50-327/328

Tennessee Valley Authority, Post Office Box 2000, Soddy-Daisy, Tennessee 37379-2000

October 10, 2000

State of Tennessee
Department of Environment and Conservation
Division of Water Pollution Control
401 Church Street, 6th Floor Annex
Nashville, Tennessee 37243-1534

Attention: Ms. Evelyn Haskin, Enforcement & Compliance

Dear Ms. Haskin:

TENNESSEE VALLEY AUTHORITY - DISCHARGE MONITORING REPORT HARD COPIES FOR SEQUOYAH NUCLEAR PLANT (SQN)

Please find enclosed the Third Quarter 2000 DMR for SQN.

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

Sincerely,

Diedre Nida
Environmental Supervisor
Sequoyah Nuclear Plant

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

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

IE25

Printed on recycled paper

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

Name TVA - SEQUOYAH NUCLEAR PLANT
Address BOX 2000
(INTEROFFICE SB-2A)
SODDY - DAISY TN 37384
Facility TVA - SEQUOYAH NUCLEAR PLANT
Location HAMILTON COUNTY

ATTN: Diedre B. Nida

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

(2-16) PERMIT NUMBER	(17-19) DISCHARGE NUMBER
TN0026450	101 G

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
From	00	09	01	To	00	09	30
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

MAJOR
(SUBR 01)
F - FINAL
DIFFUSER DISCHARGE
EFFLUENT
*** NO DISCHARGE ☐ ***

Form Approved
OMB No. 2040-0004
Approval expires 05-31-98

NOTE: Read instructions before completing this form

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING AVERAGE (46-53)	MAXIMUM (54-61)	UNITS	(4 Card Only) QUALITY OR CONCENTRATION MINIMUM (38-45)	AVERAGE (46-53)	MAXIMUM (54-61)	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
TEMPERATURE, WATER DEG. CENTIGRADE	SAMPLE MEASUREMENT	********	********	**	********	********	29.9	(04)	0	30 / 30	MODELD
00010 Z 0 0 INSTREAM MONITORING	PERMIT REQUIREMENT	********	********	****	********	********	30.5 DAILY MX	DEG. C.		SEE PERMIT	CK REQ
TEMPERATURE, WATER DEG. CENTIGRADE	SAMPLE MEASUREMENT	********	********	**	********	********	42.2	(04)	0	30 / 30	RCORDR
00010 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	********	REPORT DAILY MX	DEG. C.		SEE PERMIT	CK REQ
PH	SAMPLE MEASUREMENT	********	********	**	7.5	********	7.6	(12)	0	08 / 30	GRAB
00400 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	6.0 MINIMUM	********	9.0 MAXIMUM	SU		WEEKLY	GRAB
SOLIDS, TOTAL SUSPENDED	SAMPLE MEASUREMENT	********	********	**	********	4	6	(19)	0	04 / 30	GRAB
00530 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	30 DAILY MX	100 DAILY MX	MG/L		WEEKLY	GRAB
OIL & GREASE FREON EXTR-GRAV METH	SAMPLE MEASUREMENT	********	********	**	********	<5	<5	(19)	0	04 / 30	GRAB
00556 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	15 DAILY MX	20 DAILY MX	MG/L		WEEKLY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	SAMPLE MEASUREMENT	********	1672	(03)	********	********	********	**	0	30 / 30	RCORDR
50050 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	REPORT DAILY MX	MGD	********	********	********	****		CONTIN UOUS	RCORDR
CHLORINE, TOTAL RESIDUAL	SAMPLE MEASUREMENT	********	********	**	********	********	0.026	(19)	0	58 / 30	GRAB
50060 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	********	0.058 INST MAX	MG/L		WEEK-DAYS	CALCTD

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
Richard T. Purcell 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 FINE 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 maximum imprisonment of between 6 months and 5 years.)	Diedre B. Nida Environmental Supervisor	423	843-6700	00	10	10
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS *(Reference all attachments here)*

No closed mode operation. The following injections occured: 1. PCL-222 phosphate (max. calc. conc. was 0.062mg/L--limit 0.100mg/L) 2. CL-363 (max. calc. conc was 0.007mg/L--limit 0.100mg/L) 3. Cuprostat-PF (max. calc. conc was 0.104mg/L--limit 0.400mg/L) 4. H-130M (max. calc. conc was 0.018mg/L--limit 0.050mg/L) 5. PCL-401/PCL-222 co-polymer (max. calc. conc was 0.021mg/L--limit 0.100mg/L)

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

Name TVA - SEQUOYAH NUCLEAR PLANT
Address BOX 2000
(INTEROFFICE SB-2A)
SODDY - DAISY IN 37384
Facility TVA - SEQUOYAH NUCLEAR PLANT
Location HAMILITON COUNTY

ATTN: Diedre B. Nida

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

(2-16) TN0026450 — PERMIT NUMBER
(17-19) 101 G — DISCHARGE NUMBER

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
From	00	09	01	To	00	09	30
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

MAJOR
(SUBR 01)
F - FINAL
DIFFUSER DISCHARGE
EFFLUENT

*** NO DISCHARGE [ ] ***

Form Approved.
OMB No. 2040-0004
Approval expires 05-31-98

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
TEMPERATURE - C, RATE OF CHANGE	SAMPLE MEASUREMENT	********	********	**	********	********	1.3	(04)	0	30 / 30	CALCTD
82234 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	********	2.0	DEG. C.			CALCTD
DELTA TEMPERATURE - C	SAMPLE MEASUREMENT	********	********	**	********	********	2.6	(04)	0	30 / 30	CALCTD
00016 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	********	3.0	DEG. C.			CALCTD
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
BORON, TOTAL	SAMPLE MEASUREMENT	********	********	**	<0.2	<0.2	<0.2	(19)	0	01 / 30	GRAB
01022 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	REPORT	REPORT	REPORT	MG/L			GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
Richard T. Purcell
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 FINE 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 maximum imprisonment of between 6 months and 5 years.)

Diedre B. Nida
Environmental Supervisor
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE		DATE		
423	843-6700	00	10	10
AREA CODE	NUMBER	YEAR	MO	DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS *(Reference all attachments here)*
CCW analyses are attached.

CCW CHANNEL RESULTS

DATE	DIESEL RANGE ORGANIC (mg/L)	TOTAL WATER HYDROCARBONS (mg/L)	COMMENTS
07/05/00	< 0.1	< 1	
07/19/00	< 0.1	< 1	
08/02/00	< 0.1	2.1	Backup sample sent down for analysis. Original sample became contaminated during anaylsis.
08/02/00	< 0.1	< 1	Backup sample results
08/16/00	< 0.1	< 1	
08/30/00	< 0.1	< 1	
09/13/00	< 0.1	< 1	
09/27/00	< 0.1	< 1	

TRENCH DISCAHRGE EFFLUENT RESULTS

DATE	DIESEL RANGE ORGANIC (mg/L)	TOTAL WATER HYDROCARBONS (mg/L)	COMMENTS
07/05/00	0.33	< 1	
07/19/00	0.45	< 1	
08/02/00	0.44	< 1	
08/16/00	0.44	< 1	
08/30/00	0.30	< 1	
09/13/00	0.40	< 1	
09/27/00	0.43	< 1	

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

Name TVA - SEQUOYAH NUCLEAR PLANT
Address BOX 2000
(INTEROFFICE SB-2A)
SODDY - DAISY IN 37384
Facility TVA - SEQUOYAH NUCLEAR PLANT
Location HAMILTON COUNTY

ATTN: Diedre B. Nida

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

(2-16) PERMIT NUMBER	(17-19) DISCHARGE NUMBER
TN0026450	103 G

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
From	00	09	01	To	00	09	30
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

MAJOR
(SUBR 01)
F - FINAL
LOW VOL. WASTE TREATMENT POND
EFFLUENT
*** NO DISCHARGE [ ] ***

Form Approved.
OMB No. 2040-0004
Approval expires 05-31-98

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
PH	SAMPLE MEASUREMENT	********	********	**	7.0	********	8.7	(12)	0	12 / 30	GRAB
00400 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	**	6.0 MINIMUM	********	9.0 MAXIMUM	SU		THREE/ WEEK	GRAB
SOLIDS, TOTAL SUSPENDED	SAMPLE MEASUREMENT	49	136	(26)	********	12	19	(19)	0	04 / 30	GRAB
00530 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	380 MO AVG	1250 DAILY MX	LBS/DY	********	30 MO AVG	100 DAILY MX	MG/L		WEEKLY	GRAB
OIL & GREASE FREON EXTR-GRAV METH	SAMPLE MEASUREMENT	<29	<61	(26)	********	<5	<5	(19)	0	04 / 30	GRAB
00556 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	190 MO AVG	250 DAILY MX	LBS/DY	********	15 MO AVG	20 DAILY MX	MG/L		WEEKLY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	SAMPLE MEASUREMENT	0.994	1.522	(03)	********	********	********	**	0	30 / 30	TOTAL
50050 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	REPORT MO AVG	REPORT DAILY MX	MGD	********	********	********	**		DAILY	TOTAL
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
Richard T. Purcell 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 FINE 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 maximum imprisonment of between 6 months and 5 years.)	Diedre B. Nida Environmental Supervisor	423	843-6700	00	10	10
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS *(Reference all attachments here)*

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

Name TVA - SEQUOYAH NUCLEAR PLANT
Address BOX 2000
(INTEROFFICE SB-2A)
SODDY - DAISY TN 37384
Facility TVA - SEQUOYAH NUCLEAR PLANT
Location HAMILTON COUNTY

ATTN: Diedre B. Nida

DISCHARGE MONITORING REPORT (DMR)

OMB No. 2040-0004
Approval expires 05-31-98

(2-16) PERMIT NUMBER	(17-19) DISCHARGE NUMBER
TN0026450	107 G

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
From	00	09	01	To	00	09	30
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

(SUBR 01)
F - FINAL
METAL CLEANING WASTE POND
EFFLUENT

*** NO DISCHARGE XX ***

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
PH	SAMPLE MEASUREMENT	********	********	**		********		(12)			
00400 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	6.0 MINIMUM	********	9.0 MAXIMUM	SU		DAILY	GRAB
PHOSPHORUS, TOTAL (AS P)	SAMPLE MEASUREMENT	********	********	**	********	********		(19)			
00665 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	********	1.0 DAILY MX	MG/L		DAILY	COMP-8
SOLIDS, TOTAL SUSPENDED	SAMPLE MEASUREMENT	********	********	**	********	********		(19)			
00530 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	********	30 DAILY MX	MG/L		DAILY	COMP-8
OIL & GREASE FREON EXTR-GRAV METH	SAMPLE MEASUREMENT	********	********	**	********	********		(19)			
00556 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	********	15 DAILY MX	MG/L		DAILY	GRAB
COPPER, TOTAL (AS CU)	SAMPLE MEASUREMENT	********	********	**	********	********		(19)			
01042 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	********	1.0 DAILY MX	MG/L		DAILY	COMP-8
IRON, TOTAL (AS FE)	SAMPLE MEASUREMENT	********	********	**	********	********		(19)			
01045 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	********	1.0 DAILY MX	MG/L		DAILY	COMP-8
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	SAMPLE MEASUREMENT			(03)	********	********	********	**			
50050 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	REPORT MO AVG	REPORT DAILY MX	MGD	********	********	********	****		DAILY	CALCTD

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

Richard T. Purcell

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 FINE 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 maximum imprisonment of between 6 months and 5 years.)

Diedre B. Nida
Environmental Supervisor

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE		DATE		
423	843-6700	00	10	10
AREA CODE	NUMBER	YEAR	MO	DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

No phosphate bearing chemicals were employed. There were no releases during September 2000.

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

Name TVA - SEQUOYAH NUCLEAR PLANT
Address BOX 2000
(INTEROFFICE SB-2A)
SODDY - DAISY IN 37384
Facility TVA - SEQUOYAH NUCLEAR PLANT
Location HAMILITON COUNTY

ATTN: Diedre B. Nida

DISCHARGE MONITORING REPORT (DMR)

(2-16) TN0026450 — PERMIT NUMBER

(17-19) 110 G — DISCHARGE NUMBER

(SUBR 01)
F - FINAL
RECYCLED COOLING WATER
EFFLUENT

OMB No. 2040-0004
Approval expires 05-31-98

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
From	00	09	01	To	00	09	30
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

*** NO DISCHARGE [XX] ***

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
TEMPERATURE, WATER DEG. CENTIGRADE	SAMPLE MEASUREMENT	********	********	**	********	********		(04)			
00010 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	********	38.3 DAILY MX	DEG. C.		DAILY	GRAB-4
PH	SAMPLE MEASUREMENT	********	********	**		********		(12)			
00400 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	6.0 MINIMUM	********	9.0 MAXIMUM	SU		WEEKLY	GRAB
CHLORINE, TOTAL RESIDUAL	SAMPLE MEASUREMENT	********	********	**	********	********		(19)			
50060 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	********	0.10 DAILY MX	MG/L		WEEKLY	GRAB-4
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
Richard T. Purcell
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 FINE 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 maximum imprisonment of between 6 months and 5 years)

Diedre B. Nida
Environmental Supervisor
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE		DATE		
423	843-6700	00	10	10
AREA CODE	NUMBER	YEAR	MO	DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here

No Discharge this Period

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

Name TVA - SEQUOYAH NUCLEAR PLANT
Address BOX 2000
(INTEROFFICE SB-2A)
SODDY - DAISY IN 37384
Facility TVA - SEQUOYAH NUCLEAR PLANT
Location HAMILITON COUNTY

ATTN: Diedre B. Nida

DISCHARGE MONITORING REPORT (DMR)

(2-16) PERMIT NUMBER	(17-19) DISCHARGE NUMBER
TN0026450	112 G

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
From	00	09	01	To	00	09	30
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

(SUBR 01)
F - FINAL
SEWAGE TREATMENT PLANT
EFFLUENT

*** NO DISCHARGE XX ***

OMB No. 2040-0004
Approval expires 05-31-98

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
BOD, 5-DAY (20 DEG. C)	SAMPLE MEASUREMENT	********	********	**	********			(19)			
00310 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	30 MO AVG	45 DAILY MX	MG/L		TWICE/ MONTH	GRAB
SOLIDS, TOTAL SUSPENDED	SAMPLE MEASUREMENT	********	********	**	********			(19)			
00530 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	30 MO AVG	45 DAILY MX	MG/L		TWICE/ MONTH	GRAB
SOLIDS, SETTLEABLE	SAMPLE MEASUREMENT	********	********	**	********	********		(25)			
00545 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	********	1.0 DAILY MX	MG/L		TWICE/ WEEK	GRAB
COLIFORM, FECAL MF, M-FC BROTH, 44.5C	SAMPLE MEASUREMENT	********	********	**	********			(13)			
31616 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	**	********	200 ARI MEAN	1000 DAILY MX	#/100 ML		TWICE/ MONTH	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	SAMPLE MEASUREMENT			(03)	********	********	********	**			
50050 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	REPORT MO AVG	REPORT DAILY MX	MGD	********	********	********	****		CONTIN UOUS	TOTALZ
CHLORINE, TOTAL RESIDUAL	SAMPLE MEASUREMENT	********	********	**	********	********		(19)			
50060 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	********	2.0 INST MAX	MG/L		WEEK-DAYS	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
Richard T. Purcell 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 FINE 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 maximum imprisonment of between 6 months and 5 years)	Diedre B. Nida Environmental Supervisor SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	423 AREA CODE	843-6700 NUMBER	00 YEAR	10 MO	10 DAY

COMMENTS 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. No Discharge this Period

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

Name TVA - SEQUOYAH NUCLEAR PLANT
Address BOX 2000
(INTEROFFICE SB-2A)
SODDY - DAISY IN 37384
Facility TVA - SEQUOYAH NUCLEAR PLANT
Location HAMILTON COUNTY

ATTN: Diedre B. Nida

DISCHARGE MONITORING REPORT (DMR)

(2-16) PERMIT NUMBER	(17-19) DISCHARGE NUMBER
TN0026450	118 G

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
From	00	09	01	To	00	09	30
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

