-	-	0.6†	-	09-12/1335 CDT
Upstream	09-10/0916 EDT	09-11/0945 CDT	0.9	<0.1	09-11/1337 CDT
	-	-	1.5†	-	09-12/1335 CDT
101	09-11/0830 EDT	09-14/0945 CDT	N/A	N/A	Discarded‡
Intake	09-11/0749 EDT	09-14/0945 CDT	N/A	N/A	Discarded‡
Upstream	09-11/0851 EDT	09-14/0945 CDT	N/A	N/A	Discarded‡
101	09-12/0841 EDT	09-12/1515 CDT	1.1	<0.1	09-13/1325 CDT
Intake	09-12/0749 EDT	09-12/1515 CDT	0.5	<0.1	09-13/1325 CDT
Upstream	09-12/0943 EDT	09-12/1515 CDT	0.4	<0.1	09-13/1325 CDT
101	09-13/0838 EDT	09-13/1445 CDT	1.5	<0.1	09-14/1330 CDT
Intake	09-13/0747 EDT	09-13/1445 CDT	0.6	<0.1	09-14/1330 CDT
Upstream	09-13/0928 EDT	09-13/1445 CDT	0.6	<0.1	09-14/1330 CDT
101	09-14/0846 EDT	09-15/1000 CDT	1.1	<0.1	09-15/1330 CDT
Intake	09-14/0739 EDT	09-15/1000 CDT	0.8	<0.1	09-15/1330 CDT
Upstream	09-14/0829 EDT	09-15/1000 CDT	0.7	<0.1	09-15/1330 CDT

*Total residual chlorine.

†Sample storage temperature.

‡Samples were not received until 09/14/98. Samples collected 09/10/98 were used for renewal.

4) Sample manipulation: Samples were poured through a 64 µm screen into a beaker before warming to 25 ± 1°C. Aeration was not necessary to bring sample DO levels down to saturation.

Test Organisms

	Pimephales promelas	*Ceriodaphnia dubia*
1) Source:	In-house Culture	In-house Culture
2) Age:	0.5-22.5 hours	7.5-15.5 hours

Test Method Summary (See Appendix A for additional information)

	Pimephales promelas	*Ceriodaphnia dubia*
1) Test Conditions	Static, renewal	Static, renewal
2) Test Duration	7 days	6 days (3 brood)
3) Dilution/Control Water	Moderately Hard Synthetic Water	Modified Moderately Hard Synthetic Water
4) Number Replicates	4	10
5) Animals per Replicate	10	1
6) Test Initiation (Date/Time)	09-09-98/1330 CDT	09-09-98/1320-1335 CDT
7) Test Termination (Date/Time)	09-16-98/1330 CDT	09-15-98/1320-1410 CDT
8) Test Temperature	Mean = 25.0°C (24.7°C-25.4°C)	Mean = 24.8°C (24.1°C-25.5°C)

9) Physical/Chemical Measurements: Hardness, alkalinity, and conductivity were measured at the laboratory in each 100 percent sample. Temperature was measured in each test concentration daily. Pre- and post-exposure (initial and final, respectively) test solutions were analyzed daily for pH and dissolved oxygen in both tests. Post exposure test solutions were analyzed daily for conductivity in the fathead minnow test.

10) Statistics: IC_{25} - EPA Bootstrap Program

TOXICITY TEST RESULTS (See Appendix C for Bench Sheets)

1) Results of a *Pimephales* (Genus) *promelas* (Species) Chronic 7-d (Type/Duration) Toxicity Test

Conducted 09/09/98 (mm/dd/yy) - 09/16/98 (mm/dd/yy) Using Effluent From Outfall 101 (number).

Test Solutions	Percent Surviving (time intervals used - days)						
	1	2	3	4*	5	6	7
Control	100	100	100	98	95	95	95
25% Effluent	100	98	98	98	98	98	98
39.2% Effluent	100	97	97	97	92	92	92
49% Effluent	100	100	100	100	100	100	100
80% Effluent	100	98	98	98	98	98	98
100% Effluent	100	100	100	100	97	97	97
Intake	100	100	100	98	98	98	98
Upstream	100	100	100	100	100	100	100

*96-Hour LC_{50} Value > 100% 95% Confidence Limits Upper Limit NA Lower Limit NA	Calculated TU Estimates < 1.0 TUa, Permit Limit 1.0 TUa

Test Solutions	IC_{25} Mean Dry Weight (mg) (Replication)				
	1	2	3	4	Mean
Control	0.496	0.571	0.703	0.605	0.594
25% Effluent	0.699	0.575	0.594	0.668	0.634
39.2% Effluent	0.701	0.737	0.440	0.640	0.630
49% Effluent	0.693	0.719	0.655	0.698	0.691
80% Effluent	0.639	0.674	0.754	0.723	0.698
100% Effluent	0.633	0.680	0.645	0.529	0.622
Intake	0.849	0.679	0.555	0.600	0.671
Upstream	0.568	0.671	0.665	0.693	0.649

IC_{25} Value > 100% 95% Confidence Limits Upper Limit NA Lower Limit NA	Calculated TU Estimates † <1.0 TUc Permit Limit 1.0 TUc

†NOTE: TUa = 100/LC_{50}; TUc = 100/ IC_{25}

2) Results of a *Ceriodaphnia* (Genus) *dubia* (Species) Chronic/ 6 day (3-brood) (Type/Duration) Toxicity Test

Conducted 09/09/98 (mm/dd/yy) - 09/15/98 (mm/dd/yy) Using Effluent From Outfall 101. (number)

Test Solutions	Percent Surviving (time intervals used - days)						
	1	2	3	4*	5	6	7
Control	100	100	100	100	100	100	-
25% Effluent	100	100	100	100	100	100	-
39.2% Effluent	100	100	100	100	100	100	-
49% Effluent	100	100	100	100	100	100	-
80% Effluent	100	100	100	100	100	100	-
100% Effluent	100	100	100	100	100	100	-
Intake	100	90	90	90	90	90	-
Upstream	100	100	100	100	100	100	-

*96-Hour LC_{50} Value > 100%	Calculated TU Estimates † < 1.0 TUa
95% Confidence Limits	Permit Limit 1.0 TUa
Upper Limit NA	
Lower Limit NA	

Test Solutions	Reproduction (#young/female/6-days) Data Replicates										
	1	2	3	4	5	6	7	8	9	10	Mean
Control	31	31	29	30	32	29	26	32	28	35	30.3
25% Effluent	30	36	24	35	33	33	31	35	31	34	32.2
39.2% Effluent	35	36	34	33	36	33	34	33	31	40	34.5
49% Effluent	35	29	36	33	31	34	31	36	31	‡	32.9
80% Effluent	30	37	36	33	38	36	35	32	35	33	34.5
100% Effluent	38	29	39	36	36	33	34	23	34	37	33.9
Intake	0	34	36	31	31	32	31	25	27	29	27.6
Upstream	26	25	32	28	34	22	28	20	25	34	27.4

IC_{25} Value > 100%	Calculated TU Estimates † <1.0 TUc
95% Confidence Limits	Permit Limit 1.0 TUc
Upper Limit NA	
Lower Limit NA	

†NOTE: TUa = $100/LC_{50}$; TUc = $100/IC_{25}$

‡ Animal died as a result of a leaky cup.

REFERENCE TOXICANT TEST RESULTS (See Appendixes A and D)

Species	Date	Time	Duration	Toxicant	Results (LC_{50}/IC_{25})
P. promelas	08-26-98	1035	7-day	NaCl	1837 mg/L (IC_{25})
C. dubia	09-09-98	0900-0915	3-brood	NaCl	1174 mg/L (IC_{25})

PHYSICAL/CHEMICAL SUMMARY

1) Pertinent Chemical Data and Summary of Application
2) Initial and Final Chemistry for Fathead Minnow 7-day and Daphnid 3-brood Chronic Tests

See Appendix B

SUMMARY/CONCLUSIONS

Samples from Outfall 101 exhibited no toxicity to either species tested based on the applicable permit limits.

Appendix A

ADDITIONAL TOXICITY TEST INFORMATION

SUMMARY OF METHODS

1) *Pimephales promelas*

Tests were conducted according to EPA/600/4-91/002 (July 1994) using four replicates, each containing ten test organisms, per treatment. Test vessels consisted of 460 mL plastic tumblers, each containing 250 mL of test solution. [2]

2) *Ceriodaphnia dubia*

Tests were conducted according to EPA/600/4-91/002 (July 1994) using ten replicates, each containing one test organism, per treatment. Test vessels consisted of 30 mL plastic cups, each containing 15 mL of test solution. [2]

DEVIATIONS/MODIFICATIONS TO TEST PROTOCOL

1) *Pimephales promelas*

None

2) *Ceriodaphnia dubia*

On day 3, 49 percent concentration lost an animal because of a leaky test chamber. The test was considered to be started with 9 animals instead of 10.

Synthetic water used as test control and dilution water is moderately hard reconstituted water containing trace elements, macronutrients, and vitamins. Synthetic water used for test purposes does not contain EDTA. [3]

DEVIATIONS/MODIFICATIONS TO PRETEST CULTURE OR HOLDING OF TEST ORGANISMS

1) *Pimephales promelas*

None

2) *Ceriodaphnia dubia*

Synthetic water used as culture water is moderately hard reconstituted water containing trace elements, macronutrients, and vitamins. Synthetic water used for culture purposes does contain EDTA. [3]

PHYSICAL AND CHEMICAL METHODS

1) Reagents, Titrants, Buffers, etc.: All chemicals were certified products used before expiration dates (where applicable). All TTL chemicals are recorded in a bound Laboratory Chemical Logbook and specific chemicals used were documented on a chemical record sheet contained in the study folder.

2) Instruments: All identification, service and calibration information retaining to TTL laboratory instruments is contained in bound Laboratory Instrument Logbooks and specific instruments used were documented on an instrument record sheet, along with daily calibration record sheets, contained in the study folder.

3) Temperature was measured using mercury thermometers. The instrument was standardized and inspected with readings made according to TVA procedure ES-42.11. [4]

4) Dissolved oxygen was measured using a YSI Model 57 oxygen meter. The instrument was standardized (using the Winkler method) and readings were taken according to TVA procedures ES-43.6 and ES-42.4, respectively. [4]

5) The pH was measured using an Orion Model 250 meter equipped with an Orion Ross combination electrode. The instrument was standardized and readings were made according to TVA procedure ES-43.7 and ES-42.8, respectively. [4]

6) Conductance was measured using a YSI Model 32 SCT meter. The instrument was standardized and readings were made according to TVA procedures ES-43.3 and ES-42.3, respectively. [4]

7) Alkalinity was measured by titration of 100 mL samples with 0.02 N H_2SO_4 to an endpoint of 4.5 according to TVA procedure ES-42.1. [4]

8) Hardness was determined by titration of 50 mL samples with EDTA to a colorimetric endpoint using an indicator (Instructions provided by Reagent Manufacturer [Calgon]), Schwarzenbach Method.

9) Total residual chlorine was determined using the DPD Titrimetric Method according to TVA procedure ES-42.9. [4]

QUALITY ASSURANCE

Toxicity Test Methods: All phases of the study including, but not limited to, sample collection, handling and storage; glassware preparation; test organism culturing/acquisition and acclimation; test organism handling during test; and maintaining appropriate test conditions were conducted according to the protocol as described in this report and EPA/600/4-91/002. [2] Any known deviations were noted during the study and are reported herein.

REFERENCE TOXICANT TESTS (See Appendix D for control chart information)

1) Test Type: 7-day chronic tests with results expressed as IC_{25} values in mg NaCl/L.

2) Standard Toxicant: Sodium Chloride (NaCl crystalline)

3) Dilution Water Used: Moderately hard reconstituted water

4) Statistics: IC_{25} - EPA Bootstrap program

REFERENCES

1) NPDES Permit No. TN0005452.

2) Lewis, P. A., D. J. Klemm, J. M. Lazorchak, T. J. Norberg-King, W. H. Peltier, M. A. Heber. Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, EPA/600/4-91/002 (July 1994).

3) Elendt, B. P., and W. R. Bias. "Trace Nutrient Deficiency in *Daphnia Magna* Cultured in Standard Medium for Toxicity Testing. Effects of the Optimization of Culture Conditions on Life History Parameters of *D. Magna*." Water Resources, Great Britain, Vol.. 24, No. 9, pp 1157-1167 (1990).

4) Field Operations Natural Resources Engineering Procedure Manual, Vol. 1, Division of Natural Resource Operations, Tennessee Valley Authority.

Sequoyah Nuclear Plant Biomonitoring
September 9-16, 1998

Appendix B

Pertinent Chemistry Data and Summary of Application

Initial and Final Chemistry for Fathead Minnow 7-day and
Daphnid 3-brood Chronic Tests

Table B-1. Analysis of Sequoyah Nuclear Plant Diffuser (Outfall 101) Discharge Concentrations of Total Residual Chlorine*, September 8-14, 1998

1998		Sample Type	Total Residual Chlorine
Month	Date		
			(mg/L)
September	8	Grab	0.015
September	9	Grab	0.003
September	10	Grab	0.014
September	11	Grab	0.013
September	12	Grab	< 0.001
September	13	Grab	< 0.001
September	14	Grab	0.008

*Sodium hypochlorite is utilized in the essential raw cooling water and in the raw cooling water systems at SQN to control the growth of microbiologically induced bacteria and Asiatic Clams. The treatment is necessary for adequate cooling water flow, efficient heat exchange and corrosion prevention. The injected chemical is diluted by the condenser cooling water flow as well as from the flow from other sources.

(sqn0998b.doc)

Table B-2. Water Chemistry Mean Values and Ranges for Fathead Minnow and Daphnid Tests, TTL, Sequoyah Nuclear Plant, September 9-16, 1998

Test/ Sample ID	Temp. (°C)	Dissolved Oxygen Initial (mg/L)	Dissolved Oxygen Final (mg/L)	pH Initial S.U.	pH Final S.U.	Cond Initial (µmhos)	Cond Final (µmhos)	Alk. *	Hardness *	TRC †
Fathead/ Control	25.1 (24.9-25.3)	8.4 (8.3-8.4)	5.5 (4.9-6.5)	8.2 (8.2-8.3)	7.6 (7.5-7.8)	334 (331-341)	349 (344-354)	69.0 (69-69)	88.0 (88-88)	-
Fathead/ 101-25%	24.9 (24.7-25.2)	8.2 (8.0-8.4)	5.3 (4.4-6.4)	8.1 (8.1-8.2)	7.6 (7.5-7.7)	301 (297-307)	308 (305-312)	-	-	-
Fathead/ 101-39.2%	25.1 (24.9-25.4)	8.1 (7.9-8.2)	5.3 (4.4-6.2)	8.1 (8.1-8.1)	7.6 (7.5-7.8)	276 (275-277)	285 (282-289)	-	-	-
Fathead/ 101-49%	25.1 (24.9-25.3)	8.0 (7.8-8.1)	5.2 (4.8-6.1)	8.0 (8.0-8.1)	7.6 (7.5-7.7)	260 (260-261)	267 (266-269)	-	-	-
Fathead/ 101-80%	25.1 (24.9-25.2)	7.9 (7.6-8.1)	5.4 (4.8-6.1)	7.9 (7.9-8.0)	7.6 (7.5-7.8)	210 (209-212)	218 (217-220)	-	-	-
Fathead/ 101-100%	25.1 (25.0-25.2)	7.7 (7.4-8.1)	5.4 (4.5-6.2)	7.9 (7.8-7.9)	7.6 (7.4-7.8)	177 (175-179)	184 (183-188)	62.7 (62-64)	68.9 (68-70)	<0.1 (<0.1-<0.1)
Fathead/ Intake	25.1 (24.9-25.4)	7.1 (6.6-7.9)	5.4 (4.3-6.9)	7.7 (7.6-7.8)	7.5 (7.4-7.7)	177 (175-178)	182 (180-185)	62.1 (61-63)	68.6 (66-70)	<0.1 (<0.1-<0.1)
Fathead/ Upstream	24.9 (24.7-25.1)	7.4 (7.2-7.7)	5.3 (4.8-6.0)	7.8 (7.7-7.8)	7.5 (7.4-7.8)	177 (175-178)	181 (180-185)	61.7 (61-63)	68.3 (68-70)	<0.1 (<0.1-<0.1)
Daphnid/ Control	24.8 (24.1-25.5)	8.3 (8.2-8.3)	7.7 (7.6-7.8)	8.2 (8.2-8.2)	8.2 (8.1-8.2)	328 (320-333)	-	64.0 (63-65)	87.0 (86-88)	-
Daphnid/ 101-25%	24.8 (24.1-25.5)	8.2 (8.0-8.3)	7.6 (7.5-7.8)	8.1 (8.1-8.2)	8.1 (8.1-8.1)	289 (286-294)	-	-	-	-
Daphnid/ 101-39.2%	24.8 (24.1-25.5)	8.1 (7.9-8.2)	7.7 (7.5-7.8)	8.1 (8.0-8.1)	8.1 (8.1-8.1)	268 (265-272)	-	-	-	-
Daphnid/ 101-49%	24.8 (24.1-25.5)	8.0 (7.8-8.1)	7.7 (7.5-7.8)	8.0 (8.0-8.1)	8.1 (8.1-8.1)	253 (249-258)	-	-	-	-
Daphnid/ 101-80%	24.8 (24.1-25.5)	7.9 (7.6-8.0)	7.7 (7.5-7.8)	7.9 (7.9-8.0)	8.1 (8.1-8.1)	204 (197-207)	-	-	-	-
Daphnid/ 101-100%	24.8 (24.1-25.5)	7.7 (7.4-8.1)	7.7 (7.5-7.8)	7.9 (7.8-7.9)	8.1 (8.1-8.1)	177 (175-179)	-	62.8 (62-64)	69.0 (68-70)	<0.1 (<0.1-<0.1)
Daphnid/ Intake	24.8 (24.1-25.5)	7.2 (6.6-7.9)	7.7 (7.5-7.8)	7.7 (7.6-7.8)	8.1 (8.1-8.2)	177 (175-178)	-	62.2 (61-63)	68.7 (66-70)	<0.1 (<0.1-<0.1)
Daphnid/ Upstream	24.8 (24.1-25.5)	7.5 (7.2-7.7)	7.7 (7.5-7.8)	7.8 (7.7-7.8)	8.1 (8.1-8.1)	177 (175-178)	-	61.7 (61-63)	68.3 (68-70)	<0.1 (<0.1-<0.1)

* mg/L $CaCO_3$

† Total Residual Chlorine

Sequoyah Nuclear Plant Biomonitoring
September 9-16, 1998

Appendix C

Chain of Custody Record and
Toxicity Test Bench Sheets

APPENDIX A

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N/A wks 9/4/98

~~ACUTE~~ TOXICITY CHAIN OF CUSTODY RECORD

Sequoyah Nuclear Plant

PROJECT NAME: SQN NPDES TOXICITY

COLLECTOR (SIGNATURE):

COLLECTION START DATE/TIME	COLLECTION FINISH DATE/TIME	FIELD ID	SAMPLE DESCRIPTION	TYPE	#/VOL SAMPLES	TTL LAB, #	ARRIVAL TEMP. (°C)	TRC	Custody Seals
9/8/98 0932	9/8/98 0937	SQN 9/8-DSN101	DSN101	Grab	2.5 gal	3178	1.1	<0.1	OK
9/8/98 1030 0955 9/9/98	9/8/98 1035 0957 9/9/98	SQN 9/8-INTAKE	Intake	Grab	1 gal	3179	0.7	<0.1	OK
9/8/98 0952	9/8/98 0957	SQN 9/8-UPSTREAM	Upstream TR (486.4)	Grab	1 gal	3180	0.7	<0.1	OK

SAMPLE	FLOW (MGD)
DSN101	

Shipping Method: Fed Express

RELINQUISHED BY:(SIGNATURE)	DATE	TIME	RECEIVED BY:(SIGNATURE)	DATE	TIME
Ronald W. Lowry	9/8/98	1140		09-09-98	1135
RELINQUISHED BY:(SIGNATURE)	DATE	TIME	RECEIVED BY:(SIGNATURE)	DATE	TIME

REMARKS: _____

APPENDIX A

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N/A 9/9/98

~~ACUTE~~ TOXICITY CHAIN OF CUSTODY RECORD

Sequoyah Nuclear Plant

PROJECT NAME: SQN NPDES TOXICITY

COLLECTOR (SIGNATURE): Ronald W. Lowery

COLLECTION START DATE/TIME	COLLECTION FINISH DATE/TIME	FIELD ID	SAMPLE DESCRIPTION	TYPE	#/VOL SAMPLES	TTL LAB. #	ARRIVAL TEMP. (°C)	TRC	Custody Seals
9/9/98 0845	9/9/98 0851	SQN 9/9-DSN101	DSN101	Grab	2.5 gal	3184	1.5	<0.1	OK
9/9/98 0744	9/9/98 0741	SQN 9/9-INTAKE	Intake	Grab	1 gal	3185	0.8	<0.1	OK
9/9/98 0905	9/9/98 0910	SQN 9/9-UPSTREAM	Upstream TR (486.4)	Grab	1 gal	3186	1.0	<0.1	OK

SAMPLE	FLOW (MGD)
DSN101	

Shipping Method: FEDERAL EXPRESS.