(SUBR 01)
F - FINAL
WASTEWATER & STORM WATER
EFFLUENT

*** NO DISCHARGE [XX] ***

OMB No. 2040-0004
Approval expires 05-31-98

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
OXYGEN, DISSOLVED (DO)	SAMPLE MEASUREMENT	********	********	**		********	********	(19)			
00300 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	2.0 DAILY MN	********	********	MG/L		TWICE/ WEEK	GRAB
SOLIDS, TOTAL SUSPENDED	SAMPLE MEASUREMENT	********	********	**	********	********		(19)			
00530 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	********	100 DAILY MX	MG/L		TWICE/ WEEK	GRAB
SOLIDS, SETTLEABLE	SAMPLE MEASUREMENT	********	********	**	********	********		(25)			
00545 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	********	1.0 DAILY MX	MG/L		ONCE/ MONTH	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	SAMPLE MEASUREMENT			(03)	********	********	********	**			
50050 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	REPORT MO AVG	REPORT DAILY MX	MGD	********	********	********			ONCE/ BATCH	CALCTD
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
Richard T. Purcell 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 FINE 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 maximum imprisonment of between 6 months and 5 years.)	Diedre B. Nida Environmental Supervisor SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	423 AREA CODE	843-6700 NUMBER	00 YEAR	10 MO	10 DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

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

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

Name TVA - SEQUOYAH NUCLEAR PLANT
Address BOX 2000
(INTEROFFICE SB-2A)
SODDY - DAISY TN 37384
Facility TVA - SEQUOYAH NUCLEAR PLANT
Location HAMILTON COUNTY

ATTN: Diedre B. Nida

DISCHARGE MONITORING REPORT (DMR)

(2-16)	(17-19)
TN0026450	101 T
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
From	00	03	01	To	00	08	31
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

(SUBR 01)
F - FINAL
BI YEARLY MONITORING
EFFLUENT
*** NO DISCHARGE ☐ ***

OMB No. 2040-0004
Approval expires 05-31-98

NOTE: Read instructions before completing this form

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
LC50 STATRE 96HR ACU CERIODAPHNIA	SAMPLE MEASUREMENT	********	********	(23)	>100	********	********	(23)	0	01 / 180	GRAB
TAN3B 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	PERCENT	100 MINIMUM	********	********	PERCENT		SEMI-ANNUAL	GRAB
LC50 STATRE 96HR ACU PIMEPHALES	SAMPLE MEASUREMENT	********	********	(23)	>100	********	********	(23)	0	01 / 180	GRAB
TAN6C 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	PERCENT	100 MINIMUM	********	********	PERCENT		SEMI-ANNUAL	GRAB
NOEC STATRE 4DAY CHR CERIODAPHNIA	SAMPLE MEASUREMENT	********	********	(23)	>100.00	********	********	(23)	0	01 / 180	GRAB
TBO3B 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	PERCENT	48.98 MINIMUM	********	********	PERCENT		SEMI-ANNUAL	GRAB
NOEC STATRE 4DAY CHR PIMEPHALES	SAMPLE MEASUREMENT	********	********	(23)	>100.00	********	********	(23)	0	01 / 180	GRAB
TBO6C 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	PERCENT	48.98 MINIMUM	********	********	PERCENT		SEMI-ANNUAL	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
Richard T. Purcell 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 FINE 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 maximum imprisonment of between 6 months and 5 years.)	Diedre B. Nida Environmental Supervisor	423	843-6700	00	10	10
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

Toxicity was sampled from 7/26/2000 - 8/1/2000.

September 20, 2000

Diedre B. Nida, SB 2A-SQN

SEQUOYAH NUCLEAR PLANT (SQN) TOXICITY BIOMONITORING, NPDES PERMIT NO. TN0026450, JULY, 2000 REPORT

Attached are two copies of the subject report for submission to the state of Tennessee with the DMR package. The report provides results of compliance tests required under the SQN NPDES permit. I have also include a copy of the report for your records.

SQN Outfall 101 samples collected July 26- August 1, 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). Fathead minnows and daphnids exposed to intake and upstream samples were not significantly different from the controls.

Call me at (256) 386-2755 if you have any questions or comments following your review of the report.

Cynthia L Russell

Cynthia L. Russell
Biologist
Environmental Engineering Services- West
CEB 3A-M

CLR
Attachment
cc (Attachment):
Files, ER&TA, CEB 1B-M

sqn-0700m.doc

TENNESSEE VALLEY AUTHORITY
TOXICITY TEST REPORT

INTRODUCTION/EXECUTIVE SUMMARY

1) Facility/Discharger: Sequovah Nuclear Plant/TVA Report Date: September 20, 2000

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

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

5) Design Flow (MGD): 3.266

6) Receiving Stream: Tennessee River (TRM 483.6) 7) 1Q20: 2,992.4

8) Outfall Tested: 101 9) Dates Sampled: 07/26-08/01/00

10) Flow on day(s) sampled (MGD): 1624.0, 1648.0, 1621.0, 1619.0, 1613.0, 1607.0, 1607.0

11) Pertinent site conditions: No unusual conditions reported.*

12) Test Dates: 07/27-08/03/00 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	100				

16) Permit Limit Endpoint (%): Outfall 101 96-hr LC_{50} = 100 NOEC (IC_{25})= 49

17) Test Results (%): Outfall 101

Pimephales promelas:	96-hr LC_{50} >100	NOEC (IC_{25})	80 (>100)
Ceriodaphnia dubia:	96-hr LC_{50} >100	NOEC (IC_{25})	100 (>100)

18) Facility Contact: Diedre B. Nida 19) Phone #: (423) 843-6700

20) Consultant/Testing Lab Name: S&ME Inc.

21) Lab Contact: Leira S. Douthat Phone #: (865)-970-0003

22) TVA Contact: Cynthia L. Russell Phone #: (256) 386-2755

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

23) Notes: Samples collected from Outfall 101 exhibited no toxicity to *P. promelas* or *C. dubia* based on the applicable permit limits. Resulting IC_{25} values for both species were > 100 percent. Intake and upstream samples were not significantly different from control for either fathead minnows or *Ceriodaphnia dubia*, based on Homoscedastic t-Tests,.

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)	Date/Time Used By (MM-DD/Time)
101	07-26/0800	07-27/0902	2.1	07-27/1520
Intake	07-26/0745	07-27/0902	0.6	07-27/1520
Upstream	07-26/0825	07-27/0902	0.5	07-27/1520
101	07-27/0807	07-28/0838	1.8	07-28/1530
Intake	07-27/0745	07-28/0838	0.7	07-28/1530
Upstream	07-27/0830	07-28/0838	0.7	07-28/1530
101	07-28/0810	07-31/0947	NA	Sample was not used*
Intake	07-28/0750	07-31/0947	NA	Sample was not used*
Upstream	07-28/0855	07-31/0947	NA	Sample was not used*
101	07-29/0745	07-29/1231	0.6	07-29/1445 07-30/1435
Intake	07-29/0720	07-29/1231	0.4	07-29/1445 07-30/1435
Upstream	07-29/0800	07-29/1231	0.4	07-29/1445 07-30/1435
101	07-30/0745	07-30/1140	1.2	07-31/1510
Intake	07-30/0725	07-30/1140	0.4	07-31/1510
Upstream	07-30/0805	07-30/1140	0.4	07-31/1510
101	07-31/0800	08-01/0902	0.6	08-01/1500
Intake	07-31/0735	08-01/0902	0.3	08-01/1500
Upstream	07-31/0815	08-01/0902	0.2	08-01/1500
101	08-01/0755	08-02/0945	0.6	8-02/1530
Intake	08-01/0740	08-02/0945	0.7	8-02/1530
Upstream	08-01/0810	08-02/0945	0.4	8-02/1530

* The samples collected on 7/28/00 were not received at the laboratory until 7/31/00. Samples were not used, since the EPA's protocol for first sample use, 36 hours, was exceeded.

NOTE: All times listed are Eastern Daylight Savings Time.

NOTE: Total residual chlorine (TRC) analyses conducted by S&ME when samples arrived at the laboratory showed concentrations $\geq$ 1.0 in all Outfall 101, intake, and upstream samples except one. Since it was considered unlikely that chlorine would be present at such concentrations in the raw river water, an investigation into the cause established a history of interference in TRC measurements at SQN, most likely attributable to manganese. DMR reportable TRC measurements for SQN are made using an arsenite reagent to correct for the interference and this correction technique was not employed by S&ME during the toxicity test. Reportable TRC measurements made at SQN during the sample collection period ranged from <0.0057 to 0.019 mg/L TRC. TVA visited S&ME and found no problems with the chlorine analysis method being utilized, other than the need to order supplies necessary to conduct the interference correction method for use when necessary. A copy of the audit report TVA prepared describing the investigation and findings is available upon request.

4) Sample manipulation: Daily samples warmed to 25±1°C

Test Organisms

	Pimephales promelas	*Ceriodaphnia dubia*
1) Source:	In-house Culture	In-house Culture
2) Age:	< 24 hours	< 24 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	Until at least 60% of control females have 3 broods
3) Dilution/Control Water	Moderately hard water	25% Dilute mineral water and trace minerals
4) Number Replicates	4	10
5) Animals per Replicate	10	1
6) Test Initiation (Date/Time)	07-27-00/1325 (EDT)	07-27-00/1520 (EDT)
7) Test Termination (Date/Time)	08-03-00/1415 (EDT)	08-03-00/1530 (EDT
8) Test Temperature	Mean = 24.7°C (24.0°C-25.8°C)	Mean = 24.8°C (24.1°C-26.0°C)

9) Physical/Chemical Measurements: Hardness, alkalinity, total residual chlorine, and conductivity were measured at the laboratory in each 100 percent sample. Daily temperatures were measured in one replication per test concentration. Pre- and post-exposure test solutions were analyzed daily for pH and dissolved oxygen.

10) Statistics: ToxCalc software Version 5.0 was used for statistical analyses.

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 07/27/00 (mm/dd/yy) - 08/03/00 (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	93	93	93	93
25% Effluent	100	100	100	100	95	95	95
39.2% Effluent	98	98	98	98	98	98	98
49% Effluent	100	100	100	100	100	100	98
80% Effluent	100	100	100	100	100	100	98
100% Effluent	98	98	98	98	98	95	95
Intake	100	100	100	100	100	100	100
Upstream	100	100	100	98	98	95	93

*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	0.47	0.45	0.33	0.48	0.43
25% Effluent	0.41	0.38	0.40	0.44	0.41
39.2% Effluent	0.44	0.38	0.42	0.35	0.40
49% Effluent	0.39	0.40	0.38	0.42	0.40
80% Effluent	0.38	0.32	0.35	0.40	0.36
100% Effluent	0.32	0.41	0.32	0.32	0.34
Intake	0.42	0.41	0.46	0.42	0.42
Upstream	0.32	0.37	0.31	0.41	0.35

IC_{25} Value: >100%

95% Confidence Limits
Upper Limit = NA
Lower Limit = NA

Calculated TU Estimates †: < 1.0 TUc

Permit Limit: 2.0 TUc

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

⁑Upon initial review of this report, TVA requested that S&ME implement weighing fish to 0.001 mg, as recommended by EPA. S&ME agreed. Inspection/evaluation of the data showed the additional decimal place would not have made a difference in the test outcome (i.e. IC_{25} > 100 percent).

2) Results of a *Ceriodaphnia* (Genus) *dubia* (Species) Chronic/ 7 day (3-brood) (Type/Duration) Toxicity Test

Conducted 07/27/00 (mm/dd/yy) - 08/03/00 (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	90	90	90	90
25% Effluent	100	100	100	100	100	100	100
39.2% Effluent	100	100	100	100	100	100	100
49% Effluent	100	100	100	100	100	100	100
80% Effluent	100	100	100	100	100	100	100
100% Effluent	100	100	100	100	100	100	100
Intake	100	100	100	100	100	100	100
Upstream	90	90	90	90	90	90	90

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

Test Solutions	Reproduction (# of young/female during test) Data Replicates										
	1	2	3	4	5	6	7	8	9	10	Mean
Control	36	32	0	31	33	31	33	30	27	33	28.6
25% Effluent	31	25	29	46	33	26	37	32	29	31	31.9
39.2% Effluent	49	44	49	47	48	53	28	36	46	32	43.2
49% Effluent	44	48	54	40	43	49	42	55	50	32	45.7
80% Effluent	48	46	52	47	48	40	43	29	26	30	40.9
100% Effluent	29	34	29	39	28	25	28	30	27	23	29.2
Intake	31	28	31	37	31	32	31	29	29	29	30.8
Upstream	31	45	46	48	28	0	47	40	50	52	38.7

IC_{25} Value: > 100%	Calculated TU Estimates †: <1.0 TUc
95% Confidence Limits Upper Limit NA Lower Limit NA	Permit Limit: 2.0 TUc

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

REFERENCE TOXICANT TEST RESULTS (See Appendixes A and D)

Species	Date	Time	Duration	Toxicant	Results (LC_{50}/IC_{25})
Pimephales promelas	7/26/00	1545	7 days	KCl	0.67 gm/L
Ceriodaphnia dubia	7/14/00	1345	7 days	NaCl	1.11gm/L

PHYSICAL/CHEMICAL SUMMARY

1) Analysis of Sequoyah Nuclear Plant Diffuser Discharge Concentrations of Total Residual Chlorine.
2) Initial and Final Chemistry for Fathead Minnow 7-day and Daphnid 3-brood Chronic Tests.

See Summary Tables in Appendix B

SUMMARY/CONCLUSIONS

Samples collected from Outfall 101 exhibited no toxicity to *P. promelas* or *C. dubia* based on the applicable permit limits. Resulting IC_{25} values for both species were > 100 percent. Intake and upstream samples were not significantly different from control for either fathead minnows or *Ceriodaphnia dubia*, based on Homoscedastic t-Test.

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 600-mL borosilicate beakers, 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 polystyrene cups, each containing 15 mL of test solution. [2]

DEVIATIONS/MODIFICATIONS TO TEST PROTOCOL

1) *Pimephales promelas*

None

2) *Ceriodaphnia dubia*

None

DEVIATIONS/MODIFICATIONS TO PRETEST CULTURE OR HOLDING OF TEST ORGANISMS

1) *Pimephales promelas*

None

2) *Ceriodaphnia dubia*

None

PHYSICAL AND CHEMICAL METHODS

1) Reagents, Titrants, Buffers, etc.: All chemicals were certified products used before expiration dates (where applicable).

2) Instruments: All identification, service, and calibration information pertaining to S&ME laboratory instruments is recorded in calibration and maintenance log books.

3) Temperature was measured using a VWR Scientific digital NIST-traceable thermometer according to S&ME SOP [3]

4) Dissolved oxygen was measured using a VWR Scientific Dissolved oxygen meter. The instrument was calibrated and readings were made according to EPA Method 120.1.

5) The pH was measured using a Beckman pH meter equipped with an Orion combination electrode. The instrument was calibrated and readings were made according to EPA Method 150.1.

6) Conductance was measured using an Orion conductivity meter. The instrument was calibrated and readings were taken according to manufacturers instructions.

7) Alkalinity was measured using Standard Methods Titration Method 2320 B using 0.01 N HCl to an endpoint pH of 4.5.

8) Hardness was measured using Standard Methods EDTA Titrimetric Method 2340 C or EPA Method 130.2.

9) Total residual chlorine was determined using the DPD Ferrous Titrimetric Method with a Hach colorimetric kit.

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 gm NaCl/L or gm KCl.

2) Standard Toxicant: Sodium Chloride and Potassium Chloride (NaCl and KCl crystalline)

3) Dilution Water Used: Moderately hard water for fathead minnows and 25 percent DMW water for the *Ceriodaphnia dubia*.

4) Statistics: Toxcalc software Version 5.0 was used for statistical analyses.

REFERENCES

1) NPDES Permit No. TN0026450.

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) S&ME Standard Operating Procedures. April, 2000.