Cen 05-21-98

RELINQUISHED BY:(SIGNATURE)	DATE	TIME	RECEIVED BY:(SIGNATURE)	~~DATE~~ Time	~~TIME~~ Date
Ronald W. Lowery	9/9/98	10:00		1020	9/10/98
RELINQUISHED BY:(SIGNATURE)	DATE	TIME	RECEIVED BY:(SIGNATURE)	DATE	TIME

REMARKS: WEATHER; SUNNY, COOL & WINDY AIR TEMP 16 °C, WATER TEMP. UPSTREAM AND INTAKE 26 °C ~~AT~~ DSN 101 TEMP. 35 °C WATER; CLEAR AND CHOPPY

MCL 9-7-98

APPENDIX A

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N/A wke 9/1/98

~~ACUTE~~ TOXICITY CHAIN OF CUSTODY RECORD

Sequoyah Nuclear Plant

PROJECT NAME: SQN NPDES TOXICITY

COLLECTOR (SIGNATURE): Ronald W. Lowry

COLLECTION START DATE/TIME	COLLECTION FINISH DATE/TIME	FIELD ID	SAMPLE DESCRIPTION	TYPE	#/VOL SAMPLES	TTL LAB, #	ARRIVAL TEMP. (°C)	TRC	Custody Seals
9/10/98 0845	9/10/98 0855	SQN 9/10 - DSN101	DSN101	Grab	2.5 gal	3191	1.1	<0.1	OK
9/10/98 0804	9/10/98 0811	SQN 9/10 - INTAKE	Intake	Grab	1 gal	3192	0.7	<0.1	OK
9/10/98 0910	9/10/98 0916	SQN 9/10 - UPSTREAM	Upstream TR (486.4)	Grab	1 gal	3193	0.9	<0.1	OK

SAMPLE	FLOW (MGD)
DSN101	

Shipping Method: FEDERAL EXPRESS

RELINQUISHED BY:(SIGNATURE)	DATE	TIME	RECEIVED BY:(SIGNATURE)	DATE	TIME
Ronald W Lowry	9/10/98	1000	John Chowning	9-11-98	0945
RELINQUISHED BY:(SIGNATURE)	DATE	TIME	RECEIVED BY:(SIGNATURE)	DATE	TIME

REMARKS: A.R TEMP: 17°C WEATHER: SUNNY, COOL, AND CALM, WATER TEMP.: DSN-101 41°C, INTAKE & UPSTREAM TEMP. 26°C, WATER: CLEAR & CALM

APPENDIX A
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~~ACUTE~~ TOXICITY CHAIN OF CUSTODY RECORD

Sequoyah Nuclear Plant

PROJECT NAME: SQN NPDES TOXICITY

COLLECTOR (SIGNATURE): Ronald W. Lowery

COLLECTION START DATE/TIME	COLLECTION FINISH DATE/TIME	FIELD ID	SAMPLE DESCRIPTION	TYPE	#/VOL SAMPLES	TTL LAB. #	ARRIVAL TEMP. (°C)	TRC	Custody Seals
9/11/98 0825	9/11/98 0830	SQN 9/11 - DSN101	DSN101	Grab	2.5 gal	3206			n/a
9/11/98 0745	9/11/98 0749	SQN 9/11 - INTAKE	Intake	Grab	1 gal	3207	N/A	N/A	n/a
9/11/98 0845	9/11/98 0851	SQN 9/11 - UPSTREAM	Upstream TR (486.4)	Grab	1 gal	3208			n/a

SAMPLE	FLOW (MGD)
DSN101	

* Samples discarded Arrived to late for use *

Shipping Method: Fed Express

RELINQUISHED BY:(SIGNATURE)	DATE	TIME	RECEIVED BY:(SIGNATURE)	DATE	TIME
Ronald W. Lowery	9/11/98	1000	Wayne Smith	9-14-98	0945
RELINQUISHED BY:(SIGNATURE)	DATE	TIME	RECEIVED BY:(SIGNATURE)	DATE	TIME

REMARKS: WATER TEMP: UPSTREAM + INTAKE 25°C DSN-101 39°C, WATER CLEAR AND SMOOTH.
WEATHER: AIR TEMP 14°C, PARTLY CLOUDY AND CALM

APPENDIX A

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n/a WRA 9/4/98

~~ACUTE~~ TOXICITY CHAIN OF CUSTODY RECORD

Sequoyah Nuclear Plant

PROJECT NAME: SQN NPDES TOXICITY

COLLECTOR (SIGNATURE): Ronald W. Lowry

COLLECTION START DATE/TIME	COLLECTION FINISH DATE/TIME 9/12/98 RWL	FIELD ID	SAMPLE DESCRIPTION	TYPE	#/VOL SAMPLES	TTL LAB. #	ARRIVAL TEMP. (°C)	TRC	Custody Seals
9/12/98 0835	9/12/98 0835 RWL	SQN 9/12 - DSN101	DSN101	Grab	2.5 gal	3198	1.8	<0.2	OK
9/12/98 0745	9/12/98 0749	SQN 9/12 - INTAKE	Intake	Grab	1 gal	3199	0.5	<0.1	OK
9/12/98 0940	9/12/98 0943	SQN 9/12 - UPSTREAM	Upstream TR (486.4)	Grab	1 gal	3200	0.4	<0.1	OK

SAMPLE	FLOW (MGD)
DSN101	

Shipping Method: Max Coulter (private courier)

RELINQUISHED BY:(SIGNATURE)	DATE	TIME	RECEIVED BY:(SIGNATURE)	DATE	TIME
Ronald W. Lowry	9/12/98	1100	Cynthia J Russell	09-12-98	1515
RELINQUISHED BY:(SIGNATURE)	DATE	TIME	RECEIVED BY:(SIGNATURE)	DATE	TIME

REMARKS: Water Temp = 39°C RWL 9/12/98 at 101. Water Temp upstream = 26°C WATER TEMP AT INTAKE 25° WATERS CLEAR & CALM WEATHER CLEAR SUNNY AND COOL TEMP. 18°C

APPENDIX A

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N/A wka 9/1/98

~~ACUTE~~ TOXICITY CHAIN OF CUSTODY RECORD

Sequoyah Nuclear Plant

PROJECT NAME: SQN NPDES TOXICITY	
COLLECTOR (SIGNATURE): Ronald W. Lowery	

COLLECTION START DATE/TIME	COLLECTION FINISH DATE/TIME	FIELD ID	SAMPLE DESCRIPTION	TYPE	#/VOL SAMPLES	TTL LAB. #	ARRIVAL TEMP. (°C)	TRC	Custody Seals
9/13/98 0832	9/13/98 0838	SQN 9/13-DSN101	DSN101	Grab	2.5 gal	~~3200~~ 3201	1.5	<0.1	ok
9/13/98 0740	9/13/98 0747	SQN 9/13- INTAKE	Intake	Grab	1 gal	3202	40.6	<0.1	ok
9/13/98 0720	9/13/98 0728	SQN 9/13- UPSTREAM	Upstream TR (486.4)	Grab	1 gal	3203	40.6	<0.1	ok

DTS 9-14-98

SAMPLE	FLOW (MGD)
DSN101	

Shipping Method: Mat Coulter (private Carrier)

RELINQUISHED BY:(SIGNATURE)	DATE	TIME	RECEIVED BY:(SIGNATURE)	DATE	TIME
Ronald W. Lowery	9/13/98	1100	[signature]	9-13-98	1445
RELINQUISHED BY:(SIGNATURE)	DATE	TIME	RECEIVED BY:(SIGNATURE)	DATE	TIME

REMARKS: WATER TEMP. DSN-101 39°C, INTAKE 25°C, UPSTREAM 26°C, WATER: CLEAR AND CALM
~~AIR TEMP 15°C~~ AIR TEMP. 17°C, WEATHER SUNNY AND CLEAR
MW 9-14-98

APPENDIX A

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N/A w.e.f. 9/1/98

~~ACUTE~~ TOXICITY CHAIN OF CUSTODY RECORD

Sequoyah Nuclear Plant

PROJECT NAME: SQN NPDES TOXICITY

COLLECTOR (SIGNATURE): Ronald W. Lowery

COLLECTION START DATE/TIME	COLLECTION FINISH DATE/TIME	FIELD ID	SAMPLE DESCRIPTION	TYPE	#/VOL SAMPLES	TTL LAB. #	ARRIVAL TEMP. (°C)	TRC	Custody Seals
9/14/98 0920 0839	9/14/98 0846	SQN 9/14 - DSN101	DSN101	Grab	2.5 gal	3209	6.1	<0.1	OK
9/14/98 0735	9/14/98 0739	SQN 9/14 - INTAKE	Intake	Grab	1 gal	3210	0.8	<0.1	OK
9/14/98 0823	9/14/98 0829	SQN 9/14 - UPSTREAM	Upstream TR (486.4)	Grab	1 gal	3211	0.7	<0.1	OK

SAMPLE	FLOW (MGD)
DSN101	

Shipping Method: FED-EX

RELINQUISHED BY:(SIGNATURE)	DATE	TIME	RECEIVED BY:(SIGNATURE)	DATE	TIME
Ronald W. Lowery	9/14/98	1000		9-15-98	1000
RELINQUISHED BY:(SIGNATURE)	DATE	TIME	RECEIVED BY:(SIGNATURE)	DATE	TIME

REMARKS: WATER TEMP: INTAKE 25 °C UPSTREAM 26 °C DSN-101 39 °C WATER: CLEAR & CALM
WEATHER: A.T. TEMP. 22 °C, SUNNY, CALM AND CLEAR.

CHRONIC STUDY RECORD SHEET

Study: SQN Outfall 101 Chronic

Test Organism: *P. promelas* / *C. dubia*

Initiation Date/Time: 09-09-98/1330 / 09-09-98/1320-1335

Termination Date/Time: 09-16-98/1330 / 09-15-98/1320-1410

Control/Dilution Water: F-medium: 0100 / Cerio medium without EDTA: 2762, 2765

Personnel: DTS, DLH, GKK, JCC, CLR

Test Treatment

Site:	Concentrations:
Outfall 101	25.0%, 39.2%, 49.0%, 80.0%, 100.0%
Intake	100.0%
Upstream	100.0%

	Site:	Outfall 101	Intake	Upstream	
Day	Date	Log #'s	Log #'s	Log #'s	Log #'s
0	9-9-98	3178	3179	3180	
1	09-10-98	3184	3185	3186	
2	09-11-98	3191	3192	3193	
3	09-12-98	3197	3198	3199	
4	09-13-98	3198	3199	3200 ~~3200~~ 09-17-98	
5	09-14-98	3201	3202	3203	
6	09-15-98	3209	3210	3211	

P. promelas:

Spawn Date	Tile #	Hatch Date/Time to Date/Time	
BATCH 19		9-8-98/1500	9-9-98/1305

C. dubia: Released From: 09-08-98/2200 to 09-09-98/0600

P. promelas: 96 hour LC_{50}: >100%. IC_{25}: >100%.

C. dubia: 96 hour LC_{50}: >100%. IC_{25}: >100%.

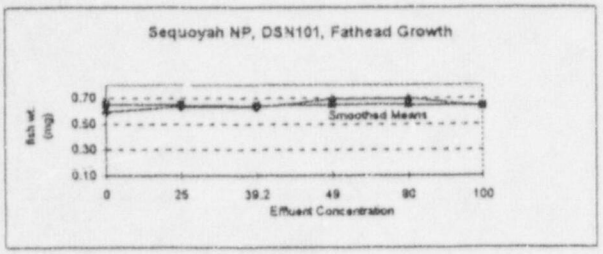
Note: Batch 19 #F=1110 9-9-98 9-9-98 H 9-8-98 AF 1500 H 9-9-98 AF 1110

Test Dose Response Curves

SQN DSN 101 September 9, 1998

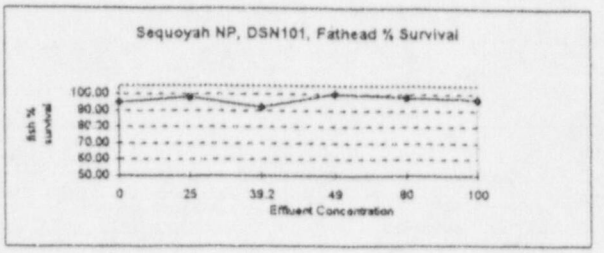
Fish Growth

% Effluent	Response	Smoothed
0	0.594	0.649
25	0.634	0.649
39.2	0.630	0.64
49	0.691	0.649
80	0.697	0.649
100	0.637	0.637



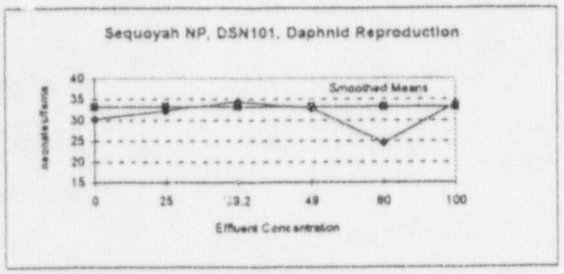
Fish % Survival

% Effluent	Response	Smoothed
0	95	N/A
25	98	
39.2	92	
49	100	
80	98	
100	97	



Daphnid Reproduction

% Effluent	Response	Smoothed
0	30.3	33.1
25	32.2	33.1
39.2	34.5	33.1
49	32.9	33.1
80	24.5	33.1
100	33.9	33.1



FATHEAD MINNOW LARVAL SURVIVAL AND GROWTH TEST

Test ID: SQN Chronic
Initiation Date: 9-9-98 Time: 1330
Termination Date: 09-16-98 Time: 1330

Pans: Date/Time of drying: 9-13-98 0945 9-14-98 0935
Pans: Date/Time of weighing: 9-14-98 1005 1035

Fish: Date/Time of drying: 9-16-98 1515 - 9-17-98 0810
Fish: Date/Time of weighing: 9-17-98 0915 0940

Sample ID/ Concentration	Rep. #	# Alive							Tare Weight	Tare+Fish Weight
Notes:	Day	1	2	3	4	5	6	7	g	g
Control (F-medium)	Log #	0100	0100	0100	0100	0100	0100	0100	-	-
	1	10	10	10	10	10	10	10	0.98150	0.98646
	2	10	10	10	10	10	10	10	0.97924	0.98495
	3	10	10	10	10	10	10	10	0.98429	0.99132
	4	10	10	10	9	8	8	8	0.98387	0.98992
	By	GKK	JCC	GKK	DJS	JCC	DJS	JCC	JCC	JCC
Outfall 101 25.0%	Log #	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-	-
	1	10	10	10	10	10	10	10	0.97860	0.98559
	2	10	10	10	10	10	10	10	0.97825	0.98400
	3	10	9	9	9	9	9	9	0.97823	0.98417
	4	10	10	10	10	10	10	10	0.97565	0.98233
	By	GKK	JCC	GKK	DJS	JCC	DJS	JCC	JCC	JCC
Outfall 101 39.2%	Log #	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-	-
	1	10	10	10	9*	9	9	9	0.98827	0.99458
	2	10	10	10	10	10	10	10	0.98314	0.99051
	3	9	8	8	8	7	7	7	0.98655	0.99095
	4	10	10	10	10	10	10	10	0.98461	0.99101
	By	GKK	JCC	GKK	DJS	JCC	DJS	JCC	JCC	JCC
Outfall 101 49.0%	Log #	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-	-
	1	10	10	10	10	10	10	10	0.98072	0.98765
	2	10	10	10	10	10	10	10	0.98519	0.99238
	3	10	10	10	10	10	10	10	0.98485	0.99140
	4	10	10	10	10	10	10	10	0.98736	0.99434
	By	GKK	JCC	GKK	DJS	JCC	DJS	JCC	JCC	JCC
Outfall 101 80.0%	Log #	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-	-
	1	10	9	9	9	9	9	9	0.98609	0.99248
	2	10	10	10	10	10	10	10	0.98587	0.99261
	3	10	10	10	10	10	10	10	0.98773	0.99527
	4	10	10	10	10	10	10	10	0.99089	0.99812
	By	JCC	GKK	GKK	CW	DJS	JCC	GKK	JCC	JCC
Outfall 101 100.0%	Log #	3178	3184	3191	3191	3198	3201	3209	-	-
	1	10	10	10	10	10	10	10	0.99193	0.99826
	2	10	10	10	10	10	10	10	0.97893	0.98573
	3	10	10	10	9	9	9	9	0.97840	0.98455
	4	10	10	10	10	9*	9	9	0.97718	0.98247
	By	JCC	GKK	GKK	CW	DJS	JCC	GKK	JCC	JCC
Intake 100.0%	Log #	3179	3186	3192	3192	3199	3202	3210	-	-
	1	10	10	10	10	10	10	10	0.97699	0.98378
	2	10	10	10	10	10	10	10	0.98441	0.99120
	3	10	10	10	9	9	9	9	0.98686	0.99241
	4	10	10	10	10	10	10	10	0.98747	0.99347
	By	JCC	GKK	GKK	CW	DJS	JCC	GKK	JCC	JCC

	0	1	2	3	4	5	6	7
Fed-Time/By:	N/A	0645/GKK	0650/DJS	0705/DJS	0650/GKK	0640/GKK	0700/DJS	N/A
	N/A	1030/GKK	1155/GKK	1020/GKK	1040/CW	1043/JCC	1040/DJS	
	1350/DJS	1410/GKK	1408/JCC	1430/DJS	1410/DJS	1415/DJS	1407/JCC	A
Renewal Time:	X	1340	1337	1335	1325	1330/DJS	1330/DJS	1330
Dilution Water:	0100	0100	0100	0100	0100	0100	0100	0100
Reviewed By:	GKK	GKK	GKK	GKK	GKK	GKK	GKK	GKK

CW CW

FATHEAD MINNOW LARVAL SURVIVAL AND GROWTH TEST

Test ID: SQN Chronic
Initiation Date: 9-9-98 Time: 1330
Termination Date: 09-16-98 Time: 1330

Pans: Date/Time of drying: ______
Pans: Date/Time of weighing: SEE PAGE ONE

Fish: Date/Time of drying: ______
Fish: Date/Time of weighing: ______

Sample ID/ Concentration	Rep. #	# Alive							Tare Weight	Tare+Fish Weight
Notes:	Day	1	2	3	4	5	6	7	g	g
Upstream	Log #	3180	3186	3193	3193	3200	3203	3211	-	-
	1	10	10	10	10	10	10	10	0.98657	0.99225
	2	10	10	10	10	10	10	10	0.98261	98932
	3	10	10	10	10	10	10	10	0.98279	0.98944
	4	10	10	10	10	10	10	10	0.98684	0.99377
	By	JCC	GKK	DJS	Cm	DJS	JCC	GZZ	JCC	JCC
	Log #								-	-
	1									
	2									
	3									
	4									
	By									
	Log #								-	-
	1									
	2									
	3									
	4									
	By									
	Log #								-	-
	1									
	2									
	3									
	4									
	By									
	Log #								-	-
	1									
	2									
	3									
	4									
	By									
	Log #								-	-
	1									
	2									
	3									
	4									
	By									
	Log #								-	-
	1									
	2									
	3									
	4									
	By									