Sequoyah Nuclear Plant Biomonitoring
July 27-August 3, 2000

Appendix B

Diffuser Discharge Concentrations of Total Residual Chlorine

and

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*, July 26-August 1, 2000

2000		Sample Type	Total Residual Chlorine (mg/L)
Month	Date		
July	26	Grab	<0.0057
July	27	Grab	0.019
July	28	Grab	0.0088
July	29	Grab	<0.0088
July	30	Grab	<0.0076
July	31	Grab	<0.0152
August	1	Grab	<0.0141

*Towerbrom-960 (Oxidizing Biocide) 7% Sodium Bromide, 89% Sodium Dichloroisocyanurate 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.

Table B-2. Water Chemistry Mean Values and Ranges for Fathead Minnow and Daphnid Tests, Sequoyah Nuclear Plant (SQN), July 27-August 3, 2000.

Test/ Sample ID	Temperature Final (°C)	Dissolved Oxygen Initial (mg/L)	Dissolved Oxygen Final (mg/L)	pH Initial S.U.	pH Final S.U.	Conductance Initial (µmhos)	Alkalinity Initial mg/L $CaCO_3$	Hardness Initial mg/L $CaCO_3$
Fathead/ Control	24.6 (24.4-24.8)	7.74 (7.02-8.07)	6.52 (5.21-7.36)	7.71 (7.60-7.91)	7.38 (7.15-7.53)	296 (217-316)	63 (62-65)	86.3 (86-88)
Fathead/ 25.0 %	24.5 (24.0-25.0)	7.71 (7.14-7.98)	6.62 (5.80-7.25)	7.73 (7.59-7.89)	7.42 (7.24-7.55)	269 (212-284)	-	-
Fathead/ 39.2 %	25.1 (24.5-25.8)	7.45 (7.12-7.84)	6.15 (4.57-7.62)	7.71 (7.60-7.85)	7.41 (7.19-7.56)	252 (209-262)	-	-
Fathead/ 49.0%	24.9 (24.6-25.2)	7.37 (6.38-7.76)	6.31 (4.66-7.51)	7.69 (7.59-7.81)	7.44 (7.19-7.61)	240 (208-249)	-	-
Fathead/ 80.0 %	24.7 (24.5-25.0)	7.19 (6.41-7.85)	6.60 (5.44-7.55)	7.63 (7.53-7.75)	7.50 (7.22-7.70)	207 (203-210)	-	-
Fathead/ 100.0 %	24.5 (24.1-24.9)	6.98 (6.14-7.88)	6.63 (5.64-7.36)	7.57 (7.49-7.70)	7.53 (7.27-7.66)	186 (180-207)	57.9 (57-59)	69.4 (68-70)
Fathead/ Intake	24.7 (24.6-25.2)	6.80 (5.90-7.85)	6.78 (6.37-7.37)	7.46 (7.26-8.15)	7.54 (7.36–7.69)	186 (179-216)	57.4 (57-58)	70.3 (70-72)
Fathead/ Upstream	25.0 (24.6-25.2)	7.17 (6.06-8.76)	6.61 (5.46-7.47)	7.55 (7.12-8.55)	7.57 (7.28-7.74)	184 (177-211)	58.4 (58-60)	69.4 (68-70)
Daphnid/ Control	24.7 (24.1-25.7)	7.80 (7.44-8.18)	8.06 (7.60-8.60)	8.00 (7.87-8.08)	8.02 (7.82-8.28)	218 (212-224)	65 (64-68)	83.6 (82-87)
Daphnid/ 25.0%	24.7 (24.1-25.4)	7.72 (7.26-8.29)	8.67 (8.29-9.88)	7.95 (7.86-8.04)	8.29 (7.96-8.53)	211 (206-219)	-	-
Daphnid/ 39.2 %	24.9 (24.3-26.0)	7.63 (7.29-7.92)	8.51 (7.98-8.77)	7.90 (7.81-8.00)	8.54 (7.93-8.54)	206 (204-215)	-	-
Daphnid/ 49.0 %	25.1 (24.4-26.0)	7.57 (7.27-7.86)	8.70 (7.68-9.73)	7.89 (7.81-7.99)	8.32 (7.99-8.56)	203 (201-210)	-	-
Daphnid/ 80.0 %	25.0 (24.2-25.9)	7.43 (7.06-7.89)	8.65 (7.78-9.37)	7.78 (7.70-7.87)	8.30 (7.97-8.58)	192 (189-196)	-	-
Daphnid/ 100.0 %	24.8 (24.3-25.5)	7.19 (6.74-7.91)	8.69 (8.22-9.50)	7.66 (7.49-7.80)	8.32 (7.93-8.55)	185 (182-189)	57.9 (57-59)	69.4 (68-70)
Daphnid/ Intake	24.7 (24.3-25.3)	6.96 (6.01-7.82)	8.71 (7.99-9.24)	7.53 (7.26-8.23)	8.29 (7.74-8.49)	187 (178-217)	57.4 (57-58)	70.3 (70-72)
Daphnid/ Upstream	24.7 (24.3-25.4)	7.26 (6.11-8.61)	8.61 (8.32-8.97)	7.60 (7.12-8.62)	8.36 (7.82-8.53)	186 (180-212)	58.4 (58-60)	69.4 (68-70)

Sequoyah Nuclear Plant Biomonitoring
July 27-August 3, 2000

Appendix C

Chain of Custody Records and
Toxicity Bench Sheets

CHAIN OF CUSTODY RECORD

Client TENNESSEE VALLEY AUTHORITY:

Project Name: SEQUOYAH NUCLEAR PLANT

P.O. Number: _PO BOX 2000 SODDY DAISY, TN 37379

Facility Sampled: SEQUOYAH NUCLEAR PLANT

NPDES Number: TN0026450

Collected By:

S & ME, Inc.
1413 Topside Road, Louisville, TN 37777

Phone: 865-970-0003
Fax: 865-970-0004

FedEx UPS Bus Client CTI $_____

Other (specify):_____

General Comments: Both coolers were sealed - Received a 9:02 from Fed-Ex

Field Identification / Sample Description	Grab/ Comp.	Ship. Temp. (°C)	Collection Date/Time (If grab, list date/time under "End")		Container Number & Volume Collected	Flow (MGD)	Rain Event? (Mark as Appropriate)				Laboratory Use				
			Start	End			Yes	If Yes, Inches	No	Trace	~~CTI~~ SAME Log Number	Arrival Temp. (°C)	By	Time	Appearance
DSN-101-TOX	GRAB	27.5	N/A	7/26/00 0800	2.5 GAL				✓		00-079	2.1°	TJW	9:05	Good
TRM-486-TOX	GRAB	27.5	N/A	7/26/00 0825	1 GAL				✓		00-080	0.5°	TJW	9:07	Good
INT-TOX	GRAB	27.5	N/A	7/26/00 0745	1 GAL				✓		00-081	0.6°	TJW	9:06	Good

Sample Custody – Fill In From Top Down

Relinquished By (Signature):	Date/Time	Received By (Signature):	Date/Time
[illegible]	7/26/00 0900	Heidi Ewing	7/27/00 9:02
Heidi Ewing	7/27/00 09:02 Am	[illegible]	7/27/00 9:04

Instructions: Clients should fill in all areas except those in the "Laboratory Use" block. Biomonitoring samples are preserved by storing them at 4°C and shipping them in ice. The hold time for each sample is 36 hours from the time of collection. Therefore, please collect and ship in such a way that the laboratory will receive the samples with ample time to initiate testing within that time frame. Samples shipped overnight on Friday via FedEx or UPS must be marked for Saturday delivery or they will not arrive until the following Monday.

Client TENNESSEE VALLEY AUTHORITY:

Project Name: SEQUOYAH NUCLEAR PLANT

P.O. Number: _PO BOX 2000 SODDY DAISY, TN 37379

Facility Sampled: SEQUOYAH NUCLEAR PLANT

NPDES Number: TN0026450

Collected By:

S & ME, Inc.
1413 Topside Road, Louisville, TN 37777

Phone: 865-970-0003
Fax: 865-970-0004

FedEx UPS Bus Client CTI $_____
Other (specify):_____

General Comments: both cooler were sealed.

Field Identification / Sample Description	Grab/ Comp.	Ship. Temp. (°C)	Collection Date/Time (If grab, list date/time under "End")		Container Number & Volume Collected	Flow (MGD)	Rain Event? (Mark as Appropriate)				Laboratory Use				
			Start	End			Yes	If Yes, Inches	No	Trace	CTI Log Number	Arrival Temp. (°C)	By	Time	Appearance
DSN-101-TOX	GRAB	38.5	N/A	7/27/00 0807	2.5 GAL				✓		00-082	1.8°	TJW	8:46	Good
IRM-486-TOX	GRAB	28.5	N/A	7/27/00 0830	1 GAL				✓		00-083	0.7°	TJW	8:53	Good
INT-TOX	GRAB	27.5	N/A	7/27/00 0745	1 GAL				✓		00-084	0.7°	TJW	8:52	Good

Sample Custody – Fill In From Top Down

Relinquished By (Signature):	Date/Time	Received By (Signature):	Date/Time
Wanda Allen	7/27/00 0845	Webb	7/28/00 8:38 AM
		Received In-Lab Webb	7/28/00 8:43 AM

Instructions: Clients should fill in all areas except those in the "Laboratory Use" block. Biomonitoring samples are preserved by storing them at 4°C and shipping them in ice. The hold time for each sample is 36 hours from the time of collection. Therefore, please collect and ship in such a way that the laboratory will receive the samples with ample time to initiate testing within that time frame. Samples shipped overnight on Friday via FedEx or UPS must be marked for Saturday delivery or they will not arrive until the following Monday.

CHAIN OF CUSTODY RECORD

Client TENNESSEE VALLEY AUTHORITY:

Project Name: SEQUOYAH NUCLEAR PLANT

P.O. Number: PO BOX 2000 SODDY DAISY, TN 37379

Facility Sampled: SEQUOYAH NUCLEAR PLANT

NPDES Number: TN0026450

Collected By:

S & ME, Inc.
1413 Topside Road, Louisville, TN 37777

Phone: 865-970-0003
Fax: 865-970-0004

FedEx UPS Bus Client CTI $_____

Other (specify):_____

General Comments:
NX used

Field Identification / Sample Description	Grab/ Comp.	Ship. Temp. (°C)	Collection Date/Time (If grab, list date/time under "End")		Container Number & Volume Collected	Flow (MGD)	Rain Event? (Mark as Appropriate)				Laboratory Use				
			Start	End			Yes	If Yes, Inches	No	Trace	~~CTI~~ SME Log Number	Arrival Temp. (°C)	By	Time	Appearance
DSN-101-TOX	GRAB	38.5	N/A	7/28/00 0810	2.5 GAL				X		00-091	16.0	TJW	9:55	Good
IRM-486-TOX	GRAB	28.5	N/A	7/28/00 0855	1 GAL				X		00-092	12.0	TJW	10:06	Goo
INT-TOX	GRAB	28.0	N/A	7/28/00 0750	1 GAL				X		00-093	12.0	TJW	10:04	Good

Sample Custody – Fill In From Top Down

Relinquished By (Signature):	Date/Time	Received By (Signature):	Date/Time
R. Nunley	7/28/00 0905	[signature]	7/31/00 9:47AM
		received in lab [signature]	7/31/00 9:50 AM

Instructions: Clients should fill in all areas except those in the "Laboratory Use" block. Biomonitoring samples are preserved by storing them at 4°C and shipping them in ice. The hold time for each sample is 36 hours from the time of collection. Therefore, please collect and ship in such a way that the laboratory will receive the samples with ample time to initiate testing within that time frame. Samples shipped overnight on Friday via FedEx or UPS must be marked for Saturday delivery or they will not arrive until the following Monday.

Client TENNESSEE VALLEY AUTHORITY:

Project Name: SEQUOYAH NUCLEAR PLANT

P.O. Number: _PO BOX 2000 SODDY DAISY, TN 37379

Facility Sampled: SEQUOYAH NUCLEAR PLANT

NPDES Number: TN0026450

Collected By:

S & ME, Inc.
1413 Topside Road, Louisville, TN 37777

Phone: 865-970-0003
Fax: 865-970-0004

FedEx UPS Bus Client CTI $_____

Other (specify): Max Coulter

General Comments: both coolers were sealed.

Field Identification / Sample Description	Grab/ Comp.	Ship. Temp. (°C)	Collection Date/Time (If grab, list date/time under "End")		Container Number & Volume Collected	Flow (MGD)	Rain Event? (Mark as Appropriate)				Laboratory Use				
			Start	End			Yes	If Yes, Inches	No	Trace	SEME CTI Log Number	Arrival Temp. (°C)	By	Time	Appearance
DSN-101-TOX	GRAB	37.5	N/A	7/29/00 0745	2.5 GAL				✓		00-085	0.6	TSW	12:56	Good
IRM-486-TOX	GRAB	27.5	N/A	7/29/00 0800	1 GAL				✓		00-086	0.4	TSW	12:57	Good
NT TOX	GRAB	27.5	N/A	7/29/00 0720	1 GAL				✓		00-087	0.4	TSW	12:58	Good

Sample Custody – Fill In From Top Down

Relinquished By (Signature):	Date/Time	Received By (Signature):	Date/Time
Wanda Allen	7/29/00 0830	[signature]	7/29/00 12:31
[signature]	7/29/00 1230	Received in Lab [signature]	7/29/00 12:52

Instructions: Clients should fill in all areas except those in the "Laboratory Use" block. Biomonitoring samples are preserved by storing them at 4°C and shipping them in ice. The hold time for each sample is 36 hours from the time of collection. Therefore, please collect and ship in such a way that the laboratory will receive the samples with ample time to initiate testing within that time frame. Samples shipped overnight on Friday via FedEx or UPS must be marked for Saturday delivery or they will not arrive until the following Monday.

Client TENNESSEE VALLEY AUTHORITY:

Project Name: SEQUOYAH NUCLEAR PLANT

P.O. Number: PO BOX 2000 SODDY DAISY, TN 37379

Facility Sampled: SEQUOYAH NUCLEAR PLANT

NPDES Number: TN0026450

Collected By:

S & ME, Inc.
1413 Topside Road, Louisville, TN 37777

Phone: 865-970-0003
Fax: 865-970-0004

FedEx UPS Bus Client CTI $_____

Other (specify): Max Coulter

General Comments:
Seals were intact on both coolers upon arrival.

Field Identification / Sample Description	Grab/ Comp.	Ship. Temp. (°C)	Collection Date/Time (If grab, list date/time under "End")		Container Number & Volume Collected	Flow (MGD)	Rain Event? (Mark as Appropriate)				Laboratory Use				
			Start	End			Yes	If Yes, Inches	No	Trace	CTI Log Number	Arrival Temp. (°C)	By	Time	Appearance
DSN-101-TOX	GRAB	38°C	N/A	7/30/00 0745	2.5 GAL				X		00-088	1.2°C	LSD	11:55	Clear
IRM 486-TOX	GRAB	27.5	N/A	7/30/00 0805	1 GAL				X		00-089	0.4°C	LSD	12:00	Clear
INT-TOX	GRAB	27.5	N/A	7/30/00 0725	1 GAL				X		00-090	0.4°C	LSD	12:05	Clear

Sample Custody – Fill In From Top Down

Relinquished By (Signature):	Date/Time	Received By (Signature):	Date/Time
Wanda K. Allen	7/30/00 0830		
Max Coulter (pilot)	7/30/00 1140	Renee S. Douthat at Clendenin Quarries Terminal	7/30/00 11:40 a.m.
		Delivered into lab by Renee Douthat Received in lab	7/30/00 11:55 a.m.

Instructions: Clients should fill in all areas except those in the "Laboratory Use" block. Biomonitoring samples are preserved by storing them at 4°C and shipping them in ice. The hol me for each sample is 36 hours from the time of collection. Therefore, please collect and ship in such a way that the laboratory will receive the samples with ample time to initiat esting within that time frame. Samples shipped overnight on Friday via FedEx or UPS must be marked for Saturday delivery or they will not arrive until the following Monday.