	0	1	2	3	4	5	6	7		
Fed-Time/By:	SEE PAGE ONE									
Renewal Time:	X									
Dilution Water:	0100	0100	0100	0100	0100	0100	0100			
Reviewed By:	DJS	GKK	GKK	DJS	Cm	DJS	Cm	GZZ	Cm	Cm

Personnel:JCC

FATHEAD DRY WEIGHT RECORD SHEET

Study/Date:SQN Outfall 101 09-09-98

Pans:Date/Time of Drying:09-13-98/0945
09-14-98/0825

Fish:Date/Time of Drying:09-16-98/1515
09-17-98/0810

Pans:Date/Time of Weighing:09-14-98/1005-1035

Fish:Date/Time of Weighing:09-17-98/0915-0940

Sample ID		Tare Wt. g	Tare + Fish Wt. g	Fish Wt. g	Surviving # Fish	Mean Wt. g	Surviving Mean Wt. mg	Total Wt. mg	IC25 Wt. mg	IC25 Mean Wt. mg	Surviving Control Mean Wt. (mg)	
	1	0.98130	0.98646	0.00496	10	0.000496	0.4960 ✓		0.4960		0.4960	
Control	2	0.97924	0.98495	0.00571	10	0.000571	0.5710	25.2625	0.5710		0.5710	0.5937
	3	0.98429	0.99132	0.00703	10	0.000703	0.7030		0.7030	0.5937	0.7030	
	4	0.98387	0.98992	0.00605	8	0.0007563	0.7563 ✓		0.6050		0.6050	
	1	0.97860	0.98559	0.00699	10	0.000699	0.6990		0.6990			
Outfall 101	2	0.97825	0.98400	0.00575	10	0.000575	0.5750	26.0200	0.5750			
25.0 %	3	0.97823	0.98417	0.00594	9	0.00066	0.6600		0.5940	0.6340		
	4	0.97565	0.98233	0.00668	10	0.000668	0.6680		0.6680			
	1	0.98827	0.99458	0.00631	9	0.0007011	0.7011		0.7011			
Outfall 101	2	0.98314	0.99051	0.00737	10	0.000737	0.7370	27.0668	0.7370			
39.2%	3	0.98655	0.99095	0.00440	7	0.0006286	0.6286		0.4400	0.6295		
	4	0.98461	0.99101	0.00640	10	0.00064	0.6400		0.6400			
	1	0.98072	0.98765	0.00693	10	0.000693	0.6930		0.6930			
Outfall 101	2	0.98519	0.99238	0.00719	10	0.000719	0.7190	27.6500	0.7190			
49.0 %	3	0.98485	0.99140	0.00655	10	0.000655	0.6550		0.6550	0.6912		
	4	0.98736	0.99434	0.00698	10	0.000698	0.6980		0.6980			
	1	0.98609	0.99248	0.00639	9	0.00071	0.7100		0.6390			
Outfall 101	2	0.98587	0.99261	0.00674	10	0.000674	0.6740	28.6100	0.6740			
80.0 %	3	0.98773	0.99527	0.00754	10	0.000754	0.7540		0.7540	0.6975		
	4	0.99089	0.99812	0.00723	10	0.000723	0.7230		0.7230			
	1	0.99193	0.99826	0.00633	10	0.000633	0.6330		0.6330			
Outfall 101	2	0.97893	0.98573	0.00680	10	0.00068	0.6800	26.1744	0.6800			
100.0 %	3	0.97840	0.98485	0.00645	9	0.0007167	0.7167		0.6450	0.6364		
	4	0.97718	0.98247	0.00529	9	0.0005878	0.5878		0.5878			
	1	0.97699	0.98378	0.00679	10	0.000679	0.6790		0.6790			
Intake	2	0.98441	0.99120	0.00679	10	0.000679	0.6790	25.7467	0.6790			
	3	0.98686	0.99241	0.00555	9	0.0006167	0.6167		0.5550	0.6283		
	4	0.98747	0.99347	0.00600	10	0.0006	0.6000		0.6000			
	1	0.98657	0.99225	0.00568	10	0.000568	0.5680		0.5680			
Upstream	2	0.98261	0.98932	0.00671	10	0.000671	0.6710	25.9700	0.6710			
	3	0.98279	0.98944	0.00665	10	0.000665	0.6650		0.6650	0.6492		
	4	0.98684	0.99377	0.00693	10	0.000693	0.6930		0.6930			

Control Rep # 1 fish overall were very small as compared to Rep # 3 fish
CW

Reviewed By: Russell

CW
09-30-98

SQN Sept 9, 1998 Fin
IC25 Gm 05-30-58

*** LISTING OF GROUP CONCENTRATIONS (% EFF.) AND RESPONSE MEANS ***

CONC. (%EFF)	RESPONSE MEAN	MEAN AFTER POOLING
.000	.594	.649
25.000	.634	.649
39.200	.630	.649
49.000	.691	.649
80.000	.697	.649
100.000	.637	.637

*** NO LINEAR INTERPOLATION ESTIMATE CAN BE CALCULATED FROM THE INPUT DATA, SINCE NONE OF THE (POSSIBLY POOLED) GROUP RESPONSE MEANS WERE LESS THAN 75.0% OF THE CONTROL RESPONSE MEAN.

80.000	.697	.649
100.000	.637	.637

*** NO LINEAR INTERPOLATION ESTIMATE CAN BE CALCULATED FROM THE INPUT DATA, SINCE NONE OF THE (POSSIBLY POOLED) GROUP RESPONSE MEANS WERE LESS THAN 75.0% OF THE CONTROL RESPONSE MEAN.

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**********************************************************
*        BOOTSTRAP PROCEDURE TO ESTIMATE VARIABILITY     *
*                    OF THE ESTIMATED ICp                *
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*** BOOTSTRAP ESTIMATES OF ICp FOR ALL RESAMPLES WERE ABOVE THE HIGHEST CONCENTRATION / % EFF.

BOOTSTRP>

CERIODAPHNIA SURVIVAL AND REPRODUCTION TEST

Study: SONChronic

ion Date: 9-9-98 Time: 1320-1335 Termination Date: 9-15-98 Time: 1320- 1410

Treatment (Randomization #)	By: / Rep	1	2	3	4	5	6	7	8		Total Young	
	By:	~~DH~~	DJS	DJS	DH	~~DH~~	~~DH~~					
	Log #	2762	2762	2762	2762	2765	2765					
Control (1) (C-medium w/o EDTA)	1	0	0	0	4	11	16				31	
	2	↓	↓	↓	6	11	14				31	
	3				4	11	14				29	
	4				5	11	14				30	
	5				5	12	15				32	
	6				5	12	12				29	
	7				4	9	13				26	
	8				5	12	15				32	
	9			↓	5	10	13				28	
	10	↓	↓	5	0	12	18				35	303
	Log #	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Outfall 101 25.0% (2)	1	0	0	0	6	14	10				30	
	2	↓	↓	↓	6	13	17				36	
	3				3	11	10				24	
	4				5	12	18				35	
	5				4	11	18				33	
	6				5	11	17				33	
	7				4	12	15				31	
	8				6	12	17				35	
	9			↓	4	9	18				31	
	10	↓	↓	5	0	11	18				34	322
	Log #	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Outfall 101 39.2% (3)	1	0	0	0	5	13	17				35	
	2	↓	↓	↓	6	12	18				36	
	3				5	12	17				34	
	4				5	12	16				33	
	5				6	12	18				36	
	6				6	12	15				33	
	7				4	12	18				34	
	8			↓	5	11	17				33	
	9			4	0	9	18				31	
	10	↓	↓	6	0	14	20				40	345
	Log #	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Outfall 101 49.0% (4)	1	0	0	0	6	12	17				35	
	2	↓	↓	↓	5	8	16				29	
	3				6	12	18				36	
	4				5	10	18				33	
	5				5	11	15				31	
	6				6	11	17				34	
	7				4	10	17				31	
	8			↓	6	13	17				36	
	9			3	0	11	17				31	
	*10	↓	↓	CUP LEAKED, ANIMAL DRY ON BOTTOM *9 INITIALLY								296

x̄ = 32.9

	0	1	2	3	4	5	6	7	8
Chow ID#:	27-1	27-1	27-2	27-2	27-2	27-2			
Algae ID#:	105-3	105-3	106-1	106-1	106-2	106-2			
Dilution Water ID#:	2762	2762	2762	2762	2765	2765			
Time:	1320	1320	1325	1325	1320	1320	1320-1410		
Reviewed By:	DJS	DH	DH	DJS	DH	DH			

Totals: DH

Verified: DJS

Approved By: Cin

CERIODAPHNIA SURVIVAL AND REPRODUCTION TEST

Study: SQN Chronic

Initiation Date: 9-9-98 Time: 1320-1335 Termination Date: 9-15-98 Time: 1320 - 1410

Treatment (Randomization #)	By: Rep	DH 1	20? 2	DJS 3	DH 4	DH 5	DH 6	7	8		Total Young
	Log #	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Outfall 101 80.0% (5)	1	0	0	0	6	12	12				30
	2				6	13	18				37
	3				6	13	17				36
	4				5	11	17				33
	5				6	15	17				38
	6				5	12	19				36
	7				5	11	19				35
	8				4	11	17				32
	9				5	14	16				35
	10	↓	↓	6	0	11	16				33 — 345
	Log #	3178	3184	3191	3191	3198	3201				
Outfall 101 100.0% (6)	1	0 DH	0	0	6	12	20				38
	2				6	4	19				29
	3				6	13	20				39
	4				6	12	18				36
	5				6	12	18				36
	6			↓	6	11	16				33
	7			4	0	10	20				34
	8			0 **	5	6	12				23
	9			0	4	11	19				34
	10	↓	↓	5	0	12	20				37 — 339
	Log #	3179	3185	3192	3192	3199	3202				
Intake (7)	1	0 DH	D/O								
	2		0	0	5	11	18				34
	3			6	0	13	17				36
	4			0	5	10	16				31
	5			5	0	13	13				31
	6			0	4	13	15				32
	7			0	4	12	15				31
	8			6	0	13	6				25
	9			0	4	10	13				27
	10	↓	↓	4	0	9	16				29 — 276
	Log #	3180	3196	3193	3193	3200	3203				
Upstream (8)	1	0 DH	0	0	5	9	12				26
	2				4	13	8				25
	3				4	13	15				32
	4				6	10	12				28
	5				6	11	17				34
	6				5	12	5				22
	7				4	9	15				28
	8			↓	0	12	8				20
	9			1	0	10	14				25
	10	↓	↓	6	0	11	17				34 — 274
		0	1	2	3	4	5	6	7	8	
Chow ID#:											
Algae ID#:		SEE PAGE ONE									
Dilution Water ID#:											Totals: DH
Time:											Verified: DH
Reviewed By:		DH	DH	DH	DH	DH	DH				Approved By: CW

** Cup leaked; very little water remained. Animal alive and appeared healthy, but may be stressed due to lack of water. No babies seen in (remaining) water

THE NUMBER OF RESAMPLES IS 80 SQN Sept. 9, 1998 Canio
IC_{25} Can 09-17-98

*** LISTING OF GROUP CONCENTRATIONS (% EFF.) AND RESPONSE MEANS ***

CONC. (%EFF)	RESPONSE MEAN	MEAN AFTER POOLING
.000	30.300	33.051
25.000	32.200	33.051
39.200	34.500	33.051
49.000	32.889	33.051
80.000	34.500	33.051
100.000	33.900	33.051

*** NO LINEAR INTERPOLATION ESTIMATE CAN BE CALCULATED FROM THE INPUT DATA, SINCE NONE OF THE (POSSIBLY POOLED) GROUP RESPONSE MEANS WERE LESS THAN 75.0% OF THE CONTROL RESPONSE MEAN.

80.000	34.500	33.051
100.000	33.900	33.051

*** NO LINEAR INTERPOLATION ESTIMATE CAN BE CALCULATED FROM THE INPUT DATA, SINCE NONE OF THE (POSSIBLY POOLED) GROUP RESPONSE MEANS WERE LESS THAN 75.0% OF THE CONTROL RESPONSE MEAN.

****
* BOOTSTRAP PROCEDURE TO ESTIMATE VARIABILITY *
* OF THE ESTIMATED ICp *
****

*** BOOTSTRAP ESTIMATES OF ICp FOR ALL RESAMPLES WERE ABOVE THE HIGHEST CONCENTRATION / % EFF.

\BOOTSTRP>

SQN 0998 September 9-16, 1998 INITIAL AND FINAL WATER CEMISTRY (FATHEAD)

Initial Chemistry

Fish - Control		0	1	2	3	4	5	6	MIN	MAX		MEAN
Temp		24.9	24.8	25.3	25.0	25.0	24.9	25.3	24.8	25.3		25.0
DO		8.4	8.4	8.4	8.4	8.4	8.3	8.3	8.3	8.4		8.4
pH		8.3	8.3	8.2	8.2	8.2	8.3	8.2	8.2	8.3		8.2
Cond		332	332	336	333	331	332	341	331	341		334
Hard		4.4										
	X20	88							88.0	88.0		88.0
Alk		6.9										
	X10	69							69.0	69.0		69.0
TRC												

Concentration 25%	0	1	2	3	4	5	6	MIN	MAX		MEAN
Temp	25.0	24.9	25.2	24.5	25.0	24.9	24.8	24.5	25.2		24.9
DO	8.4	8.2	8.3	8.3	8.3	8.0	8.0	8.0	8.4		8.2
pH	8.2	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.2		8.1
Cond	297	302	300	301	307	299	299	297	307		301

Concentration 39.2%	0	1	2	3	4	5	6	MIN	MAX		MEAN
Temp	25.0	24.9	25.4	24.5	24.9	24.9	24.9	24.5	25.4		24.9
DO	8.2	8.1	8.2	8.2	8.1	7.9	7.9	7.9	8.2		8.1
pH	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1		8.1
Cond	275	276	276	277	277	277	277	275	277		276

Concentration 49%	0	1	2	3	4	5	6	MIN	MAX		MEAN
Temp	25.1	25.0	25.2	24.5	25.0	25.0	24.9	24.5	25.2		25.0
DO	8.1	8.0	8.1	8.1	8.0	7.8	7.8	7.8	8.1		8.0
pH	8.1	8.1	8.0	8.0	8.0	8.0	8.0	8.0	8.1		8.0
Cond	260	261	260	260	261	260	260	260	261		260

Concentration 80%	0	1	2	3	4	5	6	MIN	MAX		MEAN
Temp	24.9	24.9	25.2	24.5	25.0	25.0	24.8	24.5	25.2		24.9
DO	8.1	7.9	7.9	8.1	7.9	7.8	7.6	7.6	8.1		7.9
pH	8.0	8.0	7.9	7.9	7.9	7.9	7.9	7.9	8.0		7.9
Cond	212	210	210	210	210	209	210	209	212		210

Concentration 100%		0	1	2	3	4	5	6	MIN	MAX		MEAN
Temp		24.8	25.0	25.2	24.5	25.0	25.0	25.0	24.5	25.2		24.9
DO		7.7	7.9	7.5	8.1	7.7	7.4	7.4	7.4	8.1		7.7
pH		7.9	7.9	7.8	7.9	7.9	7.8	7.8	7.8	7.9		7.9
Cond		179	177	177	175	177	176	177	175	179		177
Hard		3.5	3.4	3.5	3.4	3.5	3.4	3.4				
	X20	70	68	70	68	70	68	68	68.0	70.0		68.9
Alk		6.2	6.3	6.3	6.3	6.2	6.4	6.2				
	X10	62	63	63	63	62	64	62	62.0	64.0		62.7
TRC		<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1

Intake		0	1	2	3	4	5	6	MIN	MAX		MEAN
Temp		25.0	24.9	25.2	24.5	25.0	24.9	25.0	24.5	25.2		24.9
DO		7.3	7.1	7.2	7.9	7.0	6.6	6.6	6.6	7.9		7.1
pH		7.8	7.7	7.7	7.8	7.7	7.6	7.6	7.6	7.8		7.7
Cond		178	177	177	175	176	176	177	175	178		177
Hard		3.5	3.4	3.3	3.5	3.5	3.4	3.4				
	X20	70	68	66	70	70	68	68	66.0	70.0		68.6
Alk		6.2	6.3	6.1	6.3	6.2	6.2	6.2				
	X10	62	63	61	63	62	62	62	61.0	63.0		62.1
TRC		<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1

Upstream		0	1	2	3	4	5	6	MIN	MAX		MEAN
Temp		25.0	25.0	25.2	24.9	25.0	25.0	24.9	24.9	25.2		25.0
DO		7.5	7.5	7.2	7.7	7.2	7.6	7.4	7.2	7.7		7.4
pH		7.8	7.8	7.7	7.8	7.7	7.8	7.8	7.7	7.8		7.8
Cond		178	177	177	176	176	175	177	175	178		177
Hard		3.4	3.4	3.4	3.5	3.4	3.4	3.4				
	X20	68	68	68	70	68	68	68	68.0	70.0		68.3
Alk		6.2	6.1	6.2	6.3	6.1	6.1	6.2				
	X10	62	61	62	63	61	61	62	61.0	63.0		61.7
TRC		<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1

Final Chemistry

FISH

Fish - Medium	1	2	3	4	5	6	7	MIN	MAX		MEAN
Temp	25.0	24.9	25.0	25.1	25.1	25.3	25.2	24.9	25.3		25.1
DO	6.5	5.9	5.4	5.7	5.0	4.9	5.0	4.9	6.5		5.5
pH	7.8	7.7	7.7	7.6	7.5	7.5	7.5	7.5	7.8		7.6
Cond	344	346	346	348	353	354	350	344	354		349

Concentration 25%	1	2	3	4	5	6	7	MIN	MAX		MEAN
Temp	25.0	24.8	25.1	25.2	24.7	24.7	25.0	24.7	25.2		24.9
DO	6.4	5.9	5.2	5.3	4.8	5.0	4.4	4.4	6.4		5.3
pH	7.7	7.6	7.6	7.6	7.5	7.5	7.5	7.5	7.7		7.6
Cond	307	306	305	309	312	309	308	305	312		308

Concentration 39.2%	1	2	3	4	5	6	7	MIN	MAX		MEAN
Temp	25.1	25.0	25.2	25.1	25.2	25.4	24.9	24.9	25.4		25.1
DO	6.2	5.5	5.7	5.5	4.4	4.5	5.0	4.4	6.2		5.3
pH	7.8	7.6	7.6	7.5	7.5	7.5	7.5	7.5	7.8		7.6
Cond	283	282	283	284	287	289	285	282	289		285

Concentration 49%	1	2	3	4	5	6	7	MIN	MAX		MEAN
Temp	25.0	25.0	24.9	25.1	25.2	25.3	24.9	24.9	25.3		25.1
DO	6.1	5.7	5.0	5.2	4.8	4.9	5.0	4.8	6.1		5.2
pH	7.7	7.5	7.6	7.5	7.6	7.5	7.5	7.5	7.7		7.6
Cond	266	266	266	266	269	268	267	266	269		267

Concentration 80%	1	2	3	4	5	6	7	MIN	MAX		MEAN
Temp	25.0	24.9	25.1	25.1	25.2	25.1	25.1	24.9	25.2		25.1
DO	6.1	5.7	5.6	5.3	4.8	5.2	5.3	4.8	6.1		5.4
pH	7.8	7.6	7.6	7.6	7.5	7.6	7.5	7.5	7.8		7.6
Cond	220	217	217	218	218	217	217	217	220		218

Concentration 100%	1	2	3	4	5	6	7	MIN	MAX		MEAN
Temp	25.1	25.0	25.0	25.1	25.2	25.2	25.0	25.0	25.2		25.1
DO	6.2	6.0	5.4	5.4	4.5	4.9	5.5	4.5	6.2		5.4
pH	7.8	7.6	7.6	7.5	7.4	7.5	7.5	7.4	7.8		7.6
Cond	188	184	183	184	185	183	184	183	188		184

Intake	1	2	3	4	5	6	7	MIN	MAX		MEAN
Temp	25.1	25.0	24.9	25.0	25.1	25.4	25.0	24.9	25.4		25.1
DO	6.9	5.7	4.9	5.2	4.3	4.6	6.1	4.3	6.9		5.4
pH	7.7	7.5	7.5	7.5	7.4	7.5	7.6	7.4	7.7		7.5
Cond	185	180	183	182	182	180	184	180	185		182

Upstream	1	2	3	4	5	6	7	MIN	MAX		MEAN
Temp	24.9	24.9	25.1	25.0	24.9	25.0	24.7	24.7	25.1		24.9
DO	6.0	5.5	5.3	5.2	5.0	5.0	4.8	4.8	6.0		5.3
pH	7.8	7.5	7.5	7.4	7.5	7.5	7.4	7.4	7.8		7.5
Cond	185	180	181	181	181	180	181	180	185		181

Test Temperature Mean 25.0

Minimum 24.7
Maximum 25.4

Excel Reviewed by: TJS / Cw 05-15-98

Word Review by: Cw 05-15-98

Initial Chemistry

CERIO

Control		0	1	2	3	4	5	6	MIN	MAX		MEAN
Temp		25.0	24.8	25.3	25.2	25.1	25.3		24.8	25.3		25.1
DO		8.3	8.3	8.3	8.3	8.2	8.2		8.2	8.3		8.3
pH		8.2	8.2	8.2	8.2	8.2	8.2		8.2	8.2		8.2
Cond		320	327	325	328	333	332		320	333		328
Hard		4.3				4.4						
	X20	86				88			86.0	88.0		87.0
Alk		6.3				6.5						
	X10	63				65			63.0	65.0		64.0
TRC												

Concentration 25%	0	1	2	3	4	5	6	MIN	MAX		MEAN
Temp	25.0	24.8	25.2	25.1	25.0	25.2		24.8	25.2		25.1
DO	8.3	8.2	8.2	8.2	8.1	8.0		8.0	8.3		8.2
pH	8.2	8.1	8.1	8.1	8.1	8.1		8.1	8.2		8.1
Cond	286	287	289	288	291	294		286	294		289

Concentration 39.2%	0	1	2	3	4	5	6	MIN	MAX		MEAN
Temp	25.0	24.8	25.4	25.1	25.1	25.2		24.8	25.4		25.1
DO	8.2	8.1	8.0	8.1	8.0	7.9		7.9	8.2		8.1
pH	8.1	8.1	8.1	8.0	8.1	8.1		8.0	8.1		8.1
Cond	267	267	267	268	272	265		265	272		268

Concentration 49%	0	1	2	3	4	5	6	MIN	MAX		MEAN
Temp	25.0	25.0	25.2	25.4	25.1	25.2		25.0	25.4		25.2
DO	8.1	8.0	8.0	8.1	8.0	7.8		7.8	8.1		8.0
pH	8.1	8.0	8.0	8.0	8.0	8.0		8.0	8.1		8.0
Cond	253	253	253	253	258	249		249	258		253

Concentration 80%	0	1	2	3	4	5	6	MIN	MAX		MEAN
Temp	24.9	24.9	25.2	25.4	25.1	25.1		24.9	25.4		25.1
DO	7.9	8.0	7.8	8.0	7.8	7.6		7.6	8.0		7.9
pH	8.0	8.0	7.9	7.9	7.9	7.9		7.9	8.0		7.9
Cond	207	207	199	197	207	207		197	207		204

Concentration 100%		0	1	2	3	4	5	6	MIN	MAX		MEAN
Temp		25.0	25.1	25.2	25.2	25.2	25.4		25.0	25.4		25.2
DO		7.7	7.9	7.5	8.1	7.7	7.4		7.4	8.1		7.7
pH		7.9	7.9	7.8	7.9	7.9	7.8		7.8	7.9		7.9
Cond		179	177	177	175	177	176		175	179		177
Hard		3.5	3.4	3.5	3.4	3.5	3.4					
	X20	70	68	70	68	70	68		68.0	70.0		69.0
Alk		6.2	6.3	6.3	6.3	6.2	6.4					
	X10	62	63	63	63	62	64		62.0	64.0		62.8
TRC		<0.1	<0.1	<0.1	-	<0.1	<0.1		<0.1	<0.1		<0.1

Intake		0	1	2	3	4	5	6	MIN	MAX		MEAN
Temp		25.0	25.0	25.3	25.1	25.2	25.2		25.0	25.3		25.1
DO		7.3	7.1	7.2	7.9	7.0	6.6		6.6	7.9		7.2
pH		7.8	7.7	7.7	7.8	7.7	7.6		7.6	7.8		7.7
Cond		178	177	177	175	176	176		175	178		177
Hard		3.5	3.4	3.3	3.5	3.5	3.4					
	X20	70	68	66	70	70	68		66.0	70.0		68.7
Alk		6.2	6.3	6.1	6.3	6.2	6.2					
	X10	62	63	61	63	62	62		61.0	63.0		62.2
TRC		<0.1	<0.1	<0.1	-	<0.1	<0.1		<0.1	<0.1		<0.1

Upstream		0	1	2	3	4	5	6	MIN	MAX		MEAN
Temp		24.9	24.9	25.3	25.3	25.2	25.1		24.9	25.3		25.1
DO		7.5	7.5	7.2	7.7	7.2	7.6		7.2	7.7		7.5
pH		7.8	7.8	7.7	7.8	7.7	7.8		7.7	7.8		7 8
Cond		178	177	177	176	176	175		175	178		177
Hard		3.4	3.4	3.4	3.5	3.4	3.4					
	X20	68	68	68	70	68	68		68.0	70.0		68.3
Alk		6.2	6.1	6.2	6.3	6.1	6.1					
	X10	62	61	62	63	61	61		61.0	63.0		61.7
TRC		<0.1	<0.1	<0.1	-	<0.1	<0.1		<0.1	<0.1		<0.1

Final Chemistry

CERIO

Cerio - Medium	1	2	3	4	5	6	7	MIN	MAX		MEAN
DO	7.8	7.7	7.8	7.7	7.6	7.7		7.6	7.8		7.7
pH	8.1	8.1	8.2	8.2	8.2	8.2		8.1	8.2		8.2

Concentration 25%	1	2	3	4	5	6	7	MIN	MAX		MEAN
DO	7.6	7.7	7.8	7.6	7.5	7.6		7.5	7.8		7.6
pH	8.1	8.1	8.1	8.1	8.1	8.1		8.1	8.1		8.1

Concentration 39.2%	1	2	3	4	5	6	7	MIN	MAX		MEAN
DO	7.7	7.7	7.8	7.6	7.5	7.7		7.5	7.8		7.7
pH	8.1	8.1	8.1	8.1	8.1	8.1		8.1	8.1		8.1

Concentration 49%	1	2	3	4	5	6	7	MIN	MAX		MEAN
DO	7.7	7.7	7.8	7.6	7.5	7.7		7.5	7.8		7.7
pH	8.1	8.1	8.1	8.1	8.1	8.1		8.1	8.1		8.1

Concentration 80%	1	2	3	4	5	6	7	MIN	MAX		MEAN
DO	7.6	7.7	7.8	7.6	7.5	7.7		7.5	7.8		7.7
pH	8.1	8.1	8.1	8.1	8.1	8.1		8.1	8.1		8.1

Concentration 100%	1	2	3	4	5	6	7	MIN	MAX		MEAN
DO	7.7	7.7	7.8	7.6	7.5	7.7		7.5	7.8		7.7
pH	8.1	8.1	8.1	8.1	8.1	8.1		8.1	8.1		8.1

Intake	1	2	3	4	5	6	7	MIN	MAX		MEAN
DO	7.7	7.7	7.8	7.6	7.5	7.7		7.5	7.8		7.7
pH	8.1	8.1	8.2	8.1	8.1	8.1		8.1	8.2		8.1

Upstream	1	2	3	4	5	6	7	MIN	MAX		MEAN
DO	7.7	7.7	7.8	7.6	7.5	7.7		7.5	7.8		7.7
pH	8.1	8.1	8.1	8.1	8.1	8.1		8.1	8.1		8.1

Cerio Final Temperatures

	Day	1	2	3	4	5	6	7		
Rep #	1	24.1	24.6	24.4	24.8	24.9	24.8			
	2	24.2	24.7	24.5	24.8	25.2	24.8			
	3	24.2	24.7	24.4	24.7	25.1	24.9		MIN	24.1
	4	24.1	25.1	24.6	24.6	25.0	25.0		MAX	25.5
	5	24.6	24.9	25.1	24.9	25.1	24.8			
	6	24.8	24.8	25.3	25.2	25.5	24.9		MEAN	24.8
	7	24.4	24.8	24.9	25.0	25.4	24.9			
	8	24.1	24.6	25.2	25.0	25.2	24.8			
	9	24.5	24.8	25.2	25.1	25.3	24.8			
	10	24.2	25.0	24.9	24.8	25.0	24.9			

Excel Reviewed by: Cer 05-19-98

Word Review by: Cer 05-19-98

INITIAL CHEMISTRY

Test ID: SQN Chronic
Test Organisms: *P. promelas*

Initiation Date: 9-9-98 Time 1330
Termination Date: 09-16-98 Time 1330

Day	0	By	1	By	2	By	3	By	4	By	5	By	6	By
Sample ID - Concentration: Control (F-medium)														
Log #	0100	DJS	0100	DJS	0100	DJS	0100	DJS	0100	DJS	0100	DJS	2100	DJS
Temp. - I/W*	21.7/24.9		21.5/24.8		21.9/25.3		21.5/25.0		21.5/25.0		22.7/24.9		22.1/25.3	
DO -I/A†	8.4		DJS 8.34		8.4		8.4		8.4		8.3		8.3	
pH -I/A†	8.3		8.3		8.2		8.2		8.2		8.3		8.2	
Cond.	332	↓	332	↓	336	↓	333	↓	331	↓	332	↓	341	↓
Hard.(x20)	4.4	GKK												
Alk.(x10)	6.9	DJS												
TRC														
Sample ID - Concentration: Outfall 101-25.0%														
Log #	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
Temp. -I/W*	25.0	DJS	24.9	DJS	25.2	DJS	24.5	DJS	25.0	DJS	24.9	DJS	25.8	DJS
DO -I/A†	8.4		8.2		8.3		8.3		8.3		8.0		8.0	
pH -I/A†	8.2		8.1		8.1		8.1		8.1		8.1		8.1	
Cond.	297	↓	302	↓	300	↓	301	↓	307	↓	299	↓	299	↓
Hard.(x20)														
Alk.(x10)														
TRC														
Sample ID - Concentration: Outfall 101-39.2%														
Log #	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
Temp. -I/W*	25.0	DJS	24.9	DJS	25.4	DJS	24.5	DJS	24.9	DJS	24.9	DJS	24.9	DJS
DO -I/A†	8.2		8.1		8.2		8.2		8.01 DJS		7.9		7.9	
pH -I/A†	8.1		8.1		8.1		8.1		8.1		8.1		8.1	
Cond.	275	↓	276	↓	276	↓	277	↓	277	↓	277	↓	277	↓
Hard.(x20)														
Alk.(x10)														
TRC														
Sample ID - Concentration: Outfall 101-49.0%														
Log #	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
Temp. -I/W*	25.1	DJS	25.0	DJS	25.2	DJS	24.5	DJS	25.0	DJS	25.0	DJS	24.9	DJS
DO -I/A†	8.1		8.0		8.1		8.1		8.0		7.8		7.8	
pH -I/A†	8.1		8.1		8.0		8.0		8.0		8.0		8.0	
Cond.	260	↓	261	↓	260	↓	260	↓	261	↓	~~7.9~~ 260 DJS 9-14-98	↓	260	↓
Hard.(x20)														
Alk.(x10)														
TRC														
Sample ID - Concentration: Outfall 101- 80.0%														
Log #	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
Temp. -I/W*	24.9	DJS	24.9	DJS	25.2	DJS	24.5	DJS	25.0	DJS	25.0	DJS	25.8	DJS
DO- I/A†	8.1		DJS 8.079		7.9		8.1		7.9		7.8		7.4	
pH -I/A†	8.0		8.0		7.9		7.9		7.9		DJS 7.89		7.9	
Cond.	212	↓	210	↓	210	↓	210	↓	210	↓	209	↓	210	↓
Hard.(x20)														
Alk.(x10)														
TRC														

Reviewed By: DJS DJS DJS DJS DJS DJS DJS

Notes: _____

* Initial/Warmed † Initial/Following aeration (inichem, effective 4-29-97) Approved By: CW

INITIAL CHEMISTRY

Test ID: SQN Chronic
Test Organisms: *P. promelas*

Initiation Date: 9-1-98 Time 1330
Termination Date: 09-16-98 Time 1330

Day	0	By	1	By	2	By	3	By	4	By	5	By	6	By
Sample ID - Concentration: Outfall 101- 100.0%														
Log #	3178	DJS	3184	DJS	3191	DJS	3191	DJS	3198	DJS	3201	DJS	3209	DJS
Temp. - I/W*	1.1/24.8		1.5/25.0		1.1/25.2		1.3/24.5		1.1/25.0		1.5/25.0		1.1/25.0	
DO - I/A†	7.7		7.9		7.5		8.1		7.7		7.4		7.4	
pH - I/A†	7.9		7.9		7.8		7.9		7.9		7.8		7.8	
Cond.	179		179		177		175		177		176		177	
Hard.(x20)	3.5	GKK	3.4	DJS	3.5	JCC	3.4	Cm	3.5		3.4	JCC	3.4	
Alk.(x10)	6.2	DJS	6.3		6.3	JCC	6.3	Cm	6.2		6.4	JCC	6.2	
TRC	<0.1	DJS	<0.1	DJS	<0.1	DJS	n/a		<0.1	DJS	<0.1	DJS	<0.1	DJS
Sample ID - Concentration: Intake- 100.0%														
Log #	3179	DJS	3185	DJS	3192	DJS	3192	DJS	3199	DJS	3202	DJS	3210	DJS
Temp. - I/W*	0.7/25.0		0.8/24.9		0.7/25.2		0.6/24.5		0.5/25.0		0.6/24.9		0.8/25.0	
DO - I/A†	7.3		7.1		7.2		7.9		7.0		6.6		6.6	
pH - I/A†	7.8		7.7		7.7		7.8		7.7		7.6		7.6	
Cond.	178		177		177		175		176		176		177	
Hard.(x20)	3.5	GKK	3.4	DJS	3.3	JCC	3.5	Cm	3.5		3.4	JCC	3.4	
Alk.(x10)	6.2	DJS	6.3		6.1	JCC	6.3	Cm	6.2		6.2	JCC	6.2	
TRC	<0.1	DJS	<0.1	DJS	<0.1	DJS	n/a		<0.1	DJS	<0.1	DJS	<0.1	DJS
Sample ID - Concentration: Upstream- 100%														
Log #	3180	DJS	3186	DJS	3193	DJS	3193	DJS	3200	DJS	3203	DJS	3211	DJS
Temp. - I/W*	0.7/25.0		1.0/25.0		0.9/25.2		1.5/24.9		0.4/25.0		0.6/25.0		0.7/24.9	
DO - I/A†	7.5		7.5		7.2		7.7		7.2		7.6		7.4	
pH - I/A†	7.8		7.8		7.7		7.8		7.7		7.8		7.8	
Cond.	178		177		177		176		176		175		177	
Hard.(x20)	3.4	GKK	3.4	DJS	3.4	JCC	3.5	Cm	3.4		3.4	JCC	3.4	
Alk.(x10)	6.2	DJS	6.1		6.2	JCC	6.3	Cm	6.1		6.1	JCC	6.2	
TRC	<0.1	DJS	<0.1	DJS	<0.1	DJS	n/a		<0.1	DJS	<0.1	DJS	<0.1	DJS
Sample ID - Concentration:														
Log #														
Temp. - I/W*														
DO - I/A†														
pH - I/A†														
Cond.														
Hard.(x20)														
Alk.(x10)														
TRC														

Reviewed By: DJS DJS DJS DJS DJS DJS DJS

Notes: _____

* Initial/Warmed † Initial/Following aeration (inichem: effective 4-29-97) Approved By: CW

FATHEAD MINNOW FINAL CHEMISTRY

Test ID: SQN Chronic
Test Organisms: *P. promelas*

Initiation Date: 9-9-98 Time 1330
Termination Date: 09-16-98 Time 1330

Day	1	By	2	By	3	By	4	By	5	By	6	By	7	By
Sample ID - Concentration: Control (F-medium)														
Log #	0100	DJS	0100	GKK	0100	CR	0100	DJS	0100	DJS	0100	DJS	0100	GKK
Temp.	25.0	GKK	24.9		25.0		25.1		25.1		25.3		25.2	
DO	6.5		5.9		5.4		5.7		5.0		4.9		5.0	
pH	7.8		7.7		7.7		7.6		7.5		7.5		7.5	
Cond.	344		346		346		348		353		354		350	
Sample ID - Concentration: Outfall 101-25.0%														
Log #	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
Temp.	25.0	GKK	24.8	GKK	25.1	CR	25.2	DJS	24.7	DJS	24.7	DJS	25.0	GKK
DO	6.4		5.9		5.2		5.3		4.8		5.0		4.4	
pH	7.7		7.6		7.6		7.6		7.5		7.5		7.5	
Cond.	307		306		305		309		312		309		308	
Sample ID - Concentration: Outfall 101-39.2%														
Log #	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
Temp.	25.1	GKK	25.0	GKK	25.2	CR	25.1	DJS	25.2	DJS	25.4	DJS	24.9	GKK
DO	6.2		5.5		5.7		5.5		4.4		4.5		5.0	
pH	7.8		7.6		7.6		7.5		7.5		7.5		7.5	
Cond.	283		282		283		284		287		289		285	
Sample ID - Concentration: Outfall 101-49.0%														
Log #	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
Temp.	25.0	GKK	25.0	GKK	24.9	CR	25.1	DJS	25.2	DJS	25.3	DJS	24.9	GKK
DO	6.1		5.7		5.0		5.2		4.8		4.9		5.0	
pH	7.7		7.5		7.6		7.5		7.6		7.5		7.5	
Cond.	266		266		266		266		269		268		267	
Sample ID - Concentration: Outfall 101-80.0%														
Log #	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
Temp.	25.0	GKK	24.9	GKK	25.1	CR	25.1	DJS	25.2	DJS	25.1	DJS	25.1	GKK
DO	6.1		5.7		5.6		5.3		4.8		5.2		5.3	
pH	7.8		7.6		7.6		7.6		7.5		7.6		7.5	
Cond.	220		217		217		218		218		217		217	
Sample ID - Concentration: Outfall 101-100.0%														
Log #	3178	GKK	3184	GKK	3196 DJS 9-17-98		3191	DJS	3198	DJS	3201	DJS	3209	GKK
Temp.	25.1		25.0		25.0	CR	25.1	DJS	25.2		25.2		25.0	
DO	6.2		6.0		5.4		5.4		4.5		4.9		5.5	
pH	7.8		7.6		7.6		7.5		7.4		7.5		7.5	
Cond.	188		184		183		184		185		183		184	
Sample ID - Concentration: Intake- 100.0%														
Log #	3179	GKK	3185	GKK	3192	DJS	3192	DJS	3199	DJS	3202	DJS	3210	GKK
Temp.	25.1		25.0		24.9	CR	25.0	DJS	25.1		25.4		25.0	
DO	6.9		5.7		4.9		5.2		4.3		4.6		6.1	
pH	7.7		7.5		7.5		7.5		7.4		7.5		7.6	
Cond.	185		180		183		182		182		180		184	

Reviewed By: GKK GKK CR DJS DJS DJS GKK

Notes: _____

FATHEAD MINNOW FINAL CHEMISTRY

Test ID: SQN Chronic
Test Organisms: *P. promelas*

Initiation Date: 9-9-98 Time 1330
Termination Date: 09-16-98 Time 1330

Day	1	By	2	By	3	By	4	By	5	By	6	By	7	By
Sample ID - Concentration: Upstream														
Log #	3180	GKK	3186	GKK	3193	DJJ	3193	DJJ	3200	DJJ	3203	DJJ	3211	GKK
Temp.	24.9		24.9		25.1	Cen	25.0	DJJ	24.9		25.0		24.7	
DO	6.0		5.5		5.3		5.2		5.0		5.0		4.8	
pH	7.8		7.5		7.5		7.4		7.5		7.5		7.4	
Cond.	185		180		181		181		181		180		181	
Sample ID - Concentration:														
Log #														
Temp.														
DO														
pH														
Cond.														
Sample ID - Concentration:														
Log #														
Temp.														
DO														
pH														
Cond.														
Sample ID - Concentration:														
Log #														
Temp.														
DO														
pH														
Cond.														
Sample ID - Concentration:														
Log #														
Temp.														
DO														
pH														
Cond.														
Sample ID - Concentration:														
Log #														
Temp.														
DO														
pH														
Cond.														
Sample ID - Concentration:														
Log #														
Temp.														
DO														
pH														
Cond.														