BIOMONITORING CHAIN OF CUSTODY RECORD

Client TENNESSEE VALLEY AUTHORITY:

Project Name: SEQUOYAH NUCLEAR PLANT

P.O. Number: _PO BOX 2000 SODDY DAISY, TN 37379

Facility Sampled: SEQUOYAH NUCLEAR PLANT

NPDES Number: TN0026450

Collected By:

S & ME, Inc.

1413 Topside Road, Louisville, TN 37777

Phone: 865-970-0003
Fax: 865-970-0004

FedEx UPS Bus Client CTI $_____
Other (specify):_____

General Comments: Received from FedEx & coolers were sealed.

Field Identification / Sample Description	Grab/ Comp.	Ship. Temp. (°C)	Collection Date/Time (If grab, list date/time under "End")		Container Number & Volume Collected	Flow (MGD)	Rain Event? (Mark as Appropriate)				Laboratory Use				
			Start	End			Yes	If Yes, Inches	No	Trace	~~TCTI~~ SIME Log Number	Arrival Temp. (°C)	By	Time	Appearance
DSN-101-TOX	GRAB	38	N/A	7/31/00 0800	2.5 GAL				X		00-095	0.6°	TSW	9:14	Good
RM 486-TOX	GRAB	27.5	N/A	7/31/00 0815	1 GAL				X		00-097	0.2°	TSW	9:24	Good
NT-TOX	GRAB	28	N/A	7/31/00 0735	1 GAL						00-096	0.3°	TSW	9:23	Good

Sample Custody – Fill In From Top Down

Relinquished By (Signature):	Date/Time	Received By (Signature):	Date/Time
Wanda Allen	7/31/00 0830	[signature]	8/1/00 9:02 AM
		received in Lab [signature]	8/1/00 9:05 AM

Instructions: Clients should fill in all areas except those in the "Laboratory Use" block. Biomonitoring samples are preserved by storing them at 4°C and shipping them in ice. The hold time for each sample is 36 hours from the time of collection. Therefore, please collect and ship in such a way that the laboratory will receive the samples with ample time to initiate testing within that time frame. Samples shipped overnight on Friday via FedEx or UPS must be marked for Saturday delivery or they will not arrive until the following Monday.

CHAIN OF CUSTODY RECORD

Client TENNESSEE VALLEY AUTHORITY:

Project Name: SEQUOYAH NUCLEAR PLANT

P.O. Number: _PO BOX 2000 SODDY DAISY, TN 37379

Facility Sampled: SEQUOYAH NUCLEAR PLANT

NPDES Number: TN0026450

Collected By:

S & ME, Inc.
1413 Topside Road, Louisville, TN 37777

Phone: 865-970-0003
Fax: 865-970-0004

(FedEx) UPS Bus Client CTI $_____

Other (specify):_____

General Comments:
Sealed –
received from Fed-Ex.

Field Identification / Sample Description	Grab/ Comp.	Ship. Temp. (°C)	Collection Date/Time (If grab, list date/time under "End")		Container Number & Volume Collected	Flow (MGD)	Rain Event? (Mark as Appropriate)				Laboratory Use				
			Start	End			Yes	If Yes, Inches	No	Trace	CTI Log Number	Arrival Temp. (°C)	By	Time	Appearance
		38°C													
DSN-101-TOX	GRAB	~~38°C~~ 28°C	N/A	8/1/00 0755	2.5 GAL				X		00-098	0.6°C	he	9:45	good
TRM-486-TOX	GRAB	28°C	N/A	8/1/00 0810	1 GAL				X		00-100	0.4°C	he	9:45	good
INT-TOX	GRAB	28°C	N/A	8/1/00 0740	1 GAL				X		00-099	0.7°C	he	9:45	good

Sample Custody – Fill In From Top Down

Relinquished By (Signature):	Date/Time	Received By (Signature): Received in lab	Date/Time
Wanda Allen	8/1/00 0830	Heidi Ewing	8-2-00 9:45 Am

Instructions: Clients should fill in all areas except those in the "Laboratory Use" block. Biomonitoring samples are preserved by storing them at 4°C and shipping them in ice. The hold time for each sample is 36 hours from the time of collection. Therefore, please collect and ship in such a way that the laboratory will receive the samples with ample time to initiate testing within that time frame. Samples shipped overnight on Friday via FedEx or UPS must be marked for Saturday delivery or they will not arrive until the following Monday.

FATHEAD MINNOW TEST INFORMATION

Test Name: Sequoyah Nuclear Plant

Test Conducted From: 7/27/00 (Day 0) To 8/3/00 (Day 7)

Sites/Concentrations: 1. Control 2. 25% - outfall 3. 39.2% - outfall 4. 49% - outfall 5. 80% - outfall 6. 100% - outfall

100% - intake
100% - upstream

Stock (if applicable): _____

Control Water Type (✓):

Moderately Hard Water + Trace Metals ☑

Other (describe): _____ ☐

Dilution Water Type (✓):

Moderately Hard Water + Trace Minerals ☑

Other (describe): _____ ☐

Source of Test Larvae (✓):

S&ME Lot # 00-086 ☐

Other (describe): _____ ☐

Date Larvae Hatched: 7/26/00 Hatch Time: 5:00 p.m. - until 8:00 a.m. on 7/27/00 Initials: LSD/TJW

Record of Minor Test Non-Conformity

Date: 7/29/00

Description of Non-Conformity: Sample was not delivered on 7/29 - should have been delivered Saturday 7/29/00 via Fedex

Initials: LSD

Date: _____

Description of Non-Conformity: _____

Initials: _____

Test Log sheets QA Reviewed By: [signature] (Reviewer Initials) on LSD 8/11/00 (Date)

REV.01, JANUARY00 (fathead minnow test info)

Note: Fish weights were measured to the nearest 0.1 mg rather than 0.01 mg. Correction for manganese interference was not made during Total residual chlorine testing.

Fathead Minnow Daily Test Information Logsheet

Test Name: Fathead Minnow 7 day Chronic Test Dates: 7/27/00 - 8/3/00

Daily Test information	Temperature Information (25±1°C)			Feeding Information (feeding interval 6±1h)		Test Initiation, Water Change, or Test Termination		Control Water Carboy No. and Additional comments	
Date and Initials	Incubator Temp. (°C) a.m.	Incubator Temp. (°C) p.m.	Therm. No.	Fed 100 uL Brine Shrimp	Feeding time	Start Time	End Time	Carboy #	Date Prep.
Day 0 7/27/00 TJW		24.8	6	✓	am: pm: 5:45	1:25 p.m	2:25 p.m.	2	7/26/00
Day 1 TJW 7/28/00	25.0	25.0	6	✓ ✓	am: 9:30 pm: 3:30	2:15 p.m	3:30 p.m	2	7/26/00
Day 2 TJW/LSD 7/29/00	25.0	25.0	6	✓ .	am: 9:20 pm: 5:55	2:25	3:10	2	7/27/00
Day 3 LSD/MCP 7/30/00	24.6	24.6	6	✓ ✓	am: 10:00 pm: 4:35	2:00 pm	2:55 p.m	2	7/29/00
Day 4 TJW 7/31/00	25.6	25.0	6	✓ ✓	am: 8:35 pm: 3:30	2:20	3.20	2	7/29/00
Day 5 TJW 8/1/00	25.0	24.5	6	✓ ✓	am: 9:20 pm: 4:00	2:25	3.30	2	7/30/00
Day 6 TJW 8/2/00	24.6	24.0	6	✓ ✓	am: 9:00 pm: 4:00	2:25	3:35	2	8/1/00
Day 7 TJW 8/3/00	25.0	24.8	6			2:15		2 TJW	

ient: Tennessee Valley Authority-Sequoyah

cation: S&ME, Inc.

Analysts: TJW, le

Dates: 7/27/00 - 8/3/00

CUMULATIVE MORTALITY OF P. PROMELAS IN CHRONIC TEST

CONC.	Initials	DAY NO.	REPLICATE A	B	C	D
Mod. Hard	TJW	1	0	0	0	0
	TJW	2	0	0	0	0
	TJW	3	0	0	0	0
	le	4	0	1	2	0
	le	5	0	1	2	0
	le	6	0	1	2	0
	TJW	7	0	1	2	0
5% Outfall	TJW	1	0	0	0	0
	TJW	2	0	0	0	0
	TJW	3	0	0	0	0
	le	4	0	0	0	0
	le	5	0	1	0	1
	le	6	0	1	0	1
	TJW	7	0	1	0	1
20% Outfall	TJW	1	0	0	0	1
	TJW	2	0	0	0	1
	TJW	3	0	0	0	1
	le	4	0	0	0	1
	le	5	0	0	0	1
	le	6	0	0	0	1
	TJW	7	0	0	0	1
% Outfall	TJW	1	0	0	0	0
	TJW	2	0	0	0	0
	TJW	3	0	0	0	0
	le	4	0	0	0	0
	le	5	0	0	0	0
	le	6	0	0	0	0
	TJW	7	0	1	0	0
% Outfall	TJW	1	0	0	0	0
	TJW	2	0	0	0	0
	TJW	3	0	0	0	0
	le	4	0	0	0	0
	le	5	0	0	0	0
	le	6	0	0	0	0
	TJW	7	0	1	0	0

CONC.	Initials	DAY NO.	REPLICATE A	B	C	D
100% Outfall	TJW	1	0	0	0	1
	TJW	2	0	0	0	1
	TJW	3	0	0	0	1
	le	4	0	0	0	1
	le	5	0	0	0	1
	le	6	0	0	0	2
	TJW	7	0	0	0	2
100% Intake	TJW	1	0	0	0	0
	TJW	2	0	0	0	0
	TJW	3	0	0	0	0
	le	4	0	0	0	0
	le	5	0	0	0	0
	le	6	0	0	0	0
	TJW	7	0	0	0	0
100% Upstream	TJW	1	0	0	0	0
	TJW	2	0	0	0	0
	TJW	3	0	0	0	0
	le	4	0	0	0	1
	le	5	0	0	0	1
	le	6	0	0	0	2
	TJW	7	0	0	0	3
		1				
		2				
		3				
		4				
		5				
		6				
		7				
		1				
		2				
		3				
		4				
		5				
		6				
		7				

FATHEAD MINNOW SEVEN DAY TEST
RAW DATA
SURVIVAL AND GROWTH

Client: TVA Sequoyah
Test Conducted By: TJW
Date Weighed 8/4/00

Test Dates: 7/27/00 - 8/3/00
Comments:
Drying Time (h) 20 (3:30 8/4/00 - 11:30 8/3/00)

Oven Temp (°C) 102

Exposure & Repl.	Rep.	# Live Fish	# Original Fish	Pan Tare Weight (mg)	Dry Weight Pan + Fish (mg	Groups Dry Weight (Pan + Fish minus Tare) (mg)	Mean Dry Weight (mg)
Control	A	10	10	1275.2	1279.9	4.7	~~0.47~~ 0.47
Moderately Hard	B	9	10	1279.7	1284.2	4.5	0.45
	C	8	10	1282.5	1285.8	3.3	0.33
	D	10	10	1284.1	1288.9	4.8	0.48
Outfall 101 25%	A	10	10	1262.4	1266.5	4.1	0.41
	B	9	10	1268.1	1271.9	3.8	0.38
	C	10	10	1263.5	1267.5	4.0	0.40
	D	9	10	1267.4	1271.8	4.4	0.44
Outfall 101 39.2%	A	10	10	1287.1	1291.5	4.4	0.44
	B	10	10	1261.8	1265.6	3.8	0.38
	C	10	10	1263.2	1267.4	4.2	0.42
	D	9	10	1268.8	1272.3	3.5	0.35
Outfall 101 49%	A	10	10	1280.7	1284.6	3.9	0.39
	B	9	10	1271.5	1275.5	4.0	0.40
	C	10	10	1258.2	1262.0	3.8	0.38
	D	10	10	1261.7	1265.9	4.2	0.42
Outfall 101 80%	A	10	10	1268.6	1272.4	3.8	0.38
	B	9	10	1256.8	1260.0	3.2	0.32
	C	10	10	1270.7	1274.2	3.5	0.35
	D	10	10	1260.8	1264.8	4.0	0.40

FATHEAD MINNOW SEVEN DAY TEST
RAW DATA
SURVIVAL AND GROWTH

Client: TVA Sequoyah
Test Conducted By: TJW
Date Weighed 8/4/00

Test Dates: 7/27/00 - 8/3/00
Comments:
Drying Time (h) 20

Oven Temp (°C) 102

Exposure & Repl.	Rep.	# Live Fish	# Original Fish	Pan Tare Weight (mg)	Dry Weight Pan + Fish (mg)	Groups Dry Weight (Pan + Fish minus Tare) (mg)	Mean Dry Weight (mg)
Outfall 101 100%	A	10	10	1287.6	1290.8	3.2	0.32
	B	10	10	1247.5	1251.6	4.1	0.41
	C	10	10	1282.1	1285.3	3.2	0.32
	D	8	10	1278.9	1282.1	3.2	0.32
Intake 100%	A	10	10	1282.1	1286.3	4.2	0.42
	B	10	10	1256.6	1260.7	4.1	0.41
	C	10	10	1275.9	1280.5	4.6	0.46
	D	10	10	1264.2	1268.4	4.2	0.42
Upstream 100%	A	10	10	1281.0	1284.2	3.2	0.32
	B	10	10	1276.1	1279.8	3.7	0.37
	C	10	10	1280.7	1283.8	3.1	0.31
	D	7	10	1278.2	1282.3	4.1	0.41

Larval Fish Growth and Survival Test-7 Day Growth

Start Date:	7/27/00 01:25	Test ID:	TVAseq700f	Sample ID:	TN0026450
End Date:	8/3/00 02:15	Lab ID:	S&ME INC.	Sample Type:	EFF3-Power Plant
Sample Date:		Protocol:	EPAF 91-EPA Freshwater	Test Species:	PP-Pimephales promelas
Comments:					

Conc-%	1	2	3	4
D-Control	0.4700	0.4500	0.3300	0.4800
25	0.4100	0.3800	0.4000	0.4400
39.2	0.4400	0.3800	0.4200	0.3500
49	0.3900	0.4000	0.3800	0.4200
80	0.3800	0.3200	0.3500	0.4000
100	0.3200	0.4100	0.3200	0.3200

			Transform: Untransformed						1-Tailed		Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Mean	N-Mean
D-Control	0.4325	1.0000	0.4325	0.3300	0.4800	16.061	4				0.4325	1.0000
25	0.4075	0.9422	0.4075	0.3800	0.4400	6.135	4	0.840	2.410	0.0717	0.4075	0.9422
39.2	0.3975	0.9191	0.3975	0.3500	0.4400	10.141	4	1.177	2.410	0.0717	0.3975	0.9191
49	0.3975	0.9191	0.3975	0.3800	0.4200	4.296	4	1.177	2.410	0.0717	0.3975	0.9191
80	0.3625	0.8382	0.3625	0.3200	0.4000	9.655	4	2.353	2.410	0.0717	0.3625	0.8382
*100	0.3425	0.7919	0.3425	0.3200	0.4100	13.139	4	3.026	2.410	0.0717	0.3425	0.7919

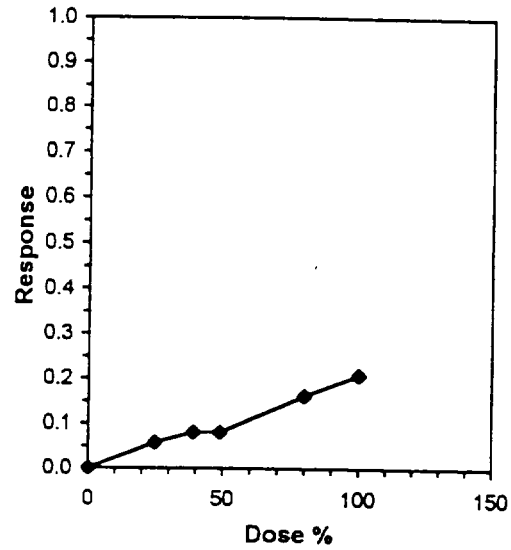
Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.96078	0.884	-0.6116	1.1342
Bartlett's Test indicates equal variances (p = 0.33)	5.73191	15.0863		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test	80	100	89.4427	1.25	0.07168	0.16574	0.00419	0.00177	0.08104	5, 18