Reviewed By: GKK GKK Cen [illegible] Cen Cen GKK

Notes:

INITIAL CHEMISTRY

Test ID: SQN Chronic
Test Organisms: *C. dubia*

Initiation Date: 9-4-98 Time 1320-1335
Termination Date: 09-15-98 Time 1320

Day	0	By	1	By	2	By	3	By	4	By	5	By	6	By
Sample ID - Concentration: Control (C-medium w/o EDTA) (1)														
Log #	2762	DJS	2762	DJS	2762	DJS	2762	DJS	2765	DJS	2765	DJS		
Temp.- I/W*	22.0/25.0		24.8		21.7/25.3		21.6/25.2		23.0/25.1		21.8/25.3			
DO -I/A†	8.3		8.3	DJS	8.3		8.3		8.2		8.2			
pH -I/A†	8.2		8.2		8.2		8.2		8.2		8.2			
Cond.	320		327		325		328		333		332			
Hard.(x20)	43	GKK							44	DJS				
Alk.(x10)	63	DJS							65					
TRC														
Sample ID - Concentration: Outfall 101- 25.0% (2)														
Log #	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
Temp. -I/W*	25.0	DJS	24.8		25.2	DJS	25.1	DJS	25.0	DJS	25.2	DJS		
DO -I/A†	8.3		8.2	DJS	8.2		8.2		8.1		8.0			
pH -I/A†	8.2		8.1		8.1		8.1		8.1		8.1			
Cond.	286		287		289		288		291		294			
Hard.(x20)														
Alk.(x10)											DJS 9-14-98			
TRC														
Sample ID - Concentration: Outfall 101- 39.2% (3)														
Log #	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
Temp. -I/W*	25.0	DJS	24.8		25.4	DJS	25.1	DJS	25.1	DJS	25.2	DJS		
DO -I/A†	8.2		8.1	DJS	8.0		8.1		8.0		7.9			
pH -I/A†	8.1		8.1		8.1		8.0		8.1		DJS 8.01			
Cond.	267		267		267		268		272		265			
Hard.(x20)														
Alk.(x10)														
TRC														
Sample ID - Concentration: Outfall 101- 49.0% (4)														
Log #	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
Temp. -I/W*	25.0	DJS	25.0		25.2	DJS	25.4	DJS	25.1	DJS	25.2	DJS		
DO -I/A†	8.1		8.0	DJS	8.0		8.1		8.0		7.8			
pH -I/A†	8.1		8.0		8.0		8.0		8.0		8.0			
Cond.	253		253		253		253		258		249			
Hard.(x20)														
Alk.(x10)														
TRC														
Sample ID - Concentration: Outfall 101- 80.0% (5)														
Log #	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
Temp. -I/W*	24.9	DJS	24.9		25.2	DJS	25.4	DJS	25.1	DJS	25.1	DJS		
DO- I/A†	7.9		8.0	DJS	7.8		8.0		7.8		7.6			
pH -I/A†	8.0		8.0		7.9		7.9		7.9		7.9			
Cond.	207		207		199		197		207		207			
Hard.(x20)														
Alk.(x10)														
TRC														

Reviewed By: DJS DJS DJS DJS DJS DJS

Notes: _____

* Initial/Warmed † Initial/Following aeration (inichem; effective 4-29-97)

Approved By: CW

INITIAL CHEMISTRY

Test ID: SQN Chronic
Test Organisms: *C. dubia*

Initiation Date: 09-09-98 Time 1320 - 1335
Termination Date: 09-15-98 Time 1320

Day	0	By	1	By	2	By	3	By	4	By	5	By	6	By
Sample ID - Concentration: Outfall 101 - 100.0% (6)														
Log #	3178	DJS	3184	DJS	3191	DJS	3191	DJS	3198	DJS	3201	DJS		
Temp. - I/W*	25.0	↓	25.1	DH	25.2	↓	25.2	↓	25.2	↓	25.4	↓		
DO - I/A†														
pH - I/A†														
Cond.														
Hard.(x20)														
Alk.(x10)														
TRC														
Sample ID - Concentration: Intake (7)														
Log #	3179	DJS	3185	DJS	3192	DJS	3192	DJS	3199	DJS	3202	DJS		
Temp. - I/W*	25.0	↓	25.1	DH	25.3	↓	25.1	↓	25.2	↓	25.2	↓		
DO - I/A†														
pH - I/A†														
Cond.														
Hard.(x20)														
Alk.(x10)														
TRC														
Sample ID - Concentration: Upstream (8)							DJS 9-12-98							
Log #	3180	DJS	3186	DJS	3193	DJS	3193	DJS	3200	DJS	3203	DJS		
Temp. - I/W*	24.9	↓	24.9	DH	25.3	↓	25.3	↓	25.2	↓	25.1	↓		
DO - I/A†														
pH - I/A†														
Cond.														
Hard.(x20)														
Alk.(x10)														
TRC														
Sample ID - Concentration:														
Log #														
Temp. - I/W*														
DO - I/A†														
pH - I/A†														
Cond.														
Hard.(x20)														
Alk.(x10)														
TRC														
Sample ID - Concentration:														
Log #														
Temp. - I/W*														
DO - I/A†														
pH - I/A†														
Cond.														
Hard.(x20)														
Alk.(x10)														
TRC														

Reviewed By: DJS DJS DJS DJS DJS DJS

Notes:

* Initial/Warmed † Initial/Following aeration

Approved By: CW

DAPHNID FINAL CHEMISTRY

Test ID: SQN Chronic
Test Organisms: *C. dubia*

Initiation Date: 9-9-98 Time 1320-1325
Termination Date: 09-15-98 Time 1320

Day	1	By	2	By	3	By	4	By	5	By	6	By	7	By
Sample ID - Concentration: Control (C-medium w/o EDTA) (1)														
Log #	2762	DJS	2762	DTS	2762	DJS	2762	DTS	2765	DH	2765	DH		
DO	7.8	DH	7.7	↓	7.8	↓	7.7	DH	7.6	↓	7.7	↓		
pH	8.1	↓	8.1	↓	8.2	↓	8.2	↓	8.2	↓	8.2	↓		
Sample ID - Concentration: Outfall 101- 25.0% (2)														
Log #	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
DO	7.6	DH	7.7	DJS	7.8	DJS	7.6	DH	7.5	DH	7.6	DH		
pH	8.1	↓	8.1	↓	8.1	↓	8.1	↓	8.1	↓	8.1	↓		
Sample ID - Concentration: Outfall 101- 39.2% (3)														
Log #	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
DO	7.7	DH	7.7	DTS	7.8	DTS	7.6	DH	~~7.5 7.50~~	DH	7.7	DH		
pH	8.1	↓	8.1	↓	8.1	↓	8.1	↓	8.1	↓	8.1	↓		
Sample ID - Concentration: Outfall 101- 49.0% (4)														
Log #	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
DO	7.7	DH	7.7	DJS	7.8	DTS	7.6	DH	7.5	DH	7.7	DH		
pH	8.1	↓	8.1	↓	8.1	↓	8.1	↓	8.1	↓	8.1	↓		
Sample ID - Concentration: Outfall 101- 80.0% (5)														
Log #	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
DO	7.6	DH	7.7	DTS	7.8	DTS	7.6	DH	7.5	DH	7.7	DH		
pH	8.1	↓	8.1	↓	8.1	↓	8.1	↓	8.1	↓	8.1	↓		
Sample ID - Concentration: Outfall 101- 100.0% (6)														
Log #	3178	DJS	3184	DTS	3191	DTS	3191	DTS	3194	DH	3201	DH		
DO	7.7	DH	7.7	↓	7.8	↓	7.6	DH	7.5	↓	7.7	↓		
pH	8.1	↓	8.1	↓	8.1	↓	8.1	↓	8.1	↓	8.1	↓		
Sample ID - Concentration: Intake (7)														
Log #	3179	DJS	3185	DTS	3192	DJS	3192	DTS	3199	DH	3202	DH		
DO	7.7	DH	7.7	↓	7.8	↓	7.6	DH	7.5	↓	7.7	↓		
pH	8.1	↓	8.1	↓	8.2	↓	8.1	↓	8.1		8.1	↓		
Sample ID - Concentration: Upstream (8)														
Log #	3180	DJS	3186	DTS	3193	DJS	3193	DTS	3200	DH	3203	DH		
DO	7.7	DH	7.7	↓	7.8	↓	7.6	DH	7.5	↓	7.7	↓		
pH	8.1	↓	8.1	↓	8.1	↓	8.1	↓	8.1	↓	8.1	↓		

Reviewed By: DTT DH DH DH DH DH

Notes: _____

(finlchcd; effective 5-5-97)

Approved By: CW

DAPHNID FINAL TEMPERATURES

Test ID: SQN Chronic
Test Organisms: *C. dubia*

Initiation Date: 9-9-98 Time 1320-1335
Termination Date: 9-15-98 Time 1320

Day	1	2	3	4	5	6	7
By	DH #8	DJS #8	DJS #8	DH #8	DH	DH	
Rep.# 1	24.1	24.6	24.4	24.8	24.9	24.8	
2	24.2	24.7	24.5	24.8	25.2	24.8	
3	24.2	24.7	24.4	24.7	25.1	24.9	
4	24.1	25.1	24.6	24.6	25.0	25.0	
5	24.6	24.9	25.1	24.9	25.1	24.8	
6	24.8	24.8	25.3	25.2	25.5	24.9	
7	24.4	24.8	24.9	25.0	25.4	24.9	
8	24.1	24.6	25.2	25.0	25.2	24.8	
9	24.5	24.8	25.2	25.1	25.3	24.8	
10	24.2	25.0	24.9	24.8	25.0	24.9	

Reviewed By: DH DJS DJS DH DH DH ____

Approved By: [illegible]

(finlchcd: effective 5-5-1997)

Sequoyah Nuclear Plant Biomonitoring
September 9-16, 1998

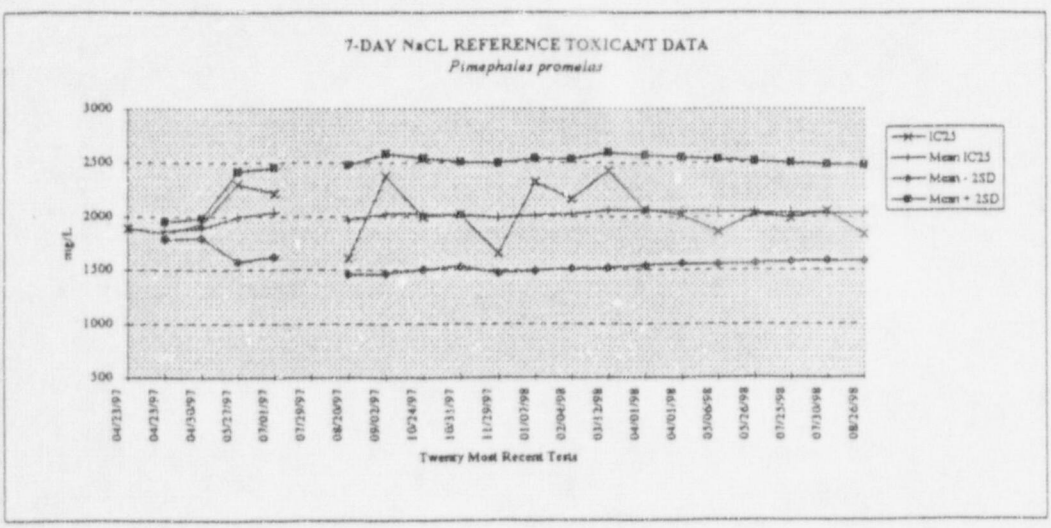
Appendix D

Reference Toxicant Tests and Control Chart Information

IC25 NaCL Toxicity Test
Control Chart (Fathead minnow)

Most Recent Tests

Test #	Source	Date	IC25	Mean	S	2S	Mean-2s	Mean+2S	CV%	Control Mean Wt. (mg/L)	
17	TTL	04/23/97	1894							0.58	
18	TTL	04/23/97	1838	1866	40	79	1787	1945	2.1	0.69	New Brine Shrimp Lot # 4434
19	TTL	04/30/97	1928	1887	45	91	1796	1978	2.4	0.46	
20	TTL	05/27/97	2299	1990	209	419	1571	2409	10.5	0.36	
21	TTL	07/01/97	2212	2034	207	414	1620	2448	10.2	0.62	
22	TTL	07/29/97		VOID, 70% Control Survival							
23	TTL	08/20/97	1609	1963	254	507	1456	2471	12.9	0.56	
24	TTL	09/02/97	2376	2022	279	558	1464	2581	13.8	0.53	
25	TTL	10/24/97	2000	2020	259	517	1502	2537	12.8	0.49	
26	TTL	10/31/97	2014	2019	242	484	1535	2503	12.0	0.60	
27	TTL	11/29/97	1652	1982	256	512	1470	2494	12.9	0.65	
28	TTL	01/07/98	2315	2012	263	525	1487	2538	13.1	0.54	
29	TTL	02/04/98	2158	2025	254	508	1517	2533	12.5	0.49	
30	TTL	03/12/98	2424	2055	267	534	1521	2590	13.0	0.46	
31	TTL	04/01/98	2063	2056	257	513	1542	2569	12.5	0.46	
32	TTL	04/01/98	2012	2053	248	495	1558	2548	12.1	0.56	New Brine Shrimp Lot # 4665
33	TTL	05/06/98	1857	2041	244	488	1552	2529	12.0	0.63	
34	TTL	05/26/98	2020	2039	237	473	1566	2512	11.6	0.56	
35	TTL	07/25/98	1985	2036	230	460	1577	2496	11.3	0.65	
36	TTL	07/30/98	2052	2037	223	447	1591	2484	11.0	0.65	
37	TTL	08/26/98	1837	2027	222	444	1583	2471	10.9	0.66	Old Brine Shrimp Lot # 4665



CHRONIC REFERNCE TOXICANT RECORD SHEET

Study: Reftox # old 37, New 38

OLD BRINE SHRIMP vs. NEW BRINE SHRIMP COMPARISON

Test Organism: *P. promelas*

Initiation Date/Time: 08-26-98/1035

Termination Date/Time: 09-02-98/1035

Control/Dilution Water: F-medium 0098

Personnel: DJ, GKK

Toxicant: NaCl

Source: Fisher Scientific

Lot #: 961889

Test Concentrations: Control, 0.8, 1.2, 1.7, 2.5, 3.6 g/L

P. promelas:

Spawn Date	Tile #	Hatch Date/Time to Date/Time
		08-25-98/1125 08-26-98/0945
BATCH # 6 + 7		Batch 6 H AF 1125 8-25-98 BF 1445 8-26-98

IC_{25}: old : 1837

New : 1677

Notes:

BATCH # 7

H AF 1440 8-25-98

BF 0945 8-26-98

Old Brine Shrimp **FATHEAD MINNOW LARVAL SURVIVAL AND GROWTH TEST** Page 1 of 1

Test ID: Ref Tox # 37 Pans: Date/Time of drying: 9-1-98/2045 Fish: Date/Time of drying: 09-02-98/1410

Initiation Date: 08-26-98 Time - 1035 Pans: Date/Time of weighing: 9-2-98/1225 Fish: Date/Time of weighing: 09-02-98/1030

Termination Date: 9-2-98 Time - 10:35

Sample ID/ Concentration	Rep. #	# Alive							Tare Weight	Tare+Fish Weight
Notes:	Day	1	2	3	4	5	6	7	g	g
Control (F-medium)	Log #	0098	0098	0098	0099	0099	0099	0099	-	-
	1	10	10	10	10	10	10	10	0.98927	0.99580
	2	10	10	10	10	10	10	10	0.98838	0.99496
	3	10	10	10	9	9	9	9	0.98778	0.99368
	4	10	10	10	10	10	10	10	0.98583	0.99274
	By	JCC	GKK	DH	CW	DH	JCC	DH	DJS	GKK
0.8 g/L	Log #	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-	-
	1	10	10	10	10	10	10	10	0.98169	0.99066
* count co initial	2	10	10	10	10	10	10	10	0.97863	0.98734
	3	10	10	10	10	10	10 **	** 9	0.98010	0.98747
	4	10	10	10	10	10	10	10	0.98300	0.99192
	By	JCC	GKK	DH	CW	DH	JCC	DH	DJS	GKK
1.2 g/L	Log #	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-	-
	1	10	9	9	9	9	9	9	0.98255	0.99109
	2	10	10	9	9	9	9	9	0.98166	0.98929
	3	10	10	10	10	10	10	10	0.98620	0.99506
	4	10	10	10	10	10	10	10	0.98854	0.99712
	By	JCC	GKK	DH	CW	DH	JCC	DH	DJS	GKK
1.7 g/L	Log #	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-	-
	1	10 GKK 8-28-98 9	10	10	9	8	8	8	0.98629	0.99157
	2	10 8-28-98	10	10	10	10	9	9	0.98685	0.99320
9 initially	3	10	10	9 *	9	9	9	9 *	0.98560	0.99267
	4	10	10	10	9	9	9	9	0.98571	0.99175
	By	JCC	GKK	DH	CW	DH	JCC	DH	DJS	GKK
2.5 g/L	Log #	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-	-
	1	10	10	10	9	9	9	9	0.98485	0.98988
	2	10	10	10	10	8	7	6	0.98403	0.98645
	3	10	10	10	10	9	8	8	0.98486	0.98774
	4	10	10	10	10	9	9	9	0.99048	0.99431
	By	JCC	GKK	DH	CW	DH	JCC	DH	DJS	GKK
3.6 g/L	Log #	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-	-
	1	10	10	10	6	6	6	5	0.98966	0.99080
	2	10	10	10	8	8	7	6	0.98873	0.98988
	3	10	10	9	7	7	6	3	0.99112	0.99154
	4	10	10	9	7	7	7	5	0.98885	0.98976
	By	JCC	GKK	DH	CW	DH	JCC	DH	DJS	GKK
	Log #		8-28-98						-	-
	1									
	2									
	3									
	4									
	By									

	0	1	2	3	4	5	6	7
Fed-Time/By:	NA	0705/DJS	650/DH	0630/DH	0630/DH	0640/DH	0645/DH	
	1050/DJS	1113/JCC	11:20/DH	1125/CW	1130/DH	1123/JCC	1135/JCC	
8-26-98 1548	1148/JCC	1550/JCC	1405/DH	1410/DH	1400/DH	1400/DH	1431/JCC	
Renewal Time:	X	1625	1530	1015	1025	1020	1030	1095
Dilution Water:	0098	0098	0098	0095	0095	0099	0099	
Reviewed By:	DH	GKK	DH	CW	CW	DH	DH	DH CW

** spilled 4 fish from test chamber (0.5 while transferring to incubator. Retrieve all but 1. 9-4-98 JCC

4 - count no 9 initially

GKK

FATHEAD DRY WEIGHT RECORD SHEET

Personnel: DJS
GKK

Study/Date: Reftox #37 08/26/98- Old Brine Shrimp #4665

Pans:Date/Time of Drying:09-01-98/0945
09-02-98/1035

Fish:Date/Time of Drying: 09-02-98/1410
09-03-98/0925

Pans:Date/Time of Weighing:09-02-98/1225

Fish:Date/Time of Weighing:09-03-98/1030-1230

Sample ID		Tare Wt. g	Tare + Fish Wt. g	Fish Wt. g	Surviving # Fish	Surviving Mean Wt. mg	IC25 Wt. mg	IC25 Mean Wt. mg	Surviving Control Mean Wt. (mg)	
	1.	0.98927	0.99580	0.00653	10	0.653	0.653		0.653	
Control	2.	0.98838	0.99496	0.00658	10	0.658	0.658		0.658	0.664
	3.	0.98778	0.99368	0.00590	9	0.656	0.590	0.648	0.656	
	4.	0.98583	0.99274	0.00691	10	0.691	0.691		0.691	
	1.	0.98169	0.99066	0.00897	10	0.897	0.897			
0.8 g/L	2.	0.97863	0.98734	0.00871	10	0.871	0.871			
	3.	0.98010	0.98747	0.00737	9	0.819	0.819	0.870		
	4.	0.98300	0.99192	0.00892	10	0.892	0.892			
	1.	0.98255	0.99109	0.00854	9	0.949	0.854			
1.2 g/L	2.	0.98166	0.98929	0.00763	9	0.848	0.763			
	3.	0.98620	0.99506	0.00886	10	0.886	0.886	0.840		
	4.	0.98854	0.99712	0.00858	10	0.858	0.858			
	1.	0.98629	0.99157	0.00528	8	0.660	0.528			
1.7 g/L	2.	0.98685	0.99320	0.00635	9	0.706	0.635			
	3.	0.98560	0.99267	0.00707	9	0.786	0.786	0.638		
	4.	0.98571	0.99175	0.00604	9	0.671	0.604			
	1.	0.98485	0.98988	0.00503	9	0.559 ✓	0.503			
2.5 g/L	2.	0.98403	0.98645	0.00242	6	0.403	0.242			
	3.	0.98486	0.98774	0.00288	8	0.360 ✓	0.288	0.354		
	4.	0.99048	0.99431	0.00383	9	0.426	0.383			
	1.	0.98966	0.99080	0.00114	5	0.228 ✓	0.114			
3.6 g/L	2.	0.98873	0.98988	0.00115	6	0.192	0.115			
	3.	0.99112	0.99154	0.00042	3	0.140 ✓	0.042	0.090		
	4.	0.98885	0.98976	0.00091	5	0.182	0.091			

Rep#1 fish are much larger than Rep3 CLR

Rep#1 fish are larger and more than Rep3 CLR

Reviewed By: Russell

CLR
09-06-98

THE NUMBER OF RESAMPLES IS 80 NaCl Reflex Fit #37
IC_{25} Cen 09-06-18 old brine shrimp #4665

*** LISTING OF GROUP CONCENTRATIONS (% EFF.) AND RESPONSE MEANS ***

CONC. (%EFF)	RESPONSE MEAN	MEAN AFTER POOLING
.000	.648	.786
.800	.870	.786
1.200	.840	.786
1.700	.638	.638
2.500	.354	.354
3.600	.090	.090

THE LINEAR INTERPOLATION ESTIMATE OF THE TOTAL IMPACT CONCENTRATION
FROM THE INPUT SAMPLE IS 1.8372.

3.600	.090	.090

THE LINEAR INTERPOLATION ESTIMATE OF THE TOTAL IMPACT CONCENTRATION
FROM THE INPUT SAMPLE IS 1.8372.

****
* BOOTSTRAP PROCEDURE TO ESTIMATE VARIABILITY *
* OF THE ESTIMATED ICp *
****

THE MEAN OF THE BOOTSTRAP ESTIMATES IS 1.8282.

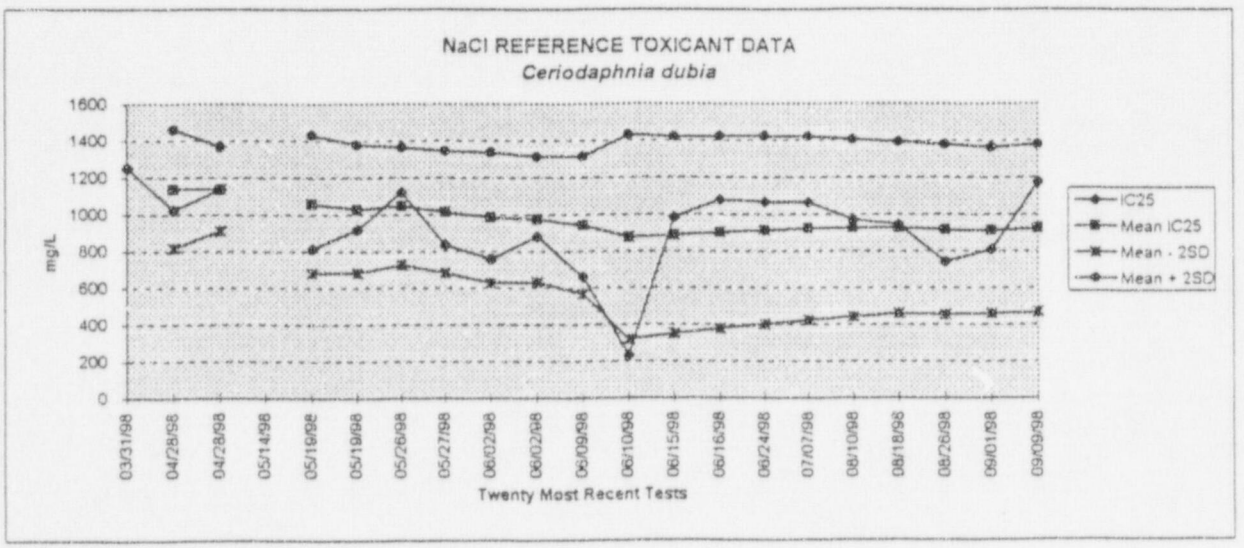
THE STANDARD DEVIATION OF THE BOOTSTRAP ESTIMATES IS .1127.

AN EMPIRICAL 95.0% CONFIDENCE INTERVAL FOR THE
BOOTSTRAP ESTIMATE IS (1.6527, 2.0634).

BOOTSTRP>

IC25 NaCL Toxicity Test
Control Chart (Cerio)
(KY range for cerio chronic 848-1216 mg/L)

Test#	Source	Date		IC25	Mean	S	2S	Mean-2s	Mean+2S	CV%	
69	TTL	03/31/98	CTI	1253							AQS Food
70	TTL	04/28/98	CTI	1026	1140	161	321	818	1461	14.1	AQS Food
71	TTL	04/28/98	CTI	1139	1139	114	227	912	1366	10.0	ECT Food
72	TTL	05/14/98	VOID								
73	TTL	05/19/98	CTI	815	1058	187	374	685	1432	17.6	AQS Food
74	TTL	05/19/98	CTI	920	1031	173	346	684	1377	16.8	AQS Food
75	TTL	05/26/98	CTI	1122	1046	159	319	727	1364	15.2	AQS Food
76	TTL	05/27/98	CTI	837	1016	165	331	685	1347	16.3	AQS Food
77	TTL	06/02/98	CTI	761	984	178	356	629	1340	18.1	AQS Food
78	TTL	06/02/98	CTI	884	973	170	339	634	1312	17.4	AQS Food
79	TTL	06/09/98	CTI	663	942	188	375	567	1317	19.9	AQS Food
80	TTL	06/09/98	CTI	395	Test was fed 0.3 mL of algae instead of 0.2 mL, not in control chart						
81	TTL	06/10/98	CTI	232	877	278	557	321	1434	31.7	AQS Food
82	TTL	06/15/98	CTI	984	886	267	534	352	1421	30.1	AQS Food
83	TTL	06/16/98	CTI	1081	901	261	523	378	1424	29.0	AQS Food
84	TTL	06/24/98	CTI	1070	913	255	510	403	1424	27.9	AQS Food
85	TTL	07/07/98	CTI	1066	924	249	498	425	1422	27.0	AQS Food
86	TTL	08/10/98	CTI	972	927	241	482	445	1408	26.0	AQS Food
87	TTL	08/18/98	CTI	944	928	233	467	461	1394	25.2	AQS Food
88	TTL	08/26/98	CTI	740	917	231	461	456	1378	25.1	AQS Food
89	TTL	09/01/98	CTI	810	912	225	451	461	1362	24.7	AQS Food
90	TTL	09/09/98	CTI	1174	925	227	454	470	1379	24.6	AQS Food



CHRONIC REFERNCE TOXICANT RECORD SHEET

Study: Reftox # 90

Test Organism: *C. dubia*

Initiation Date/Time: 9-9-98/0900-0915

Termination Date/Time: 9-15-98/0900-0915

Control/Dilution Water: C- medium w/o EDTA: 2762, 2765

Personnel: DDS, GKK, CM

Toxicant: NaCl

Source: Fisher Scientific

Lot #: 961889

Test Concentrations: Control, 0.6, 0.9, 1.3, 1.8, 2.6 g/L

Released From: (Date/Time) 9-8-98/2200 To: (Date/Time) 9-9-98/0600

IC_{25}: 1174

Notes:

CERIODAPHNIA SURVIVAL AND REPRODUCTION TEST

Study: Reflox # 90

Initiation Date: 9-9-98 Time: 0900-0915 Termination Date: 9-15-98 Time: 0900-0920

Treatment (Randomization #)	By: Rep	DJS 1	GNL 2	GNL 3	DJS 4	DJS 5	DJS 6	7	8		Total Young
Control (1) (C-medium w/o EDTA)	Log #	2762	2762	2762	2762	2765	2765				
	1	0	0	0	5	8	14				27
	2				6	11	14				31
	3				5	11	15				31
	4				5	11	14				30
	5				6	12	16				34
	6				5	9	14				28
	7				6	13	15				34
	8				6	12	15				33
	9				5	11	15				31
	10	↓	↓	↓	5	12	15				32
											311
0.6 g/L (2)	Log #	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1	0	0	0	4	11	13				28
	2				5	12	14				31
	3				5	10	12				27
	4				4	11	14				29
	5				5	10	14				29
	6				6	11	16				33
	7				5	11	14				30
	8				5	10	15				30
	9				6	12	13				31
	10	↓	↓		5	11	15				31
											299
0.9 g/L (3)	Log #	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1	0	0	0	4	11	13				28
	2				6	9	15				30
	3				4	12	13				29
	4				4	11	13				28
	5				5	12	13				30
	6				5	11	12				28
	7				5	12	15				32
	8				5	12	13				30
	9				5	10	12				27
	10	↓	↓	↓	4	12	12				28
											290
1.3 g/L (4)	Log #	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1	0	0	0	5	9	11				25
	2				6	9	11				26
	3				4	11	13				28
	4				4	7	11				22
	5				3	6	9				18
	6				3	0	D/O	—	—	—	3
	7				6	7	0				13
	8				5	9	11				25
	9				4	9	13				26
	10	↓	↓	↓	3	7	11				21
											1207

	0	1	2	3	4	5	6	7	8	
Chow ID#:	27-1	27-1	27-1	27-2	27-2	27-2	___	___	___	
Algae ID#:	105-3	105-3	105-3	106-1	106-1	106-2	___	___	___	
Dilution Water ID#:	2762	2762	2762	2762	2765	2765	___	___	___	Totals DJS
Time:	0900	0855	0900	0855	0900	0900	0900-0920	___	___	Verified: CM

CERIODAPHNIA SURVIVAL AND REPRODUCTION TEST

Study: Reftox # 90

Initiation Date: 9-4-98 Time: 0800 - 0915 Termination Date: 9-15-98 Time: 0800-0920

Treatment (Randomization #)	By: Rep	DJ 1	GKL 2	GKL 3	DJS 4	DJS 5	6	7	8		Total Young	
	Log #	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
1.8 g/L (5)	1	0	0	0	2	D/0	—	—	—	—	2	
	2				2	4	0				6	
	3				1	7	1				9	
	4				0	D/0	—	—	—	—	0	
	5				2	4	D/0	—	—	—	6	
	6				3	5	0				8	
	7				2	5	0				7	
	8				1	2	0				3	
	9				2	D/0	—	—	—	—	2	
	10	↓	↓	↓	3	5	D/0	—	—	—	8	51
	Log #	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	1	0	D/0	—	—	—	—	—	—	—	0	
	2	0	0	D/0	—	—	—	—	—	—	0	
	3	0	0	D/0	—	—	—	—	—	—	0	
	4	D/0	—	—	—	—	—	—	—	—	0	
2.6 g/L (6)	5	0	0	0	0	0	0	—	—	—	0	
	6		D/0	—	—	—	—	—	—	—	0	
	7		D/0	—	—	—	—	—	—	—	0	
	8		D/0	—	—	—	—	—	—	—	0	
	9		0	0	0	0	D/0	—	—	—	0	
	10	↓	0	0	0	0	0				0	0
	Log #											
	1											
	2											
	3											
	4											
	5											
	6											
	7											
	8											
	9											
	10											
	Log #											
	1											
	2											
	3											
	4											
	5											
	6											
	7											
	8											
	9											
	10											

	0	1	2	3	4	5	6	7	8
Chow ID#:									
Algae ID#:									
Dilution Water ID#:		SEE	PAGE			ONE			
Time:									
	DJ	DJ	GKL	GKL	DJS	DJS			

Totals: 45/6

Verified: [signature]

Approved By: [signature]

NaCl90c.TX8
9-15-98 [illegible]
page 1 of 1

THE NUMBER OF RESAMPLES IS 80

[illegible] 09-17-98

*** LISTING OF GROUP CONCENTRATIONS (% EFF.) AND RESPONSE MEANS ***

CONC. (%EFF)	RESPONSE MEAN	MEAN AFTER POOLING
.000	31.100	31.100
.600	29.900	29.900
.900	29.000	29.000
1.300	20.700	20.700
1.800	5.100	5.100
2.600	.000	.000

THE LINEAR INTERPOLATION ESTIMATE OF THE TOTAL IMPACT CONCENTRATION FROM THE INPUT SAMPLE IS 1.1735.

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*************************************************************
*        BOOTSTRAP PROCEDURE TO ESTIMATE VARIABILITY        *
*                  OF THE ESTIMATED ICp                     *
*************************************************************
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THE MEAN OF THE BOOTSTRAP ESTIMATES IS 1.1942.

THE STANDARD DEVIATION OF THE BOOTSTRAP ESTIMATES IS .0766.

AN EMPIRICAL 95.0% CONFIDENCE INTERVAL FOR THE BOOTSTRAP ESTIMATE IS (1.0783, 1.3372).

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if differ*

Name TVA-SEQUOYAH NUCLEAR PLANT
Address P.O. BOX 2000
(INTEROFFICE SB 2A)
SODDY-DAISY, TN 37379
Facility TVA-SEQUOYAH NUCLEAR PLANT
Location HAMILTON COUNTY

ATTN: DEBBIE BODINE, ENV. MGR.

NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM *(NPDES)*
DISCHARGE MONITORING REPORT *(DMR)*

TN0026450	101 G	*Diffuser Discharge*
PERMIT NUMBER	DISCHARGE NO.	

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
From:	98	09	01	To:	98	09	30

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
TEMPERATURE - C, RATE OF CHANGE	SAMPLE MEASUREMENT				********	********	1.056		0	30 / 30	CALC
82234 1 * 0 0	PERMIT REQUIREMENT	NONE	NONE		********	********	2.0	DEG. C		CONT	CALC
101											
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
BORON, TOTAL	SAMPLE MEASUREMENT				<0.2	<0.2	<0.200		0	1 / 30	GRAB
01022 1 0 0	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	NONE	MG/L		1/30	GRAB
101											
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
Masoud Bajestani Site Vice President	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINES AND IMPRISONMENT. SEE 18 U.S.C. 1001 AND 33 U.S.C. 1319. (Penalties under those statutes may include fines up to $10,000 and or	Debra L. Bodine Environmental Supervisor	423	843-6700	98	10	13
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS *Reference all attachments here*

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if differ*

Name TVA-SEQUOYAH NUCLEAR PLANT
Address P.O. BOX 2000
(INTEROFFICE SB 2A)
SODDY-DAISY, TN 37379
Facility TVA-SEQUOYAH NUCLEAR PLANT
Location HAMILTON COUNTY

ATTN: DEBBIE BODINE, ENV. MGR.

NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM *(NPDES)*
DISCHARGE MONITORING REPORT *(DMR)*

TN0026450	103 G	*Low Vol. Waste Treatment Pond*
PERMIT NUMBER	DISCHARGE NO.	

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
From:	98	09	01	To:	98	09	30

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
OIL & GREASE FREON EXTR-GRAV METH	SAMPLE MEASUREMENT	<61.3	97.1		********	<5.6	8.1		0	5 / 30	GRAB
00556 1 0 0 103	PERMIT REQUIREMENT	190.000	250.000	LBS/DAY	NONE	15.000	20.000	MG/L		1/7	GRAB
SOLIDS, TOTAL SUSPENDED	SAMPLE MEASUREMENT	41	81.22		********	4	6		0	4 / 30	GRAB
00530 1 0 0 103	PERMIT REQUIREMENT	380.000	1250.000	LBS/DAY	NONE	30	100	MG/L		1/7	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	SAMPLE MEASUREMENT	1.112	1.622		*********	********	********		0	30 / 30	RECRDR
50050 1 0 0 103	PERMIT REQUIREMENT	NONE	NONE	MGD	NONE	NONE	NONE			1/1	RECRDR
PH	SAMPLE MEASUREMENT				7.84	********	8.42		0	11 / 30	GRAB
00400 1 0 0 103	PERMIT REQUIREMENT	NONE	NONE		6.0	NONE	9.0	PH UNIT		3/7	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
Masoud Bajestani Site Vice President	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINES AND IMPRISONMENT. SEE 18 U.S.C. 1001 AND 33 U.S.C. 1319. (Penalties under these statutes may include fines up to $10,000 and or	Debra J. Rodeke Environmental Supervisor	423	843-6700	98	10	13
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS *Reference all attachments here*

No comments.

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if differ

Name TVA-SEQUOYAH NUCLEAR PLANT
Address P.O. BOX 2000
(INTEROFFICE SB 2A)
SODDY-DAISY, TN 37379
Facility TVA-SEQUOYAH NUCLEAR PLANT
Location HAMILTON COUNTY

ATTN: DEBBIE BODINE, ENV. MGR.

NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

TN0026450	107 G	Metal Cleaning Waste Pond
PERMIT NUMBER	DISCHARGE NO.	

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
From:	98	09	01	To:	98	09	30

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	SAMPLE MEASUREMENT			MGD	********	********	********				
50050 1 0 0 107	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	NONE			1/1	CALC
PH	SAMPLE MEASUREMENT	********	********			********		PH UNIT			
00400 1 0 0 107	PERMIT REQUIREMENT	NONE	NONE		6.0	NONE	9.0			1/1	GRAB
SOLIDS, TOTAL SUSPENDED	SAMPLE MEASUREMENT	********	********		********	********		MG/L			
00530 1 0 0 107	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	30.000			1/1	BHRCOM
OIL & GREASE FREON EXTR-GRAV METH	SAMPLE MEASUREMENT	********	********		********	********		MG/L			
00556 1 0 0 107	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	15.000			1/1	GRAB
PHOSPHORUS, TOTAL (AS P)	SAMPLE MEASUREMENT	********	********		********	********		MG/L			
00665 1 0 0 107	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	1.000			1/1	BHRCOM
COPPER, TOTAL (AS CU)	SAMPLE MEASUREMENT	********	********		********	********		MG/L			
01042 1 0 0 107	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	1.000			1/1	BHRCOM
IRON, TOTAL (AS FE)	SAMPLE MEASUREMENT	********	********		********	********		MG/L			
01045 1 0 0 107	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	1.000			1/1	BHRCOM

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
Masoud Bajestani Site Vice President	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINES AND IMPRISONMENT. SEE 18 U.S.C. 1001 AND 33 U.S.C. 1319. (Penalties under these statutes may include fines up to $10,000 and or	Laura J. Bodine Environmental Supervisor	423	843-6700	98	10	09
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS *Reference all attachments here*

The metal cleaning waste ponds were not released during September, 1998. No phosphate bearing chemical were utilized.