Linear Interpolation (80 Resamples)

Point	%	SD	95% CL(Exp)		Skew
IC05*	21.625	20.833	0.057	105.150	1.0289
IC10	56.307				
IC15	75.461				
IC20	96.500				
IC25	>100				
IC40	>100				
IC50	>100				

* indicates IC estimate less than the lowest concentration



ToxCalc v5.0

Reviewed by: LSD

Larval Fish Growth and Survival Test-7 Day Growth

Start Date:	7/27/00 01:25	Test ID:	TVAseq007	Sample ID:	TN0026450
End Date:	8/3/00 02:45	Lab ID:	S&ME INC.	Sample Type:	Intake
Sample Date:		Protocol:	EPAF 91-EPA Freshwater	Test Species:	PP-Pimephales promelas
Comments:					

Conc-%	1	2	3	4
D-Control	0.4700	0.5000	0.4125	0.4800
Intake	0.4200	0.4100	0.4600	0.4200

			Transform: Untransformed						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
D-Control	0.4656	1.0000	0.4656	0.4125	0.5000	8.064	4			
Intake	0.4275	0.9181	0.4275	0.4100	0.4600	5.187	4	1.749	1.943	0.0424

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.94066	0.749	-0.6397	0.58255
F-Test indicates equal variances (p = 0.41)	2.86758	47.4683		

Hypothesis Test (1-tail, 0.05)

Homoscedastic t Test indicates no significant differences

Larval Fish Growth and Survival Test-7 Day Growth

Start Date:	7/27/00 01:25	Test ID:	TVAseq007	Sample ID:	TN0026450
End Date:	8/3/00 02:45	Lab ID:	S&ME INC.	Sample Type:	UPSTREAM
Sample Date:		Protocol:	EPAF 91-EPA Freshwater	Test Species:	PP-Pimephales promelas
Comments:					

Conc-%	1	2	3	4
D-Control	0.4700	0.4500	0.3300	0.4800
Upstream	0.3200	0.3700	0.3100	0.4100

			Transform: Untransformed						1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
D-Control	0.4325	1.0000	0.4325	0.3300	0.4800	16.061	4			
Upstream	0.3525	0.8150	0.3525	0.3100	0.4100	13.180	4	1.915	1.943	0.0812

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.90256	0.749	-0.9624	0.18883
F-Test indicates equal variances (p = 0.53)	2.23552	47.4683		

Hypothesis Test (1-tail, 0.05)

Homoscedastic t Test indicates no significant differences

CERIODAPHNIA TEST INFORMATION SHEET

Test Name: Ceriodaphnia 7-day Chronic Test No.: _____

Test Conducted From: 7/27/00 (Day 0) To 8/3/00 (Day 7)

Sites/Concentrations: 1. Control 4. 49% - outfall Template No. 1
2. 25% - outfall 5. 80% - outfall 7. 100% - intake
3. 99.2% - outfall 6. 100% - outfall 8. 100% - upstream

Stock (if applicable): _____

Control Water Type (✓):

25% Dilute Mineral Water + Trace Metals ☑

Other (describe): _____ ☐

Dilution Water Type (✓):

25% Dilute Mineral Water + Trace Minerals ☑

Other (describe): _____ ☐

Source of Test Organisms: S&ME brood board nos. 109

Age of Test Organisms:

Isolated neonates for test on 7/27/00 (date) from 8:20 AM to 3:20 (time) Initials TSW

Record of Minor Test Non-Conformity

Date: 7/29/00

Description of Non-Conformity: Sample was not delivered on 7/29/00 - should have been delivered Saturday 7/29/00 via Fedex.

Initials: LSD

Date: _____

Description of Non-Conformity: _____

Initials: _____

Test Log sheets QA Reviewed By: [signature] (Reviewer Initials) on LSD 8/11/00 (Date)

REV.01, January 00 (ceriodaphnia test info sheet)

Note: Correction for manganese interference was not made during Total residual Chlorine testing.

Ceriodaphnia Daily Test Information Logsheet

Test Name: Ceriodaphnia 7 day Chronic Test Dates: 7/27/00 - 8/3/00

Daily Test information	Temperature Information (cup -25±1°C)			Feeding Information				Test Initiation, Water Change, or Test Termination		Control Water Carboy No. and Additional comments	
Date and Initials	Incubator Temp. (°C)		Therm. No.	Fed 100 uL YCT	YCT Date	Fed 100 uL Selenastrum	Selanastrum Date	Start Time	End Time		
	a.m.	p.m.								Carboy #	Date Prep.
Day 0 7/27/00 TSW		24.8	6	✓	prepared 5/16/00 approved 7/25/00	✓	7/6/00	3:20PM	4:00PM	#1	7/26/00
Day 1 7/28/00 TSW	25.0	25.0	6	✓	5/16/00 approved 7/25/00	✓	7/6/00	3:30 ~~15:30~~ TSS	4:15 ~~16:15~~ TSS	#1	7/27/00
Day 2 TSW 7/29/00	25.0	25.0	6	✓	5/16/00 approved 7/25/00	✓	7/6/00	2:45pm	3:30PM	#1	7/27/00
Day 3 CSD/MKP 7/30/00	24.6	24.6	6	✓	5/16/00 approved 7/25/00	✓	7/6/00	2:35pm	3:20PM	#1	7/27/00
Day 4 TSW 7/31/00	25.0	25.0	6	✓	5/16 approved 7/25/00	✓	7/6/00	3:10PM	4:10PM	1	7/28/00
Day 5 TSW 8/1/00	25.0	24.5	6	✓	5/16 approved 7/25/00	✓	7/6/00	3:00PM	4:10PM	1	7/28/00
Day 6 TSW 8/2/00	24.6	24.0	6	✓	5/16 approved 7/25/00	✓	7/6/00	3:30PM	4:30PM	1	7/28/00
Day 7 TSW 8/3/00	25.0	24.8	6					3:30PM		1 TSW	TSW 7/28/00

Ceriodaphnia 3-Brood Survival and Reproduction
Raw Data Sheet

Client: Tennessee Valley Authority-Sequoyah
Location: S&ME
Dates Samples Collected: 7/26, 7/27, 7/29, 7/30, 7/31, 8/2

Analysts: TJW
Test Start-Date/Time: 7/27/00 3:20 PM
Test Stop-Date/Time: 8/3/00 3:30 PM

Conc.	Init.	Day	Replicate 1	2	3	4	5	6	7	8	9	10	Number of Young	Number of Adults	Young Surviving per Adult
			–	–	–	–	–	–	–	–	–	–	—	—	—
Control DMW 25%	TJW	1	0	0	0	0	0	0	0	0	0	0	0	10	0
	LSD	2	0	0	0	0	0	0	0	0	0	0	0	10	0
	LSD	3	0	0	0	0	0	0	0	0	0	0	0	10	0
	TJW	4	6	7	0 X	7	7	5	5	6	6	5	54	9	6.0
	TJW	5	14	11	↓	12	12	12	14	13	10	12	110	9	12.2
	TJW	6	0	14	↓	0	0	0	0	0	0	0	14	9	1.6
	KR	7	16	0	↓	12	14	14	14	11	11	16	108	9	12.0
		Total	36	32	0	31	33	31	33	30	27	33	286	9	31.8

Conc.	Init.	Day	Replicate 1	2	3	4	5	6	7	8	9	10	Number of Young	Number of Adults	Young Surviving per Adult
			–	–	–	–	–	–	–	–	–	–	—	—	—
25.0% Outfall	TJW	1	0	0	0	0	0	0	0	0	0	0	0	10	0
	LSD	2	0	0	0	0	0	0	0	0	0	0	0	10	0
	LSD	3	0	0	0	0	0	0	0	0	0	0	0	10	0
	TJW	4	6	7	7	6	8	6	6	6	6	5	63	10	6.3
	TJW	5	11	9	12	13	11	11	14	12	10	12	115	10	11.5
	TJW	6	14	9	10	13	14	9	17	0	13	0	99	10	9.9
	KR	7	0	0	0	14	0	0	0	14	0	14	42	10	4.2
		Total	31	25	29	46	33	26	37	32	29	31	319	10	31.9

Conc.	Init.	Day	Replicate 1	2	3	4	5	6	7	8	9	10	Number of Young	Number of Adults	Young Surviving per Adult
			–	–	–	–	–	–	–	–	–	–	—	—	—
39.2% Outfall	TJW	1	0	0	0	0	0	0	0	0	0	0	0	10	0
	LSD	2	0	0	0	0	0	0	0	0	0	0	0	10	0
	LSD	3	0	0	0	0	0	0	0	0	0	0	0	10	0
	TJW	4	8	6	7	7	7	7	6	8	6	8	70	10	7.0
	TJW	5	11	11	13	12	13	15	11	13	12	14	125	10	12.5
	TJW	6	15	12	14	12	13	14	11	15	12	10	128	10	12.8
	KR	7	15	15	15	16	15	17	0	0	16	0	109	10	10.9
		Total	49	44	49	47	48	53	28	36	46	32	432	10	43.2

Ceriodaphnia 3-Brood Survival and Reproduction
Raw Data Sheet

Conc.	Init.	Day	Replicate 1	2	3	4	5	6	7	8	9	10	Number of Young	Number of Adults	Young per Surviving Adult
			–	–	–	–	–	–	–	–	–	–	—	—	—
	TJW	1	0	0	0	0	0	0	0	0	0	0	0	10	0
	LSD	2	0	0	0	0	0	0	0	0	0	0	0	10	0
	LSD	3	0	0	0	0	0	0	0	0	0	0	0	10	0
49% Outfall	TJW	4	6	7	7	7	6	6	3	6	7	7	62	10	6.2
	TJW	5	14	12	13	10	11	13	12	17	12	12	126	10	12.6
	TJW	6	11	12	17	9	11	13	13	15	17	13	131	10	13.1
	Le	7	13	17	11	14	15	17	14	17	14	0	138	10	13.8
		Total	44	48	~~50~~ 54	40	43	49	42	55	50	32	457	10	45.7

Conc.	Init.	Day	Replicate 1	2	3	4	5	6	7	8	9	10	Number of Young	Number of Adults	Young per Surviving Adult
			–	–	–	–	–	–	–	–	–	–	—	—	—
	TJW	1	0	0	0	0	0	0	0	0	0	0	0	10	0
	LSD	2	0	0	0	0	0	0	0	0	0	0	0	10	0
	LSD	3	0	0	0	0	0	0	0	0	0	0	0	10	0
80% Outfall	TJW	4	7	5	8	7	7	6	5	6	7	7	65	10	6.5
	TJW	5	14	12	11	12	13	11	12	13	9	11	118	10	11.8
	TJW	6	13	12	14	13	13	12	12	10	10	12	121	10	12.1
	Le	7	14	17	19	15	15	11	14	0	0	0	105	10	10.5
		Total	48	46	52	47	48	40	43	29	26	30	409	10	40.9

Conc.	Init.	Day	Replicate 1	2	3	4	5	6	7	8	9	10	Number of Young	Number of Adults	Young per Surviving Adult
			–	–	–	–	–	–	–	–	–	–	—	—	—
	TJW	1	0	0	0	0	0	0	0	0	0	0	0	10	0
	LSD	2	0	0	0	0	0	0	0	0	0	0	0	10	0
	LSD	3	0	0	0	0	0	0	0	0	0	0	0	10	0
100% Outfall	TJW	4	6	7	6	5	7	6	6	5	6	3	57	10	5.7
	TJW	5	12	13	13	13	11	9	11	13	12	10	117	10	11.7
	TJW	6	11	14	10	10	10	10	0	12	9	10	96	10	9.6
	Le	7	0	0	0	11	0	0	11	0	0	0	22	10	2.2
		Total	29	34	29	39	28	25	28	30	27	23	292	10	29.2

Ceriodaphnia 3-Brood Survival and Reproduction
Raw Data Sheet

Conc.	Init.	Day	Replicate 1	2	3	4	5	6	7	8	9	10	Number of Young	Number of Adults	Young per Surviving Adult
			–	–	–	–	–	–	–	–	–	–	—	—	—
	TSS	1	0	0	0	0	0	0	0	0	0	0	0	10	0
	LSD	2	0	0	0	0	0	0	0	0	0	0	0	10	0
	LSD	3	0	0	0	0	0	0	0	0	0	0	0	10	0
100% Intake	TJW	4	7	5	5	8	5	7	2	7	6	5	57	10	5.7
	TJW	5	10	12	13	14	13	12	14	10	11	11	120	10	12.0
	Ke	6	10	11	13	15	13	13	15	12	12	13	127	10	12.7
	Ke	7	4	0	0	0	0	0	0	0	0	0	4	10	0.4
		Total	31	28	31	37	31	32	31	29	29	29	308	10	30.8
			3 brood												

Conc.	Init.	Day	Replicate 1	2	3	4	5	6	7	8	9	10	Number of Young	Number of Adults	Young per Surviving Adult
			–	–	–	–	–	–	–	–	–	–	—	—	—
	TSS	1	0	0	0	0	0	X	0	0	0	0	0	9	0
	LSD	2	0	0	0	0	0		0	0	0	0	0	9	0
	LSD	3	0	0	0	0	0		0	0	0	0	0	9	0
100% Upstream	TJW	4	8	7	7	5	7		8	6	7	6	61	9	6.8
	TJW	5	10	13	12	15	10		13	11	12	13	109	9	12.1
	Ke	6	13	13	14	14	11		16	7	15	15	118	9	13.1
	Ke	7	0	12	13	14	0	↓	10	11	16	18	99	9	11.0
		Total	31	45	46	48	28	0	47	40	50	52	387	9	43.0

Ceriodaphnia Survival and Reproduction Test-Reproduction

Start Date:	7/27/00 03:20	Test ID:	TVAseq700c	Sample ID:	TN0026450
End Date:	8/3/00 03:30	Lab ID:	S&ME	Sample Type:	EFF3-Power Plant
Sample Date:		Protocol:	EPAF 91-EPA Freshwater	Test Species:	CD-Ceriodaphnia dubia
Comments:					

Conc-%	1	2	3	4	5	6	7	8	9	10
D-Control	36.000	32.000	0.000	31.000	33.000	31.000	33.000	30.000	27.000	33.000
25	31.000	25.000	29.000	46.000	33.000	26.000	37.000	32.000	29.000	31.000
39.2	49.000	44.000	49.000	47.000	48.000	53.000	28.000	36.000	46.000	32.000
49	44.000	48.000	54.000	40.000	43.000	49.000	42.000	55.000	50.000	32.000
80	48.000	46.000	52.000	47.000	48.000	40.000	43.000	29.000	26.000	30.000
100	29.000	34.000	29.000	39.000	28.000	25.000	28.000	30.000	27.000	23.000

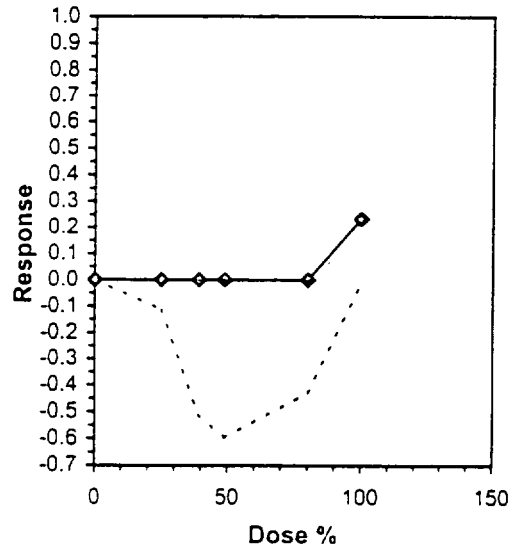
			Transform: Untransformed						1-Tailed		Isotonic	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Mean	N-Mean
D-Control	28.600	1.0000	28.600	0.000	36.000	36.082	10				38.060	1.0000
25	31.900	1.1154	31.900	25.000	46.000	18.893	10	-0.945	2.287	7.989	38.060	1.0000
39.2	43.200	1.5105	43.200	28.000	53.000	19.176	10	-4.179	2.287	7.989	38.060	1.0000
49	45.700	1.5979	45.700	32.000	55.000	15.197	10	-4.895	2.287	7.989	38.060	1.0000
80	40.900	1.4301	40.900	26.000	52.000	22.687	10	-3.521	2.287	7.989	38.060	1.0000
100	29.200	1.0210	29.200	23.000	39.000	15.468	10	-0.172	2.287	7.989	29.200	0.7672

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Kolmogorov D Test indicates normal distribution (p > 0.01)	0.90747	1.035	-1.198	2.66263
Bartlett's Test indicates equal variances (p = 0.21)	7.17606	15.0863		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test	100	>100		1	7.9888	0.27933	571.417	61.0278	1.8E-06	5, 54

Linear Interpolation (80 Resamples)

Point	%	SD	95% CL		Skew
C05	84.296	2.620	77.891	86.263	-4.3001
C10	88.591	1.770	85.330	92.527	0.0186
C15	92.887	2.300	89.691	98.790	0.8346
C20	97.183				
C25	>100				
C40	>100				
C50	>100				



Ceriodaphnia Survival and Reproduction Test-Reproduction

Start Date:	7/27/00 01:25	Test ID:	TVAseq007	Sample ID:	TN0026450
End Date:	8/3/00 02:45	Lab ID:	S&ME INC.	Sample Type:	Upstream
Sample Date:		Protocol:	EPAF 91-EPA Freshwater	Test Species:	CD-Ceriodaphnia dubia
Comments:					

Conc-%	1	2	3	4	5	6	7	8	9	10
D-Control	36.000	32.000	0.000	31.000	33.000	31.000	33.000	30.000	27.000	33.000
Intake	31.000	28.000	31.000	37.000	31.000	32.000	31.000	29.000	29.000	29.000

			Transform: Untransformed					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
D-Control	28.600	1.0000	28.600	0.000	36.000	36.082	10		
Intake	30.800	1.0769	30.800	28.000	37.000	8.214	10	94.50	82.00

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.61376	0.868	-3.3599	13.5128
F-Test indicates unequal variances (p = 2.76E-04)	16.6389	6.54109		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Two-Sample Test indicates no significant differences

Ceriodaphnia Survival and Reproduction Test-Reproduction

Start Date:	7/27/00 01:25	Test ID:	TVAseq007	Sample ID:	TN0026450
End Date:	8/3/00 02:45	Lab ID:	S&ME INC.	Sample Type:	Upstream
Sample Date:		Protocol:	EPAF 91-EPA Freshwater	Test Species:	CD-Ceriodaphnia dubia
Comments:					

Conc-%	1	2	3	4	5	6	7	8	9	10
D-Control	36.000	32.000	0.000	31.000	33.000	31.000	33.000	30.000	27.000	33.000
Upstream	31.000	45.000	46.000	48.000	28.000	0.000	47.000	40.000	50.000	52.000

			Transform: Untransformed					Rank	1-Tailed
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical
D-Control	28.600	1.0000	28.6000	0.0000	36.0000	36.082	10		
Upstream	38.700	1.3531	38.7000	0.0000	52.0000	40.639	10	131.50	82.00

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.75241	0.868	-2.0616	4.16864
F-Test indicates equal variances (p = 0.23)	2.32273	6.54109		

Hypothesis Test (1-tail, 0.05)

Wilcoxon Two-Sample Test indicates no significant differences

SEQ- July 27 - August 3, 2000 INITIAL AND FINAL WATER CHEMISTRY (FATHEAD)

Initial Chemistry

Fish - Control	0	1	2	3	4	5	6	MIN	MAX		MEAN
Temp	25.2	24.6	25.4	25.3	24.3	24.9	24.5	24.3	25.4		24.9
DO	8.07	7.80	7.92	7.02	8.05	7.74	7.61	7.02	8.07		7.74
pH	7.16	7.80	7.83	7.91	7.87	7.80	7.60	7.16	7.91		7.71
Cond	217	314	310	300	305	311	316	217	316		296
Hard	86.0	86.0	88.0	86.0	86.0	86.0	86.0	86	88		86.3
Alk	64.0	64.0	62.0	62.0	62.0	65.0	62.0	62	65		63.0

Concentration 25%	0	1	2	3	4	5	6	MIN	MAX		MEAN
Temp	24.4	24.7	25.4	25.2	24.7	24.8	24.6	24.4	25.4		24.8
DO	6.38	7.87	7.86	7.69	7.89	7.14	7.55	6.38	7.89		7.48
pH	7.60	7.75	7.79	7.89	7.84	7.67	7.61	7.60	7.89		7.74
Cond	208	284	281	273	278	279	276	208	284		268

Concentration 39.2%	0	1	2	3	4	5	6	MIN	MAX		MEAN
Temp	24.4	24.7	25.3	25.0	25.1	24.9	24.7	24.4	25.3		24.9
DO	7.53	7.79	7.75	7.71	7.84	7.12	7.55	7.12	7.84		7.61
pH	7.59	7.73	7.73	7.85	7.82	7.66	7.60	7.59	7.85		7.71
Cond	209	260	262	252	260	261	260	209	262		252

Concentration 49%	0	1	2	3	4	5	6	MIN	MAX		MEAN
Temp	24.4	24.7	25.3	24.9	25.3	25.1	24.8	24.4	25.3		24.9
DO	6.38	7.71	7.66	7.76	7.61	7.07	7.41	6.38	7.76		7.37
pH	7.60	7.70	7.71	7.81	7.80	7.64	7.59	7.59	7.81		7.69
Cond	208	249	241	238	246	248	248	208	249		240

Concentration 80%	0	1	2	3	4	5	6	MIN	MAX		MEAN
Temp	24.4	24.6	25.2	24.7	25.9	25.2	24.8	24.4	25.9		25.0
DO	6.41	7.30	7.42	7.85	7.36	6.85	7.17	6.41	7.85		7.19
pH	7.56	7.60	7.66	7.71	7.75	7.58	7.53	7.53	7.75		7.63
Cond	207	210	208	205	203	210	209	203	210		207

Concentration 100%	0	1	2	3	4	5	6	MIN	MAX		MEAN
Temp	24.4	24.6	25.1	24.5	25.9	25.4	24.8	24.4	25.9		25.0
DO	6.14	7.05	7.19	7.88	6.92	6.58	7.10	6.14	7.88		6.98
pH	7.53	7.54	7.59	7.63	7.70	7.53	7.49	7.49	7.70		7.57
Cond	207	183	181	180	182	184	186	180	207		186
Hard	70.0	70.0	70.0	70.0	68.0	68.0	70.0	68	70		69.4
Alk	57.0	57.0	57.0	57.0	59.0	59.0	59.0	57	59		57.9
TRC	0.14	0.18	0.18	0.18	0.10	0.11	0.10	0.10	0.18		0.14

Fish Water Chemistry

Concentration 100%	1	2	3	4	5	6	7	MIN	MAX	MEAN
Temp	24.6	24.5	24.4	24.5	24.1	24.7	24.9	24.1	24.9	24.5
DO	7.36	7.28	7.10	6.46	5.64	6.08	6.46	5.64	7.36	6.63
pH	7.61	7.66	7.60	7.54	7.27	7.38	7.63	7.27	7.66	7.53

Intake	1	2	3	4	5	6	7	MIN	MAX	MEAN
Temp	24.6	25.2	24.6	24.6	24.7	24.8	24.7	24.6	25.2	24.7
DO	7.37	6.92	7.02	6.37	6.37	6.44	6.96	6.37	7.37	6.78
pH	7.52	7.56	7.61	7.60	7.36	7.47	7.69	7.36	7.69	7.54

Upstream	1	2	3	4	5	6	7	MIN	MAX	MEAN
Temp	24.6	25.0	24.9	25.2	25.2	24.8	25.1	24.6	25.2	25.0
DO	7.47	7.31	7.06	6.30	5.46	5.74	6.92	5.46	7.47	6.61
pH	7.60	7.74	7.64	7.60	7.28	7.39	7.72	7.28	7.74	7.57

Test Temperature	Mean	24.7
	Minimum	24.0
	Maximum	25.8

Word Review by: CLR 08-25-2000

Excel Reviewed by: CLR 08-25-2000

Client: Tennessee Valley Authority-Sequoyah Analysts: Lee/TJW/LSD
Location: S&ME Dates/times: 7/27/00 - 8/3/00
Test Type: Fathead Minnow 7-day Chronic

Data Checking Page 1

Day									
Control: Mod. Hard	0	1	2	3	4	5	6	7	Remarks
Temperature-Initial	25.2	24.6	25.4	25.3	24.3	24.9	24.5		
Final		24.6	24.9	24.5	24.5	24.4	24.6	24.8	*temp on day 2 is 24.7
D.O. Initial	8.07	7.35	7.53	7.02	8.05	7.74	7.61		*7.92 DO on day 2
Final		7.02	7.36	7.08	6.58	5.21	5.82	6.59	
pH Initial	7.16	7.80	7.83	7.91	7.87	7.80	7.60		
Final		7.18	7.53	7.52	7.51	7.15	7.23	7.51	
Alkalinity	64	64	62	62	62	65	62		
Hardness	96	96	98	86	86	86	86		
Conductivity	217	314	310	300	305	311	316		
Chlorine									
Initials	Le	LSD	LSD	LSD	Le	Le	Le	TJW	

Day									
25%-Outfall	0	1	2	3	4	5	6	7	Remarks
Temperature-Initial	24.4	24.7	25.4	25.2	24.7	24.8	24.6		
Final		24.6	24.9	24.5	25.0	24.0	24.0	24.3	
D.O. Initial	7.98	7.97	7.86	7.65	7.89	7.14	7.55		
Final		7.23	7.25	7.02	5.80	6.03	5.99	7.04	
pH Initial	7.59	7.15	7.79	7.59	7.84	7.67	7.61		
Final		7.33	7.54	7.52	7.46	7.24	7.27	7.55	
Alkalinity									
Hardness									
Conductivity	212	254	251	273	278	279	276		
Chlorine									
Initials	Le	LSD	LSD	LSD	Le	Le	Le	TJW	

Day									
39.2%-Outfall	0	1	2	3	4	5	6	7	Remarks
Temperature-Initial	24.4	24.7	25.3	25.0	25.1	24.9	24.7		
Final		24.6	25.1	25.4	25.8	25.4	24.5	24.7	
D.O. Initial	6.38	7.79	7.75	7.71	7.84	7.12	7.55		
Final		7.62	7.08	6.54	5.09	4.57	5.49	6.66	
pH Initial	7.60	7.73	7.73	7.55	7.82	7.66	7.60		
Final		7.49	7.56	7.43	7.40	7.19	7.27	7.55	
Alkalinity									
Hardness									
Conductivity	208	260	262	252	260	261	260		
Chlorine									
Initials	Le	LSD	LSD	LSD	Le	Le	Le	TJW	

Dechlorinating Project

Day									
49%-Outfall	0	1	2	3	4	5	6	7	Remarks
Temperature-Initial	24.4	24.7	25.2	24.9	25.3	25.1	24.8		
Final		24.6	24.7	24.9	25.2	25.1	24.9	25.1	
D.O. Initial	6.83	7.71	7.66	7.76	7.61	7.07	7.41		
Final		7.51	7.30	7.53	6.13	4.66	5.25	6.31	
pH Initial	7.60	7.70	7.71	7.81	7.80	7.64	7.59		
Final		7.51	7.61	7.54	7.45	7.19	7.26	7.52	
Alkalinity									
Hardness									
Conductivity	208	249	241	238	246	248	248		
Chlorine									
Initials	Le	LSD	TJW/LSD	LSD	Le	TJW	Le	TJW	

Day									
80%-Outfall	0	1	2	3	4	5	6	7	Remarks
Temperature-Initial	24.4	24.6	25.2	24.7	25.9	25.2	24.8		
Final		24.6	24.6	24.7	24.5	24.8	24.8	25.0	
D.O. Initial	6.41	7.32	7.42	7.85	7.36	6.85	7.17		
Final		7.55	7.31	7.08	6.47	5.44	5.61	6.76	
pH Initial	7.56	~~7.70~~ 7.50	7.66	7.71	7.75	7.58	7.53		* 7.60 ~ day 1 pH
Final		7.56	7.66	7.60	7.49	7.22	7.29	7.70	
Alkalinity									
Hardness									
Conductivity	207	210	208	205	203	210	209		
Chlorine									
Initials	Le	LSD	TJW/LSD	LSD	Le	Le	Le	TJW	

Day									
100%-Outfall	0	1	2	3	4	5	6	7	Remarks
Temperature-Initial	24.4	24.6	25.1	24.5	25.9	25.4	24.8		
Final		24.6	24.5	24.4	24.5	24.1	24.7	24.9	
D.O. Initial	6.14	7.05	7.19	7.88	6.92	6.58	7.10		
Final		7.36	7.28	7.10	6.46	5.64	6.09	6.46	
pH Initial	7.53	~~7.54~~ 7.54	7.59	7.63	7.70	7.53	7.49		
Final		7.61	7.66	7.60	7.54	7.27	7.38	7.63	
Alkalinity	57	57	57	57	59	59	59		
Hardness	70	70	70	70	68	68	70		
Conductivity	207	183	181	180	182	184	186		
Chlorine (mg/L Cl_2)	0.14	0.18	0.18 →		0.10	0.09	0.10		
Initials	Le	LSD	TJW/LSD	LSD	Le	Le	Le	TJW	
	~~7/25~~ 7/27 TJW	~~7/26~~ TJW	7/28	7/29	7/30	7/31	8/1		
	Single 7/26	Single 7/27	Single	Single	Sample	Sample	Sample		

100%-Intake	Day 0	1	2	3	4	5	6	7	Remarks
Temperature-Initial	24.3	24.1	24.8	24.9	25.8	24.1	25.4		
Final		24.6	25.2	24.[illegible]	24.6	24.7	24.8	24.7	
D.O. Initial	5.90	7.22	6.32	7.85	7.05	7.23	6.01		
Final		7.31	7.02	7.02	6.37	6.37	6.44	6.46	
pH Initial	7.31	8.15	7.33	7.38	7.52	7.28	7.26		
Final		7.57	7.56	7.61	7.60	7.36	7.47	7.64	
Alkalinity	58	57	58	58	57	57	57		
Hardness	70	70	70	70	70	70	72		
Conductivity	181	216	181	180	179	182	186		
Chlorine (mg/L Cl_2)	0.12	0.12	0.15 →		0.10	0.13	[illegible]		
Initials	[illegible]	LSD	TSW/LSD	LSD	[illegible]	[illegible]	[illegible]	TSW	
	7/26 Sample	7/27 Sample	7/28 Sample	7/29 Sample	7/30 Sample	7/31 Sample	8/1 Sample		

100%-Upstream	Day 0	1	2	3	4	5	6	7	Remarks
Temperature-Initial	24.3	24.1	24.9	25.3	25.9	24.2	24.6		
Final		24.6	25.0	24.9	25.2	25.2	24.8	25.1	
D.O. Initial	6.06	8.76	7.10	8.41	6.85	6.84	6.11		
Final		7.47	7.31	7.06	6.30	5.46	5.74	6.42	
pH Initial	7.33	8.55	7.51	7.51	7.51	7.29	7.12		
Final		7.60	7.74	7.64	7.60	7.28	7.39	7.72	
Alkalinity	58	58	58	58	58	60	59		
Hardness	68	68	70	70	70	70	70		
Conductivity	179	211	177	178	180	180	185		
Chlorine (mg/L Cl_2)	0.12	0.14	0.13 →		0.12	0.09	0.10		
Initials	[illegible]	LSD	TSW/LSD	LSD	[illegible]	[illegible]	[illegible]	TSW	
	~~7/26~~ 7/26 Sample	7/27 Sample	7/28 Sample	7/29 Sample	7/30 Sample	7/31 Sample	8/1 Sample		