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if differ*

Name TVA-SEQUOYAH NUCLEAR PLANT
Address P.O. BOX 2000
(INTEROFFICE SB 2A)
SODDY-DAISY, TN 37379
Facility TVA-SEQUOYAH NUCLEAR PLANT
Location HAMILTON COUNTY

ATTN: DEBBIE BODINE, ENV. MGR.

NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM *(NPDES)*
DISCHARGE MONITORING REPORT *(DMR)*

TN0026450	110 G	*Recycled Cooling Water*
PERMIT NUMBER	DISCHARGE NO.	

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
From:	98	09	01	To:	98	09	30

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
TEMPERATURE, WATER DEG. CENTIGRADE	SAMPLE MEASUREMENT	********	********		********	********					
00010 1 0 0 110	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	38.336	DEG-C		1/1	M-GRAB
PH	SAMPLE MEASUREMENT	********	********			********					
00400 1 0 0 110	PERMIT REQUIREMENT	NONE	NONE		6.0	NONE	9.000	PH UNIT		1/7	GRAB
CHLORINE, TOTAL RESIDUAL	SAMPLE MEASUREMENT	********	********		********	********					
50060 1 0 0 110	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	.100	MG/L		1/7	M-GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
Masoud Bajestani Site Vice President	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINES AND IMPRISONMENT. SEE 18 U.S.C. 1001 AND 33 U.S.C. 1319. (Penalties under these statutes may include fines up to $10,000 and or	Debra J. Bodine Environmental Supervisor	423	843-6700	98	10	09
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS *Reference all attachments here*

No flow.

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location If differ*

Name TVA-SEQUOYAH NUCLEAR PLANT
Address P.O. BOX 2000
(INTEROFFICE SB 2A)
SODDY-DAISY, TN 37379
Facility TVA-SEQUOYAH NUCLEAR PLANT
Location HAMILTON COUNTY

ATTN: DEBBIE BODINE, ENV. MGR.

NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM *(NPDES)*
DISCHARGE MONITORING REPORT *(DMR)*

TN0026450	112 G	*Sewage Treatment Plant*
PERMIT NUMBER	DISCHARGE NO.	

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
From:	98	09	01	To:	98	09	30

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
BOD, 5-DAY (20 DEG. C)	SAMPLE MEASUREMENT	********	********		********						
00310 1 0 0	PERMIT REQUIREMENT	NONE	NONE	LBS/DA	NONE	30.000	45.000	MG/L		2/30	GRAB
112											
SOLIDS, TOTAL SUSPENDED	SAMPLE MEASUREMENT	********	********		********						
00530 1 0 0	PERMIT REQUIREMENT	NONE	NONE	LBS/DA	NONE	30.000	45.000	MG/L		2/30	GRAB
112											
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	SAMPLE MEASUREMENT				********	********	********				
50050 1 0 0	PERMIT REQUIREMENT	NONE	NONE	MGD	NONE	NONE	NONE			CONT	RECRDR
112											
SOLIDS, SETTLEABLE	SAMPLE MEASUREMENT	********	********		********	********					
00545 1 0 0	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	1.000	ML/L		2/7	GRAB
112											
COLIFORM, FECAL	SAMPLE MEASUREMENT	********	********		********						
31616 1 0 0	PERMIT REQUIREMENT	NONE	NONE		NONE	200.00	1000.000	N/100 M		2/30	GRAB
112											
CHLORINE, TOTAL RESIDUAL	SAMPLE MEASUREMENT	********	********		********	********					
50060 1 0 0	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	2.000	MG/L		5/7	GRAB
112											
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
Masoud Bajestani Site Vice President	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINES AND IMPRISONMENT. SEE 18 U.S.C. 1001 AND 33 U.S.C. 1319. (Penalties under these statutes may include fines up to $10,000 and or	Debra J. Bodine Environmental Supervisor SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	423	843-6700	98	10	09
TYPED OR PRINTED		AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS *Reference all attachments here*

Sewage flow has been diverted from this system since January, 1998. DSN-112 is now in stand-by status.

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if differ*

Name TVA-SEQUOYAH NUCLEAR PLANT
Address P.O. BOX 2000
(INTEROFFICE SB 2A)
SODDY-DAISY, TN 37379
Facility TVA-SEQUOYAH NUCLEAR PLANT
Location HAMILTON COUNTY

ATTN: DEBBIE BODINE, ENV. MGR.

NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM *(NPDES)*

DISCHARGE MONITORING REPORT *(DMR)*

TN0026450	118 G	*Wastewater & Storm Water*
PERMIT NUMBER	DISCHARGE NO.	

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
From:	98	09	01	To:	98	09	30

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	SAMPLE MEASUREMENT			MGD	********	********	********				
50050 1 0 0 118	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	NONE			1/BAT	CALC
OXYGEN, DISSOLVED (DO)	SAMPLE MEASUREMENT	********	********			********	********	MG/L			
00300 1 0 0 118	PERMIT REQUIREMENT	NONE	NONE		2.000	NONE	NONE			2/7	GRAB
SOLIDS, TOTAL SUSPENDED	SAMPLE MEASUREMENT	********	********		********	********					
00530 1 0 0 118	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	100.000	MG/L		2/7	GRAB
SOLIDS, SETTLEABLE	SAMPLE MEASUREMENT	********	********		********	********					
00545 1 0 0 118	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	1.000	ML/L		1/30	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
Masoud Bajestani Site Vice President	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINES AND IMPRISONMENT. SEE 18 U.S.C. 1001 AND 33 U.S.C. 1319. (Penalties under these statutes may include fines up to $10,000 and or	Debra J. Bodine Environmental Supervisor	423	843-6700	98	10	09
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS *Reference all attachments here*

During the reporting period, there has been no flow from the Dredge Pond other than that resulting from rainfall.

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if differ*

Name TVA-SEQUOYAH NUCLEAR PLANT
Address P.O. BOX 2000
(INTEROFFICE SB 2A)
SODDY-DAISY, TN 37379
Facility TVA-SEQUOYAH NUCLEAR PLANT
Location HAMILTON COUNTY

ATTN: DEBBIE BODINE, ENV. MGR.

NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM *(NPDES)*
DISCHARGE MONITORING REPORT *(DMR)*

TN0026450	101 G	*Diffuser Discharge*
PERMIT NUMBER	DISCHARGE NO.	

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
From:	98	08	01	To:	98	08	31

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	SAMPLE MEASUREMENT	********	1658	MGD	********	********	********		0	31 / 31	RCORDR
50050 1 0 0 101	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	NONE			CONT	RCORDR
TEMPERATURE, WATER DEG. CENTIGRADE	SAMPLE MEASUREMENT	********	********		********	********	42.722		0	31 / 31	RCORDR
00010 1 0 0 101	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	NONE	DEG-C		CONT	RCORDR
DELTA TEMPERATURE - C	SAMPLE MEASUREMENT	********	********		********	********	2.556		0	31 / 31	CALC
00016 1 0 0 101	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	3.0	DEG-C		CONT	CALC
PH	SAMPLE MEASUREMENT	********	********		7.75	********	7.99		0	9 / 31	GRAB
00400 1 0 0 101	PERMIT REQUIREMENT	NONE	NONE		6.0	NONE	9.0	PH UNIT		1/7	GRAB
SOLIDS, TOTAL SUSPENDED	SAMPLE MEASUREMENT	********	********		********	3.5	5		0	4 / 31	GRAB
00530 1 0 0 101	PERMIT REQUIREMENT	NONE	NONE		NONE	30.000	100.000	MG/L		1/7	GRAB
OIL & GREASE FREON EXTR-GRAV METH	SAMPLE MEASUREMENT	********	********		********	<5.0	<5.0		0	4 / 31	GRAB
00556 1 0 0 101	PERMIT REQUIREMENT	NONE	NONE		NONE	15.000	20.000	MG/L		1/7	GRAB
CHLORINE, TOTAL RESIDUAL	SAMPLE MEASUREMENT	********	********		********	********	0.012		0	54 / 31	GRAB
50060 1 0 0 101	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	.058	MG/L		5/7	CALC

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
Masoud Bajestani Site Vice President	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINES AND IMPRISONMENT. SEE 18 U.S.C. 1001 AND 33 U.S.C. 1319. (Penalties under these statutes may include fines up to $10,000 and or	Laura J. Bodine Environmental Supervisor	423	843-6700	98	09	16
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS *Reference all attachments here*

There was no closed mode operation in August, 1998. Injection of the phosphate-copolymer blend, PCL-222, into both trains of the ERCW system was begun on 8/31/98. Calculated concentration of phosphate (limit = or < 0.100 mg/L) was 0.008 mg/L.

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if differ*

Name TVA-SEQUOYAH NUCLEAR PLANT
Address P.O. BOX 2000
(INTEROFFICE SB 2A)
SODDY-DAISY, TN 37379
Facility TVA-SEQUOYAH NUCLEAR PLANT
Location HAMILTON COUNTY

ATTN: DEBBIE BODINE, ENV. MGR.

NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM *(NPDES)*
DISCHARGE MONITORING REPORT *(DMR)*

TN0026450	101 G	*Diffuser Discharge*
PERMIT NUMBER	DISCHARGE NO.	

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
From:	98	08	01	To:	98	08	31

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	SAMPLE MEASUREMENT	********	1658	MGD	********	********	********		0	31 / 31	RCORDR
50050 1 0 0 101	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	NONE			CONT	RCORDR
TEMPERATURE, WATER DEG. CENTIGRADE	SAMPLE MEASUREMENT	********	********		********	********	42.722		0	31 / 31	RCORDR
00010 1 0 0 101	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	NONE	DEG-C		CONT	RCORDR
DELTA TEMPERATURE - C	SAMPLE MEASUREMENT	********	********		********	********	2.556		0	31 / 31	CALC
00016 1 0 0 101	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	3.0	DEG-C		CONT	CALC
PH	SAMPLE MEASUREMENT	********	********		7.75	********	7.99		0	9 / 31	GRAB
00400 1 0 0 101	PERMIT REQUIREMENT	NONE	NONE		6.0	NONE	9.0	PH UNIT		1/7	GRAB
SOLIDS, TOTAL SUSPENDED	SAMPLE MEASUREMENT	********	********		********	3.5	5		0	4 / 31	GRAB
00530 1 0 0 101	PERMIT REQUIREMENT	NONE	NONE		NONE	30.000	100.000	MG/L		1/7	GRAB
OIL & GREASE FREON EXTR-GRAV METH	SAMPLE MEASUREMENT	********	********		********	<5.0	<5.0		0	4 / 31	GRAB
00556 1 0 0 101	PERMIT REQUIREMENT	NONE	NONE		NONE	15.000	20.000	MG/L		1/7	GRAB
CHLORINE, TOTAL RESIDUAL	SAMPLE MEASUREMENT	********	********		********	********	0.012		0	54 / 31	GRAB
50060 1 0 0 101	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	.058	MG/L		5/7	CALC

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
Masoud Bajestani Site Vice President	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINES AND IMPRISONMENT. SEE 18 U.S.C. 1001 AND 33 U.S.C. 1319. (Penalties under these statutes may include fines up to $10,000 and or	Debra J. Bodine Environmental Supervisor	423	843-6700	98	10	09
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS *Reference all attachments here*

There was no closed mode operation in August, 1998. Injection of the phosphate-copolymer blend, PCL-222, into both trains of the ERCW system was begun on 8/31/98. Calculated concentration of phosphate (limit = or < 0.100 mg/L) was 0.007 mg/L.

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if differ*

Name TVA-SEQUOYAH NUCLEAR PLANT
Address P.O. BOX 2000
(INTEROFFICE SB 2A)
SODDY-DAISY, TN 37379
Facility TVA-SEQUOYAH NUCLEAR PLANT
Location HAMILTON COUNTY

ATTN: DEBBIE BODINE, ENV. MGR.

NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM *(NPDES)*
DISCHARGE MONITORING REPORT *(DMR)*

TN0026450	101 G	*Diffuser Discharge*
PERMIT NUMBER	DISCHARGE NO.	

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
From:	98	08	01	To:	98	08	31

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
TEMPERATURE - C, RATE OF CHANGE	SAMPLE MEASUREMENT				********	********	1.056		0	31 / 31	CALC
82234 1 · 0 0	PERMIT REQUIREMENT	NONE	NONE		********	********	2.0	DEG. C		CONT	CALC
101											
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
BORON, TOTAL	SAMPLE MEASUREMENT				<0.2	<0.2	<0.200		0	1 / 31	GRAB
01022 1 0 0	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	NONE	MG/L		1/30	GRAB
101											
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

Masoud Bajestani

Site Vice President

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINES AND IMPRISONMENT. SEE 18 U.S.C. 1001 AND 33 U.S.C. 1319. (Penalties under these statutes may include fines up to $10,000 and or

Debra J. Bordine
Environmental Supervisor

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE		DATE		
423	843-6700	98	09	14
AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS *Reference all attachments here*

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if differ*

Name TVA-SEQUOYAH NUCLEAR PLANT
Address P.O. BOX 2000
(INTEROFFICE SB 2A)
SODDY-DAISY, TN 37379
Facility TVA-SEQUOYAH NUCLEAR PLANT
Location HAMILTON COUNTY

ATTN: DEBBIE BODINE, ENV. MGR.

NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM *(NPDES)*
DISCHARGE MONITORING REPORT *(DMR)*

TN0026450	103 G	*Low Vol. Waste Treatment Pond*
PERMIT NUMBER	DISCHARGE NO.	

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
From:	98	08	01	To:	98	08	31

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
OIL & GREASE FREON EXTR-GRAV METH	SAMPLE MEASUREMENT	<35.7	<53.9		********	<5.0	<5.0		0	4 / 31	GRAB
00556 1 0 0 103	PERMIT REQUIREMENT	190.000	250.000	LBS/DAY	NONE	15.000	20.000	MG/L		1/7	GRAB
SOLIDS, TOTAL SUSPENDED	SAMPLE MEASUREMENT	55	178.58		********	7.25	21		0	4 / 31	GRAB
00530 1 0 0 103	PERMIT REQUIREMENT	380.000	1250.000	LBS/DAY	NONE	30	100	MG/L		1/7	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	SAMPLE MEASUREMENT	0.851	1.642		********	********	********		0	31 / 31	RECRDR
50050 1 0 0 103	PERMIT REQUIREMENT	NONE	NONE	MGD	NONE	NONE	NONE			1/1	RECRDR
PH	SAMPLE MEASUREMENT				7.53	********	8.37		0	11 / 31	GRAB
00400 1 0 0 103	PERMIT REQUIREMENT	NONE	NONE		6.0	NONE	9.0	PH UNIT		3/7	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
Masoud Bajestani Site Vice President	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINES AND IMPRISONMENT. SEE 18 U.S.C. 1001 AND 33 U.S.C. 1319. (Penalties under these statutes may include fines up to $10,000 and or	Environmental Supervisor	423	843-6700	98	09	14
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS *Reference all attachments here*

No comments.

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if differ*

Name TVA-SEQUOYAH NUCLEAR PLANT
Address P.O. BOX 2000
(INTEROFFICE SB 2A)
SODDY-DAISY, TN 37379
Facility TVA-SEQUOYAH NUCLEAR PLANT
Location HAMILTON COUNTY

ATTN: DEBBIE BODINE, ENV. MGR.

NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM *(NPDES)*
DISCHARGE MONITORING REPORT *(DMR)*

TN0026450	107 G	*Metal Cleaning Waste Pond*
PERMIT NUMBER	DISCHARGE NO.	

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
From:	98	08	01	To:	98	08	31

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	SAMPLE MEASUREMENT			MGD	********	********	********				
50050 1 0 0 107	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	NONE			1/1	CALC
PH	SAMPLE MEASUREMENT	********	********			********		PH UNIT			
00400 1 0 0 107	PERMIT REQUIREMENT	NONE	NONE		6.0	NONE	9.0			1/1	GRAB
SOLIDS, TOTAL SUSPENDED	SAMPLE MEASUREMENT	********	********		********	********		MG/L			
00530 1 0 0 107	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	30.000			1/1	8HRCOM
OIL & GREASE FREON EXTR-GRAV METH	SAMPLE MEASUREMENT	********	********		********	********		MG/L			
00556 1 0 0 107	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	15.000			1/1	GRAB
PHOSPHORUS, TOTAL (AS P)	SAMPLE MEASUREMENT	********	********		********	********		MG/L			
00665 1 0 0 107	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	1.000			1/1	8HRCOM
COPPER, TOTAL (AS CU)	SAMPLE MEASUREMENT	********	********		********	********		MG/L			
01042 0 0 107	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	1.000			1/1	8HRCOM
IRON, TOTAL (AS FE)	SAMPLE MEASUREMENT	********	********		********	********		MG/L			
01045 1 0 0 107	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	1.000			1/1	8HRCOM

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
Masoud Bajestani Site Vice President	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINES AND IMPRISONMENT. SEE 18 U.S.C. 1001 AND 33 U.S.C. 1319. (Penalties under these statutes may include fines up to $10,000 and or	Environmental Supervisor	423	843-6700	98	09	14
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS *Reference all attachments here*

The metal cleaning waste ponds were not released in August, 1998. No phosphate bearing chemicals have been utilized.

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if differ*

Name TVA-SEQUOYAH NUCLEAR PLANT
Address P.O. BOX 2000
(INTEROFFICE SB 2A)
SODDY-DAISY, TN 37379
Facility TVA-SEQUOYAH NUCLEAR PLANT
Location HAMILTON COUNTY

ATTN: C BBIE BODINE, ENV. MGR.

NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM *(NPDES)*
DISCHARGE MONITORING REPORT *(DMR)*

TN0026450	110 G	*Recycled Cooling Water*
PERMIT NUMBER	DISCHARGE NO.	

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
From:	98	08	01	To:	98	08	31

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
TEMPERATURE, WATER DEG. CENTIGRADE	SAMPLE MEASUREMENT	********	********		********	********					
00010 1 0 0 110	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	38.336	DEG-C		1/1	M-GRAB
PH	SAMPLE MEASUREMENT	********	********			********					
00400 1 0 0 110	PERMIT REQUIREMENT	NONE	NONE		6.0	NONE	9.000	PH UNIT		1/7	GRAB
CHLORINE, TOTAL RESIDUAL	SAMPLE MEASUREMENT	********	********		********	********					
50060 1 0 0 110	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	.100	MG/L		1/7	M-GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
Masoud Bajestani Site Vice President	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINES AND IMPRISONMENT. SEE 18 U.S.C. 1001 AND 33 U.S.C. 1319. (Penalties under these statutes may include fines up to $10,000 and or	Debra J. Bodine Environmental Supervisor	423	843-6700	98	09	14
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS *Reference all attachments here*

No flow.

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if differ*

Name TVA-SEQUOYAH NUCLEAR PLANT
Address P.O. BOX 2000
(INTEROFFICE SB 2A)
SODDY-DAISY, TN 37379
Facility TVA-SEQUOYAH NUCLEAR PLANT
Location HAMILTON COUNTY

ATTN: DEBBIE BODINE, ENV. MGR.

NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM *(NPDES)*
DISCHARGE MONITORING REPORT *(DMR)*

TN0026450	112 G	*Sewage Treatment Plant*
PERMIT NUMBER	DISCHARGE NO.	