SQN- July 27 - August 3, 2000 INITIAL AND FINAL WATER CHEMISTRY (CERIO)

Initial Chemistry

CERIO

Control	0	1	2	3	4	5	6	MIN	MAX		MEAN
Temp	25.1	24.4	25.2	25.3	24.0	24.8	25.1	24.0	25.3		24.8
DO	7.69	8.18	8.04	7.94	7.44	7.69	7.60	7.44	8.18		7.80
pH	8.08	7.96	7.87	7.98	8.08	8.01	8.00	7.87	8.08		8.00
Cond	218	224	214	212	213	224	223	212	224		218
Hard	87.0	84.0	84.0	84.0	82.0	82.0	82.0	82.0	87.0		83.6
Alk	68.0	64.0	64.0	64.0	65.0	65.0	65.0	64.0	68.0		65.0

Concentration 25%	0	1	2	3	4	5	6	MIN	MAX		MEAN
Temp	25.1	24.5	25.0	25.1	24.1	24.2	24.1	24.1	25.1		24.6
DO	7.47	8.29	7.94	7.81	7.57	7.26	7.73	7.26	8.29		7.72
pH	8.04	7.93	7.86	7.94	8.04	7.96	7.88	7.86	8.04		7.95
Cond	212	219	207	207	208	206	216	206	219		211

Concentration 39.2%	0	1	2	3	4	5	6	MIN	MAX		MEAN
Temp	25.5	24.3	25.2	24.8	24.4	24.3	24.2	24.2	25.5		24.7
DO	7.47	7.92	7.77	7.79	7.47	7.29	7.71	7.29	7.92		7.63
pH	7.99	7.81	7.82	7.90	8.00	7.93	7.85	7.81	8.00		7.90
Cond	208	215	204	204	205	205	204	204	215		206

Concentration 49%	0	1	2	3	4	5	6	MIN	MAX		MEAN
Temp	25.8	25.1	25.2	25.0	24.5	24.5	24.3	24.3	25.8		24.9
DO	7.35	7.84	7.63	7.86	7.32	7.27	7.69	7.27	7.86		7.57
pH	7.96	7.84	7.81	7.88	7.99	7.89	7.83	7.81	7.99		7.89
Cond	205	210	201	201	202	201	201	201	210		203

Concentration 80%	0	1	2	3	4	5	6	MIN	MAX		MEAN
Temp	25.9	25.1	25.2	25.0	24.9	24.5	24.2	24.2	25.9		25.0
DO	7.19	7.58	7.44	7.89	7.29	7.06	7.58	7.06	7.89		7.43
pH	7.87	7.73	7.70	7.79	7.87	7.78	7.70	7.70	7.87		7.78
Cond	193	196	190	189	193	192	191	189	196		192

Concentration 100%	0	1	2	3	4	5	6	MIN	MAX		MEAN
Temp	26.0	25.1	25.1	24.9	25.9	24.5	24.8	24.5	26.0		25.2
DO	7.18	7.36	7.11	7.91	6.92	6.74	7.10	6.74	7.91		7.19
pH	7.80	7.63	7.62	7.69	7.70	7.71	7.49	7.49	7.80		7.66
Cond	189	187	183	184	182	183	186	182	189		185
Hard	70.0	70.0	70.0	70.0	68.0	68.0	70.0	68	70		69.4
Alk	57.0	57.0	57.0	57.0	59.0	59.0	59.0	57	59		57.9
TRC	0.14	0.18	0.18	0.18	0.10	0.11	0.10	0.10	0.18		0.14

Intake	0	1	2	3	4	5	6	MIN	MAX		MEAN
Temp	25.9	24.5	25.1	24.9	25.8	24.1	25.4	24.1	25.9		25.1
DO	6.90	7.43	6.26	7.82	7.05	7.23	6.01	6.01	7.82		6.96
pH	7.61	8.23	7.38	7.44	7.52	7.28	7.26	7.26	8.23		7.53
Cond	185	217	178	179	179	182	186	178	217		187
Hard	70.0	70.0	70.0	70.0	70.0	70.0	72.0	70	72		70.3
Alk	58.0	57.0	58.0	58.0	57.0	57.0	57.0	57	58		57.4
TRC	0.12	0.12	0.15	0.15	0.10	0.13	0.11	0.10	0.15		0.13

Upstream	0	1	2	3	4	5	6	MIN	MAX		MEAN
Temp	25.9	25.0	25.1	24.9	25.9	24.2	24.6	24.2	25.9		25.1
DO	6.89	8.61	7.06	8.45	6.85	6.84	6.11	6.11	8.61		7.26
pH	7.60	8.62	7.50	7.56	7.51	7.29	7.12	7.12	8.62		7.60
Cond	185	212	180	181	180	180	185	180	212		186
Hard	68.0	68.0	70.0	70.0	70.0	70.0	70.0	68	70		69.4
Alk	58.0	58.0	58.0	58.0	58.0	60.0	59.0	58	60		58.4
TRC	0.12	0.14	0.13	0.13	0.12	0.09	0.10	0.09	0.14		0.12

Final Chemistry

CERIO

Cerio - Medium	1	2	3	4	5	6	7	MIN	MAX		MEAN
Temp	24.4	25.7	25.2	24.7	24.1	24.2	24.4	24.1	25.7		24.7
DO	8.27	7.69	7.60	7.86	8.60	8.21	8.19	7.60	8.60		8.06
pH	7.86	8.04	7.82	8.08	8.28	8.08	8.01	7.82	8.28		8.02

Concentration 25%	1	2	3	4	5	6	7	MIN	MAX		MEAN
Temp	24.5	25.4	25.2	24.9	24.2	24.1	24.3	24.1	25.4		24.7
DO	8.29	8.33	8.59	8.50	9.88	8.50	8.61	8.29	9.88		8.67
pH	7.96	8.23	8.34	8.43	8.44	8.09	8.53	7.96	8.53		8.29

Concentration 39.2%	1	2	3	4	5	6	7	MIN	MAX		MEAN
Temp	24.3	25.4	25.6	26.0	24.4	24.4	24.5	24.3	26.0		24.9
DO	8.39	8.59	8.75	7.98	8.77	8.51	8.60	7.98	8.77		8.51
pH	7.93	8.31	8.37	8.36	8.24	8.12	8.54	7.93	8.54		8.54

Concentration 49%	1	2	3	4	5	6	7	MIN	MAX		MEAN
Temp	24.4	25.5	25.9	26.0	24.9	24.7	24.4	24.4	26.0		25.1
DO	8.23	8.33	7.68	8.70	9.73	9.36	8.88	7.68	9.73		8.70
pH	7.99	8.20	8.05	8.53	8.52	8.38	8.56	7.99	8.56		8.32

Concentration 80%	1	2	3	4	5	6	7	MIN	MAX		MEAN
Temp	24.3	25.6	25.9	25.6	24.6	24.7	24.2	24.2	25.9		25.0
DO	8.56	8.45	7.78	8.92	9.37	8.87	8.60	7.78	9.37		8.65
pH	7.97	8.26	8.00	8.58	8.48	8.27	8.56	7.97	8.58		8.30

Concentration 100%	1	2	3	4	5	6	7	MIN	MAX		MEAN
Temp	24.3	25.5	25.5	24.8	24.5	24.6	24.3	24.3	25.5		24.8
DO	8.22	8.35	8.30	8.69	9.50	9.04	8.72	8.22	9.50		8.69
pH	7.93	8.16	8.20	8.54	8.50	8.33	8.55	7.93	8.55		8.32

Intake	1	2	3	4	5	6	7	MIN	MAX		MEAN
Temp	24.3	25.2	25.3	24.7	24.3	24.4	24.4	24.3	25.3		24.7
DO	8.61	9.09	7.99	8.44	9.24	9.22	8.38	7.99	9.24		8.71
pH	7.74	8.41	8.08	8.49	8.46	8.39	8.48	7.74	8.49		8.29

Upstream	1	2	3	4	5	6	7	MIN	MAX		MEAN
Temp	24.4	25.4	25.3	24.5	24.7	24.5	24.3	24.3	25.4		24.7
DO	8.65	8.97	8.56	8.38	8.32	8.92	8.46	8.32	8.97		8.61
pH	7.82	8.42	8.38	8.53	8.43	8.41	8.50	7.82	8.53		8.36

Test temperature		
	Mean:	24.8
	Min:	24.1
	Max:	26.0

Word Review by: Cur 08-24-2000

Excel Reviewed by: Cur 08-24-2000

Client: Tennessee Valley Authority-Sequoyah --Analysts: Lee
Location: S&ME Dates/times: 7/27/00
Template No.: 1 Age of Neonates <8 hrs old
Test Type: Ceriodaphnia 7-day Chronic Data Chemistry Page 1

Day									
Control: 25% DMW	0	1	2	3	4	5	6	7	Remarks
Temperature-Initial	25.1	24.6	25.2	25.3	24.0	24.8	25.1		
Final		24.4	25.7	25.2	24.7	24.1	24.2	24.4	
D.O. Initial	7.69	8.18*	8.04	7.94	7.44	7.69	7.60		*D.O. on day 1 is 8.18
Final		8.27	8.69	7.60	7.86	8.60	8.21	8.19	
pH Initial	8.08	7.96	7.87	7.98	8.08	8.01	8.00		
Final		7.86	8.04	7.82	8.08	8.28	8.08	8.01	*Final pH on day 1 is 7.86
Alkalinity	68	64	64	64	65	65	65		
Hardness	87	84	84	84	82	82	82		
Conductivity	218	224	197	212	213	224	223		*conductivity on day 2 is 214
Chlorine	ND	ND	ND	ND	ND	ND	ND		
Initials	Lee	TJS	LSD	LSD	TJW	TJW	TJW	Lee	

Day									
25%-Outfall	0	1	2	3	4	5	6	7	Remarks
Temperature-Initial	25.1	24.5	25.0	25.1	24.1	24.2	24.1		
Final		24.5	25.4	25.2	24.9	24.2	24.1	24.3	
D.O. Initial	7.47	8.29	7.94	7.81	7.57	7.26	7.73		
Final		8.29	8.33*	8.59	8.50	9.88	8.50	8.61	Final DO. on Day 2 is 8.33
pH Initial	8.04	7.93	7.86	7.94	8.04	7.96	7.88		
Final		7.96	8.23	8.34	8.43	8.44	8.09	8.53	
Alkalinity									
Hardness									
Conductivity	212	219	207	207	208	206	216		
Chlorine									
Initials	Lee	TJS	LSD	LSD	TJW	TJW	TJW	Lee	

Day									
39.2%-Outfall	0	1	2	3	4	5	6	7	Remarks
Temperature-Initial	25.8	24.3	25.2	24.8	24.4	24.3	24.2		
Final		24.3	25.4	25.6	26.0	24.4	24.4	24.5	
D.O. Initial	7.47	7.92	7.77	7.79	7.47	7.29	7.77		
Final		8.39	8.59	8.15	7.98	8.77	8.51	8.60	
pH Initial	7.99	7.84	7.82	7.90	8.00	7.93	7.85		Initial pH on day 1 is 7.81
Final		7.95	8.31	8.37	8.36	8.24	8.12	8.54	
Alkalinity									
Hardness									
Conductivity	208	215	204	204	205	205	204		
Chlorine									
Initials	Lee	TJS	LSD	LSD	TJW	TJW	TJW	Lee	

Ceriodaphnia dubia

DATA Chemistry PAGE 2

49%-Outfall	Day 0	1	2	3	4	5	6	7	Remarks
Temperature-Initial	25.8	25.1	25.2	25.0	24.5	24.5	24.3		
Final		24.6	25.5	25.9	26.0	24.9	24.7	24.4	
D.O. Initial	7.35	7.84	7.63	7.86	7.32	7.27	7.69		
Final		8.23	8.93	7.68	8.70	9.73	9.36	8.88	
pH Initial	7.96	7.84	7.81	7.88	7.49	7.89	7.83		
Final		7.99	8.20	8.05	8.53	8.52	8.38	8.56	
Alkalinity									
Hardness									
Conductivity	205	210	201	201	202	201	201		
Chlorine									
Initials	Le	TSW	LSD	LSD	TSW	TSW	TSW	Le	

80%Outfall	Day 0	1	2	3	4	5	6	7	Remarks
Temperature-Initial	25.9	25.1	25.2	25.0	24.9	24.5	24.2		
Final		24.3	25.6	25.9	25.6	24.6	24.7	24.2	
D.O. Initial	7.19	7.58	7.44	7.89	7.29	7.06	7.58		
Final		8.56	~~7.49~~ 8.45	7.78	8.92	9.37	8.87	8.60	*Final D.O. on day 2 is 8.45
pH Initial	7.87	7.73	7.70	7.99	7.87	7.78	7.70		
Final		7.97	8.26	8.00	8.58	8.48	8.27	8.56	
Alkalinity									
Hardness									
Conductivity	193	196	190	189	193	192	191		
Chlorine									
Initials	Le	TSW	~~25.2~~ LSD	LSD	TSW	TSW	TSW	Le	

100%-Outfall	Day 0	1	2	3	4	5	6	7	Remarks
Temperature-Initial	26.0	25.1	25.1	24.9	25.9	24.5	24.8		
Final		24.3	25.5	25.5	24.8	24.5	24.6	24.3	
D.O. Initial	7.18	7.36	7.11	7.91	6.92	6.74	7.10		
Final		8.22	~~7.44~~ 8.35	8.30	8.69	9.50	9.04	8.72	*Final D.O. on day 2 is 8.35
pH Initial	7.80	7.63	7.62	7.69	7.70	7.71	7.49		
Final		7.93	8.16	8.20	8.54	8.50	8.33	8.55	
Alkalinity	57	57	57	57	59	59	59		
Hardness	70	70	70	70	68	68	70		
Conductivity	189	187	183	~~189~~ 184	182	183	186		
Chlorine	0.14	0.18	0.18	→1	0.10	0.11	0.10		
Initials	LSD	TSW	LSD	LSD	TSW	TSW	TSW	Le	

7/26 7/27 7/28 7/29 7/30 7/31 8/1
Sample Sample Sample Sample Sample Sample Sample

Ceriodaphnia dubia
Data Chemistry Page 3

100%-Intake	Day 0	1	2	3	4	5	6	7	Remarks
Temperature-Initial	25.9	24.5	25.1	24.9	25.8	24.1	25.4		
Final		24.3	25.2	25.3	24.7	24.3	24.4	24.4	
D.O. Initial	7.80	7.43	6.26	7.82	7.05	7.23	6.01		
Final		8.61	9.09	7.99	8.44	9.24	9.22	8.38	
pH Initial	7.61	8.23	7.38	7.44	7.52	7.28	7.26		
Final		7.74	8.41	8.08	8.49	8.46	8.39	8.48	
Alkalinity	58	57	58	58	57	57	57		
Hardness	70	70	70	70	70	70	72		
Conductivity	185	217	178	179	179	182	186		
Chlorine	0.12	0.12	0.15 →		0.10	0.13	0.11		
Initials	TSW	TSW	LSD	LSD	TSW	LC	TSW	LC	
	7/26 Sample	7/27 Sample	7/29 Sample	7/29 Sample	7/30 Sample	7/31 Sample	8/2 Sample		

100%-Upstream	Day 0	1	2	3	4	5	6	7	Remarks
Temperature-Initial	25.9	25.0	25.1	24.9	25.9	24.2	24.6		
Final		24.4	25.4	25.3	24.5	24.7	24.5	24.3	
D.O. Initial	6.89	8.61	7.06	8.45	6.85	6.84	6.11		
Final		8.65	8.97	8.56	8.38	8.32	8.92	8.46	
pH Initial	7.60	8.62	7.50	7.56	7.51	7.29	7.12		
Final		7.82	8.42	8.39	8.53	8.43	8.41	8.50	
Alkalinity	54	58	58	58	58	60	59		
Hardness	68	68	70	70	70	70	70		
Conductivity	185	212	180	181	180	180	185		
Chlorine	0.12	0.14	0.13 →		0.12	0.09	0.10		
Initials	TSW	TSW	LSD	LSD	TSW	LC	TSW	LC	
	7/26 Sample	7/27 Sample	7/29 Sample	7/29 Sample	7/30 Sample	7/31 Sample	8/1 Sample		