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
From:	98	08	01	To:	98	08	31

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
BOD, 5-DAY (20 DEG. C)	SAMPLE MEASUREMENT	********	********		********						
00310 1 . 0 0 112	PERMIT REQUIREMENT	NONE	NONE	LBS/DA	NONE	30.000	45.000	MG/L		2/30	GRAB
SOLIDS, TOTAL SUSPENDED	SAMPLE MEASUREMENT	********	********		********						
00530 1 0 0 112	PERMIT REQUIREMENT	NONE	NONE	LBS/DA	NONE	30.000	45.000	MG/L		2/30	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	SAMPLE MEASUREMENT				********	********	********				
50050 1 0 0 112	PERMIT REQUIREMENT	NONE	NONE	MGD	NONE	NONE	NONE			CONT	RECRDR
SOLIDS, SETTLEABLE	SAMPLE MEASUREMENT	********	********		********	********					
00545 1 0 0 112	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	1.000	ML/L		2/7	GRAB
COLIFORM, FECAL	SAMPLE MEASUREMENT	********	********		********						
31616 1 0 0 112	PERMIT REQUIREMENT	NONE	NONE		NONE	200.00	1000.000	N/100 M		2/30	GRAB
CHLORINE, TOTAL RESIDUAL	SAMPLE MEASUREMENT	********	********		********	********					
50060 1 0 0 112	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	2.000	MG/L		5/7	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
Masoud Bajestani Site Vice President	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINES AND IMPRISONMENT. SEE 18 U.S.C. 1001 AND 33 U.S.C. 1319. (Penalties under these statutes may include fines up to $10,000 and or	Debra J. Bodine Environmental Supervisor	423	843-6700	98	09	14
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS *Reference all attachments here*

Sewage has been diverted from this system since January, 1998. DSN-112 is maintained in Stand-by status. There is no flow through the system.

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if differ*

Name TVA-SEQUOYAH NUCLEAR PLANT
Address P.O. BOX 2000
(INTEROFFICE SB 2A)
SODDY-DAISY, TN 37379
Facility TVA-SEQUOYAH NUCLEAR PLANT
Location HAMILTON COUNTY

ATTN: DEBBIE BODINE, ENV. MGR.

NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM *(NPDES)*

DISCHARGE MONITORING REPORT *(DMR)*

TN0026450	118 G	*Wastewater & Storm Water*
PERMIT NUMBER	DISCHARGE NO.	

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
From:	98	08	01	To:	98	08	31

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	SAMPLE MEASUREMENT			MGD	********	********	********				
50050 1 0 0 118	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	NONE			1/BAT	CALC
OXYGEN, DISSOLVED (DO)	SAMPLE MEASUREMENT	********	********			********	********				
00300 1 0 0 118	PERMIT REQUIREMENT	NONE	NONE		2.000	NONE	NONE	MG/L		2/7	GRAB
SOLIDS, TOTAL SUSPENDED	SAMPLE MEASUREMENT	********	********		********	********					
00530 1 0 0 118	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	100.000	MG/L		2/7	GRAB
SOLIDS, SETTLEABLE	SAMPLE MEASUREMENT	********	********		********	********					
00545 1 0 0 118	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	1.000	ML/L		1/30	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
Masoud Bajestani Site Vice President	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINES AND IMPRISONMENT. SEE 18 U.S.C. 1001 AND 33 U.S.C. 1319. (Penalties under these statutes may include fines up to $10,000 and or	Debra J. Bodine Environmental Supervisor	423	843-6700	98	09	14
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS *Reference all attachments here*

During the reporting period, there has been no flow from the Dredge Pond (DSN-118) other than that resulting from rainfall.

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if differ*

Name TVA-SEQUOYAH NUCLEAR PLANT
Address P.O. BOX 2000
(INTEROFFICE SB 2A)
SODDY-DAISY, TN 37379
Facility TVA-SEQUOYAH NUCLEAR PLANT
Location HAMILTON COUNTY

ATTN: DEBBIE BODINE, ENV. MGR.

NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM *(NPDES)*
DISCHARGE MONITORING REPORT *(DMR)*

TN0026450	101 G	*Diffuser Discharge*
PERMIT NUMBER	DISCHARGE NO.	

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
From:	98	07	01	To:	98	07	31

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	SAMPLE MEASUREMENT	********	1707	MGD	********	********	********		0	31 / 31	RCORDR
50050 1 0 0 101	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	NONE			CONT	RCORDR
TEMPERATURE, WATER DEG. CENTIGRADE	SAMPLE MEASUREMENT	********	********		********	********	42.722		0	31 / 31	RCORDR
00010 1 0 0 101	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	NONE	DEG-C		CONT	RCORDR
DELTA TEMPERATURE - C	SAMPLE MEASUREMENT	********	********		********	********	2.389		0	31 / 31	CALC
00016 1 0 0 101	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	3.0	DEG-C		CONT	CALC
PH	SAMPLE MEASUREMENT	********	********		7.24	********	7.78		0	10 / 31	GRAB
00400 1 0 0 101	PERMIT REQUIREMENT	NONE	NONE		6.0	NONE	9.0	PH UNIT		1/7	GRAB
SOLIDS, TOTAL SUSPENDED	SAMPLE MEASUREMENT	********	********		********	3.7	5		0	5 / 31	GRAB
00530 1 0 0 101	PERMIT REQUIREMENT	NONE	NONE		NONE	30.000	100.000	MG/L		1/7	GRAB
OIL & GREASE FREON EXTR-GRAV METH	SAMPLE MEASUREMENT	********	********		********	<5.0	<5.0		0	6 / 31	GRAB
00556 1 0 0 101	PERMIT REQUIREMENT	NONE	NONE		NONE	15.000	20.000	MG/L		1/7	GRAB
CHLORINE, TOTAL RESIDUAL	SAMPLE MEASUREMENT	********	********		********	********	0.011		0	56 / 31	GRAB
50060 1 0 0 101	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	.058	MG/L		5/7	CALC

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
Masoud Bajestani Site Vice President	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINES AND IMPRISONMENT. SEE 18 U.S.C. 1001 AND 33 U.S.C. 1319. (Penalties under these statutes may include fines up to $10,000 and or	Dudley L. Bodine Environmental Supervisor	423	843-6700	98	08	12
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS *Reference all attachments here*

There was no closed mode operation in July, 1998. The Diffuser Gate, DSN-101, was sampled for PCBs on 7/22/98. Sample result was < 0.05 micrograms per Liter.

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if differ*

Name TVA-SEQUOYAH NUCLEAR PLANT
Address P.O. BOX 2000
(INTEROFFICE SB 2A)
SODDY-DAISY, TN 37379
Facility TVA-SEQUOYAH NUCLEAR PLANT
Location HAMILTON COUNTY

ATTN: DEBBIE BODINE, ENV. MGR.

NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM *(NPDES)*
DISCHARGE MONITORING REPORT *(DMR)*

TN0026450	101 G	*Diffuser Discharge*
PERMIT NUMBER	DISCHARGE NO.	

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
From:	98	07	01	To:	98	07	31

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	SAMPLE MEASUREMENT	********	1707	MGD	********	********	********		0	31 / 31	RCORDR
50050 1 0 0 101	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	NONE			CONT	RCORDR
TEMPERATURE, WATER DEG. CENTIGRADE	SAMPLE MEASUREMENT	********	********		********	********	42.722		0	31 / 31	RCORDR
00010 1 0 0 101	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	NONE	DEG-C		CONT	RCORDR
DELTA TEMPERATURE - C	SAMPLE MEASUREMENT	********	********		********	********	2.389		0	31 / 31	CALC
00016 1 0 0 101	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	3.0	DEG-C		CONT	CALC
PH	SAMPLE MEASUREMENT	********	********		7.24	********	7.78		0	10 / 31	GRAB
00400 1 0 0 101	PERMIT REQUIREMENT	NONE	NONE		6.0	NONE	9.0	PH UNIT		1/7	GRAB
SOLIDS, TOTAL SUSPENDED	SAMPLE MEASUREMENT	********	********		********	3.7	5		0	5 / 31	GRAB
00530 1 0 0 101	PERMIT REQUIREMENT	NONE	NONE		NONE	30.000	100.000	MG/L		1/7	GRAB
OIL & GREASE FREON EXTR-GRAV METH	SAMPLE MEASUREMENT	********	********		********	<5.0	<5.0		0	6 / 31	GRAB
00556 1 0 0 101	PERMIT REQUIREMENT	NONE	NONE		NONE	15.000	20.000	MG/L		1/7	GRAB
CHLORINE, TOTAL RESIDUAL	SAMPLE MEASUREMENT	********	********		********	********	0.011		0	56 / 31	GRAB
50060 1 0 0 101	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	.058	MG/L		5/7	CALC

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
Masoud Bajestani Site Vice President	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINES AND IMPRISONMENT. SEE 18 U.S.C. 1001 AND 33 U.S.C. 1319. (Penalties under these statutes may include fines up to $10,000 and or	Debra J. Bodine Environmental Supervisor	423	843-6700	98	10	09
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS *Reference all attachments here*

There was no closed mode operation in July, 1998. The Diffuser Gate, DSN-101, was sampled for PCBs on 7/22/98. Sample result was < 0.05 micrograms per Liter. H-130M (quaternary amine) was injected into the ERCW at a daily maximum concentration of 0.029 mg/L.

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if differ*

Name TVA-SEQUOYAH NUCLEAR PLANT
Address P.O. BOX 2000
(INTEROFFICE SB 2A)
SODDY-DAISY, TN 37379
Facility TVA-SEQUOYAH NUCLEAR PLANT
Location HAMILTON COUNTY

ATTN: DEBBIE BODINE, ENV. MGR.

NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM *(NPDES)*

DISCHARGE MONITORING REPORT *(DMR)*

TN0026450	101 G	*Diffuser Discharge*
PERMIT NUMBER	DISCHARGE NO.	

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
From:	98	07	01	To:	98	07	31

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
TEMPERATURE - C, RATE OF CHANGE	SAMPLE MEASUREMENT				********	********	0.944		0	31 / 31	CALC
82234 r - 0 0 101	PERMIT REQUIREMENT	NONE	NONE		********	********	2.0	DEG. C		CONT	CALC
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
BORON, TOTAL	SAMPLE MEASUREMENT				<0.2	<0.2	<0.200		0	1 / 31	GRAB
01022 1 0 0 101	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	NONE	MG/L		1/30	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
Masoud Bajestani Site Vice President	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINES AND IMPRISONMENT. SEE 18 U.S.C. 1001 AND 33 U.S.C. 1319. (Penalties under these statutes may include fines up to $10,000 and or	Environmental Supervisor SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	423	843-6700	98	08	12
TYPED OR PRINTED		AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS *Reference all attachments here*

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if differ*

Name TVA-SEQUOYAH NUCLEAR PLANT
Address P.O. BOX 2000
(INTEROFFICE SB 2A)
SODDY-DAISY, TN 37379
Facility TVA-SEQUOYAH NUCLEAR PLANT
Location HAMILTON COUNTY

ATTN: DEBBIE BODINE, ENV. MGR.

NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM *(NPDES)*
DISCHARGE MONITORING REPORT *(DMR)*

TN0026450	103 G	*Low Vol. Waste Treatment Pond*
PERMIT NUMBER	DISCHARGE NO.	

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
From:	98	07	01	To:	98	07	31

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
OIL & GREASE FREON EXTR-GRAV METH	SAMPLE MEASUREMENT	<41.3	<48.9		********	<5.0	<5.0		0	5 / 31	GRAB
00556 1 0 0 103	PERMIT REQUIREMENT	190.000	250.000	LBS/DAY	NONE	15.000	20.000	MG/L		1/7	GRAB
SOLIDS, TOTAL SUSPENDED	SAMPLE MEASUREMENT	51	97.81		********	6	10		0	5 / 31	GRAB
00530 1 0 0 103	PERMIT REQUIREMENT	380.000	1250.000	LBS/DAY	NONE	30	100	MG/L		1/7	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	SAMPLE MEASUREMENT	0.943	1.645		*****	********	********		0	31 / 31	RECRDR
50050 1 0 0 103	PERMIT REQUIREMENT	NONE	NONE	MGD	NONE	NONE	NONE			1/1	RECRDR
PH	SAMPLE MEASUREMENT				7.11	********	8.42		0	13 / 31	GRAB
00400 1 0 0 103	PERMIT REQUIREMENT	NONE	NONE		6.0	NONE	9.0	PH UNIT		3/7	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
Masoud Bajestani Site Vice President	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINES AND IMPRISONMENT. SEE 18 U.S.C. 1001 AND 33 U.S.C. 1319. (Penalties under these statutes may include fines up to $10,000 and or	Environmental Supervisor	423	843-6700	98	08	12
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS *Reference all attachments here*

No comments.

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if differ*

Name TVA-SEQUOYAH NUCLEAR PLANT
Address P.O. BOX 2000
(INTEROFFICE SB 2A)
SODDY-DAISY, TN 37379
Facility TVA-SEQUOYAH NUCLEAR PLANT
Location HAMILTON COUNTY

ATTN: DEBBIE BODINE, ENV. MGR.

NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM *(NPDES)*

DISCHARGE MONITORING REPORT *(DMR)*

TN0026450	107 G	*Metal Cleaning Waste Pond*
PERMIT NUMBER	DISCHARGE NO.	

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
From:	98	07	01	To:	98	07	31

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	SAMPLE MEASUREMENT			MGD	********	********	********				
50050 1 . 0 0 107	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	NONE			1/1	CALC
PH	SAMPLE MEASUREMENT	********	********			********					
00400 1 0 0 107	PERMIT REQUIREMENT	NONE	NONE		6.0	NONE	9.0	PH UNIT		1/1	GRAB
SOLIDS, TOTAL SUSPENDED	SAMPLE MEASUREMENT	********	********		********	********					
00530 1 0 0 107	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	30.000	MG/L		1/1	8HRCOM
OIL & GREASE FREON EXTR-GRAV METH	SAMPLE MEASUREMENT	********	********		********	********					
00556 1 0 0 107	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	15.000	MG/L		1/1	GRAB
PHOSPHORUS, TOTAL (AS P)	SAMPLE MEASUREMENT	********	********		********	********					
00665 1 0 0 107	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	1.000	MG/L		1/1	8HRCOM
COPPER, TOTAL (AS CU)	SAMPLE MEASUREMENT	********	********		********	********					
01042 1 0 0 107	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	1.000	MG/L		1/1	8HRCOM
IRON, TOTAL (AS FE)	SAMPLE MEASUREMENT	********	********		********	********					
01045 1 0 0 107	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	1.000	MG/L		1/1	8HRCOM

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
Masoud Bajestani Site Vice President	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINES AND IMPRISONMENT. SEE 18 U.S.C. 1001 AND 33 U.S.C. 1319. (Penalties under these statutes may include fines up to $10,000 and or	Environmental Supervisor	423	843-6700	98	08	12
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS *Reference all attachments here*

The metal cleaning waste ponds were not released during July, 1998. No phosphate bearing chemicals have been utilized.

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if differ*

Name TVA-SEQUOYAH NUCLEAR PLANT
Address P.O. BOX 2000
(INTEROFFICE SB 2A)
SODDY-DAISY, TN 37379
Facility TVA-SEQUOYAH NUCLEAR PLANT
Location HAMILTON COUNTY

ATTN: DEBBIE BODINE, ENV. MGR.

NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM *(NPDES)*
DISCHARGE MONITORING REPORT *(DMR)*

TN0026450	110 G	*Recycled Cooling Water*
PERMIT NUMBER	DISCHARGE NO.	

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
From:	98	07	01	To:	98	07	31

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
TEMPERATURE, WATER DEG. CENTIGRADE	SAMPLE MEASUREMENT	********	********		********	********					
00010 T * 0 0 110	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	38.336	DEG-C		1/1	M-GRAB
PH	SAMPLE MEASUREMENT	********	********			********					
00400 1 0 0 110	PERMIT REQUIREMENT	NONE	NONE		6.0	NONE	9.000	PH UNIT		1/7	GRAB
CHLORINE, TOTAL RESIDUAL	SAMPLE MEASUREMENT	********	********		********	********					
50060 1 0 0 110	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	.100	MG/L		1/7	M-GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
Masoud Bajestani Site Vice President	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINES AND IMPRISONMENT. SEE 18 U.S.C. 1001 AND 33 U.S.C. 1319. (Penalties under these statutes may include fines up to $10,000 and or	Dudley J. Bodine Environmental Supervisor	423	843-6700	98	08	12
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS *Reference all attachments here*

No flow.

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if differ*

Name TVA-SEQUOYAH NUCLEAR PLANT
Address P.O. BOX 2000
(INTEROFFICE SB 2A)
SODDY-DAISY, TN 37379
Facility TVA-SEQUOYAH NUCLEAR PLANT
Location HAMILTON COUNTY

ATTN: DEBBIE BODINE, ENV. MGR.

NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM *(NPDES)*
DISCHARGE MONITORING REPORT *(DMR)*

TN0026450	112 G	*Sewage Treatment Plant*
PERMIT NUMBER	DISCHARGE NO.	

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
From:	98	07	01	To:	98	07	31

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
BOD, 5-DAY (20 DEG. C)	SAMPLE MEASUREMENT	********	********		********						
00310 T · 0 0 112	PERMIT REQUIREMENT	NONE	NONE	LBS/DA	NONE	30.000	45.000	MG/L		2/30	GRAB
SOLIDS, TOTAL SUSPENDED	SAMPLE MEASUREMENT	********	********		********						
00530 1 0 0 112	PERMIT REQUIREMENT	NONE	NONE	LBS/DA	NONE	30.000	45.000	MG/L		2/30	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	SAMPLE MEASUREMENT				********	********	********				
50050 1 0 0 112	PERMIT REQUIREMENT	NONE	NONE	MGD	NONE	NONE	NONE			CONT	RECRDR
SOLIDS, SETTLEABLE	SAMPLE MEASUREMENT	********	********		********	********					
00545 1 0 0 112	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	1.000	ML/L		2/7	GRAB
COLIFORM, FECAL	SAMPLE MEASUREMENT	********	********		********						
31616 1 0 0 112	PERMIT REQUIREMENT	NONE	NONE		NONE	200.00	1000.000	N/100 M		2/30	GRAB
CHLORINE, TOTAL RESIDUAL	SAMPLE MEASUREMENT	********	********		********	********					
50060 1 0 0 112	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	2.000	MG/L		5/7	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
Masoud Bajestani Site Vice President	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINES AND IMPRISONMENT. SEE 18 U.S.C. 1001 AND 33 U.S.C. 1319. (Penalties under these statutes may include fines up to $10,000 and or	Environmental Supervisor	423	843-6700	98	08	12
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS *Reference all attachments here*

Sewage has been diverted from this system since January, 1998. DSN-112 is maintained in stand-by status. There is flow through the system.

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if differ*

Name TVA-SEQUOYAH NUCLEAR PLANT
Address P.O. BOX 2000
(INTEROFFICE SB 2A)
SODDY-DAISY, TN 37379
Facility TVA-SEQUOYAH NUCLEAR PLANT
Location HAMILTON COUNTY

ATTN: DEBBIE BODINE, ENV. MGR.

NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM *(NPDES)*
DISCHARGE MONITORING REPORT *(DMR)*

TN0026450	118 G	*Wastewater & Storm Water*
PERMIT NUMBER	DISCHARGE NO.	

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
From:	98	07	01	To:	98	07	31

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	SAMPLE MEASUREMENT			MGD	********	********	********				
50050 1 0 0 118	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	NONE			1/6AT	CALC
OXYGEN, DISSOLVED (DO)	SAMPLE MEASUREMENT	********	********			********	********				
00300 1 0 0 118	PERMIT REQUIREMENT	NONE	NONE		2.000	NONE	NONE	MG/L		2/7	GRAB
SOLIDS, TOTAL SUSPENDED	SAMPLE MEASUREMENT	********	********		********	********					
00530 1 0 0 118	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	100.000	MG/L		2/7	GRAB
SOLIDS, SETTLEABLE	SAMPLE MEASUREMENT	********	********		********	********					
00545 1 0 0 118	PERMIT REQUIREMENT	NONE	NONE		NONE	NONE	1.000	ML/L		1/30	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
Masoud Bajestani Site Vice President	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION INCLUDING THE POSSIBILITY OF FINES AND IMPRISONMENT. SEE 18 U.S.C. 1001 AND 33 U.S.C. 1319. (Penalties under these statutes may include fines up to $10,000 and or	Debbie J. Bodine Environmental Supervisor	423	843-6700	98	08	12
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS *Reference all attachments here*

During the reporting period, there has been no flow from the Dredge Pond other than that resulting from rainfall.