Sequoyah Nuclear Plant Biomonitoring
July 27-August 3, 2000

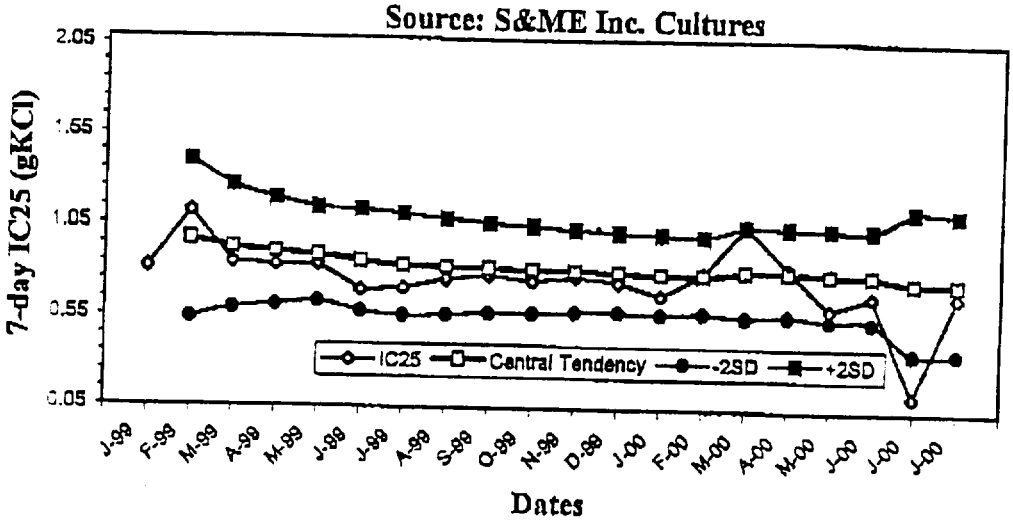
Appendix D

Reference Toxicant Tests and Control Chart Information

Fathead Minnow Potassium Chloride Chronic Reference Toxicant Control Chart

CV% = 25

Source: S&ME Inc. Cultures



Dates	Values	Mean	-2 SD	+2 SD
Jan-99	0.8210			
Feb-99	1.1240	0.9725	0.5440	1.4010
Mar-99	0.8510	0.9320	0.5981	1.2859
Apr-99	0.8359	0.9080	0.8189	1.1970
May-99	0.8432	0.8950	0.8381	1.1520
Jun-99	0.7050	0.8634	0.6861	1.1408
Jul-99	0.7140	0.8420	0.5848	1.1192
Aug-99	0.7650	0.8324	0.5701	1.0947
Sep-99	0.7910	0.8278	0.5809	1.0747
Oct-99	0.7580	0.8208	0.5839	1.0578
Nov-99	0.7871	0.8177	0.5920	1.0435
Dec-99	0.7600	0.8129	0.5952	1.0307
Jan-00	0.6887	0.8034	0.5838	1.0230
Feb-00	0.8125	0.8040	0.5930	1.0151
Mar-00	1.0800	0.8224	0.5741	1.0707
Apr-00	0.8438	0.8238	0.5836	1.0639
May-00	0.8210	0.8118	0.5594	1.0643
Jun-00	0.6935	0.8053	0.5541	1.0565
Jul-00	0.1400	0.7702	0.3794	1.1611
Jul-00	0.7000	0.7687	0.3850	1.1485

FATHEAD MINNOW TEST INFORMATION

Test Name: July Reference Test - Chronic

Test Conducted From: July 26, 2000 (Day 0) To August 2, 2000 (Day 7)

Sites/Concentrations:
1. Control
2. 250 mg/L
3. 500 mg/L
4. 750 mg/L
5. 1000 mg/L
6. 1500 mg/L

Stock (if applicable): 10,000 ppm KCl Stock made 7/26/00

Control Water Type (✓):

Moderately Hard Water + Trace Metals ☐

Other (describe): _____ ☐

Dilution Water Type (✓):

Moderately Hard Water + Trace Minerals ☑

Other (describe): _____ ☐

Source of Test Larvae (✓):

S&ME Lot # 00-085 ☐

Other (describe): _____ ☐

Date Larvae Hatched: 7/26/00 Hatch Time: 7/25 5:00 7/26 8:00 Initials: TSS

Record of Minor Test Non-Conformity

Date: _____

Description of Non-Conformity: _____

Initials: _____

Date: _____

Description of Non-Conformity: _____

Initials: _____

Test Log sheets QA Reviewed By: [illegible] (Reviewer Initials) on 8/24/00 (Date)

REV.01, JANUARY00 (fathead minnow test info)

Fathead Minnow Daily Test Information Logsheet

Test Name: Chlorine Reference Test Dates: 7/26/00 - 8/2/00

Daily Test information	Temperature Information (25±1°C)			Feeding Information (feeding interval 6± 1h)		Test Initiation, Water Change, or Test Termination		Control Water Carboy No. and Additional comments	
Date and Initials	Incubator Temp. (°C) a.m.	Incubator Temp. (°C) p.m.	Therm. No.	Fed 100 uL Brine Shrimp	Feeding time	Start Time	End Time	Carboy #	Date Prep.
Day 0		24.1	6	✓	am: pm: 16:55	13:45	13:05	2	7/23/00
Day 1	24.8	24.8	6	✓	am: 8:45 pm: 5:45	13:00	13:30	2	7/23/00
Day 2 TSW 7/28/00	25.0	25.0	6	✓ ✓	am: 9:30 pm: 4:20	13:30	14:38	2	7/27/00
Day 3 TSW/CSD 7/29/00	25.0	25.0	6	✓ ✓	am: 11:20 AM pm: 3:55 PM	13:35	14:23	2	7/27/00
Day 4 CSD/MCP 7/30/00	24.6	24.6	6	✓ ✓	am: 10:00 pm: 4:30 pm	13:15	13:55	2	7/27/00
Day 5 TSW 7/31/00	25.0	25.0	6	✓ ✓	am: 8:35 pm: 4:30	1:10	1:25	2	7/29/00
Day 6 TSW 8/1/00	25.0	24.5	6	✓ ✓	am: 8:20 pm: 4:00	1:00	1:45	2	7/29/00
Day 7 8/2/00 TSW	24.6	24.0	6			1:25		2	8/1/00

* Feed TSW concentration at 9:10 AM 8/2/00
Renewed 1:25 PM to 1:32 PM

Discharger: Reference Test (KCl)

Location: S&ME

Analyst: TJW, HE

Dates: 7/26/00 - 8/2/00

MORTALITY OF P. PROMELAS IN CHRONIC TEST

CONC.	DAY NO.	REPLICATE A	B	C	D
Control Mod. Hard	1	0	0	0	0
	2	0	1	0	0
	3	0	1	2	0
	4	0	1	2	0
	5	0	1	2	0
	6	1	1	2	0
	7	1	1	2	0
250 mg/L	1	0	0	0	0
	2	0	0	0	0
	3	0	1	1	0
	4	0	3	1	0
	5	0	3	1	0
	6	0	3	1	0
	7	0	3	1	1
500 mg/L	1	1	0	1	0
	2	1	0	1	0
	3	1	0	1	0
	4	1	0	1	0
	5	1	1	2	0
	6	2	1	2	0
	7	2	1	2	0
750 mg/L	1	0	0	1	3
	2	2	4	2	5
	3	2	4	2	5
	4	2	4	2	5
	5	2	4	2	5
	6	2	5	3	5
	7	3	5	4	5
1,000 mg/	1	0	1	1	0
	2	2	3	3	4
	3	5	7	5	5
	4	5	7	5	5
	5	5	8	5	6
	6	6	8	5	6
	7	7	8	5	7

CONC.	DAY NO.	REPLICATE A	B	C	D
1,500 mg/L	1	7	10	10	10
	2	10	10	10	10
	3				
	4				
	5				
	6				
	7				
	1				
	2				
	3				
	4				
	5				
	6				
	7				
	1				
	2				
	3				
	4				
	5				
	6				
	7				
	1				
	2				
	3				
	4				
	5				
	6				
	7				
	1				
	2				
	3				
	4				
	5				
	6				
	7				

FATHEAD MINNOW SEVEN DAY TEST
RAW DATA
SURVIVAL AND GROWTH

Client: S&ME Reference Test
Test Conducted By: TJW
Date Weighed 8/3/00

Test Dates: 7/26/00 - 8/2/00
Comments:
Drying Time (h) 24.0 (2:10 8/3/00 - 2:00 8/3/00)

Oven Temp (°C) 75°

Exposure & Repl.	Rep.	# Live Fish	# Original Fish	Pan Tare Weight (mg)	Dry Weight Pan + Fish (mg)	Groups Dry Weight (Pan + Fish minus Tare) (mg)	Mean Dry Weight (mg)
Control	A	9	10	1280.5	1285.1	4.6	0.46
	B	9	10	1287.0	1291.8	4.8	0.48
	C	8	10	1289.9	1294.1	4.2	0.42
	D	10	10	1290.4	1294.8	4.4	0.44
250 mg/L	A	10	10	1291.4	1296.7	5.3	0.53
	B	7	10	1286.1	1289.5	3.4	0.34
	C	9	10	1277.4	1281.6	4.2	0.42
	D	9	10	1291.3	1295.9	4.6	0.46
500 mg/L	A	8	10	1284.4	1288.0	3.6	0.36
	B	9	10	1293.9	1296.6	2.7	0.27
	C	8	10	1276.3	1279.4	3.1	0.31
	D	10	10	1287.7	1292.2	4.5	0.45
750 mg/L	A	7	10	1296.9	1300.5	3.6	0.36
	B	5	10	1304.4	1307.8	3.4	0.34
	C	6	10	1294.6	1297.1	2.5	0.25
	D	5	10	1301.0	1304.9	3.9	0.39
1000mg/L	A	3	10	1283.3	1285.0	1.7	0.17
	B	2	10	1278.3	1279.5	1.2	0.12
	C	5	10	1259.4	1261.9	2.5	0.25
	D	3	10	1279.8	1281.3	1.5	0.15

Larval Fish Growth and Survival Test-7 Day Growth

Start Date:	7/28/00 03:45	Test ID:	Ref700fg	Sample ID:	REF-Ref Toxcant
End Date:	8/2/00 01:25	Lab ID:	S&ME INC.	Sample Type:	KCL-Potassium chloride
Sample Date:		Protocol:	EPAF 91-EPA Freshwater	Test Species:	PP-Pimephales promelas
Comments:					

Conc-gm/L	1	2	3	4
D-Control	0.4600	0.4800	0.4200	0.4400
250	0.5300	0.3400	0.4200	0.4600
500	0.3600	0.2700	0.3100	0.4500
750	0.3600	0.3400	0.2500	0.3900
1000	0.1700	0.1200	0.2500	0.1500
1500	0.0000	0.0000	0.0000	0.0000

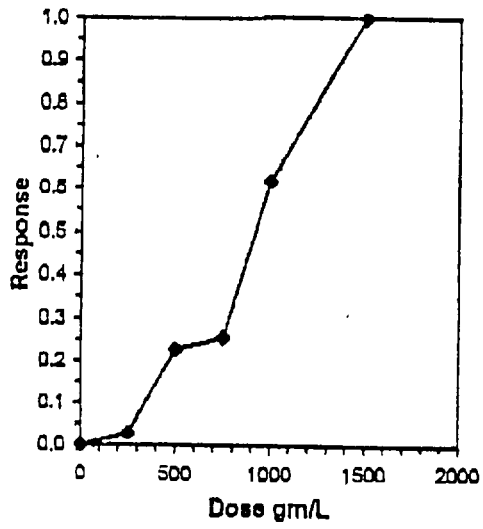
			Transform: Untransformed						1-Tailed		Isotonic	
Conc-gm/L	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Mean	N-Mean
D-Control	0.4500	1.0000	0.4500	0.4200	0.4800	5.738	4				0.4500	1.0000
250	0.4375	0.9722	0.4375	0.3400	0.5300	18.130	4	0.282	2.360	0.1048	0.4375	0.9722
500	0.3475	0.7722	0.3475	0.2700	0.4500	22.337	4	2.309	2.360	0.1048	0.3475	0.7722
*750	0.3350	0.7444	0.3350	0.2600	0.3900	17.993	4	2.590	2.360	0.1048	0.3350	0.7444
*1000	0.1725	0.3833	0.1725	0.1200	0.2500	32.233	4	6.251	2.360	0.1048	0.1725	0.3833
1500	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	4				0.0000	0.0000

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.97587	0.866	0.10397	-0.4083
Bartlett's Test indicates equal variances (p = 0.52)	3.20156	13.2767		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test	500	750	612.372		0.10477	0.23282	0.04938	0.00394	1.1E-04	4, 15

Linear Interpolation (80 Resamples)

Point	gm/L	SD	95% CL(Exp)		Skew
IC05	277.78	92.84	0.00	411.26	-0.1522
IC10	340.28	86.15	34.44	661.90	0.2627
IC15	402.78	89.14	116.25	772.20	0.6270
IC20	465.28	118.20	297.87	938.61	0.8560
IC25	700.00	137.93	266.35	843.29	-0.0668
IC40	850.00	36.37	712.32	948.33	-0.4752
IC50	919.23	37.57	807.78	1061.62	0.7147



ToxCalc v5.0

Reviewed by:_____

Discharger: Reference Test (KCl)
Location: S&ME
Template No.: 1
Test Type: Fathead Minnow 7-day Chronic

Analyst: TJW
Dates: 7/26/00 – 8/2/00
Food: Live Brine Shrimp (2x day)

Control: Mod. Hard	Day 0	1	2	3	4	5	6	7	Remarks
Temperature	24.0	24.3/24.5	24.6/24.1	25.1/24.5	25.3/24.8	24.0/24.5	24.4/24.0	25.5	
D.O. Initial	8.06	7.53	7.45	7.47	7.73	7.94	7.74		
Final		6.96	6.97	7.41	7.36	6.89	5.75	6.48	
pH Initial	7.67	7.58	7.70	7.74	7.75	7.85	7.80		
Final		6.90	6.97	7.35	7.46	7.54	7.00	7.42	
Alkalinity	70	70	68	68	68	66	66	68	
Hardness	80	80	88	88	88	84	84	88	
Conductivity	229	188	311	309	304	311	311		
Chlorine									
Initials	TJS	TJW	LSD	LSD	LSD	TJW	TJW	TJW	

Conc: 250 mg/L	Day 0	1	2	3	4	5	6	7	Remarks
Temperature	24.0	24.3/24.0	24.1/24.1	25.1/24.5	25.1/24.8	24.1/24.0	25.0/25.0	25.1	
D.O. Initial	8.05	7.57	7.72	7.97	7.73	8.05	7.70		
Final		7.12	7.42	7.46	7.25	6.29	4.07	6.54	
pH Initial	7.77	7.67	7.71	7.75	7.75	7.90	7.89		
Final		7.17	7.15	7.48	7.56	7.54	7.09	7.45	
Alkalinity									
Hardness									
Conductivity	716	663	718	797	768	735	734		
Chlorine									
Initials	TSS	TJW	LSD	LSD	LSD	TJW	TJW	TJW	

Conc: 500 mg/L	Day 0	1	2	3	4	5	6	7	Remarks
Temperature	24.1	24.3/25.0	24.2/24.1	25.1/24.5	25.4/25.1	24.2/25.1	25.0/25.0	24.1	
D.O. Initial	8.05	7.58	7.95	7.95	7.74	7.94	7.71		
Final		7.26	7.35	7.37	7.24	5.83	4.62	6.00	
pH Initial	7.81	7.73	7.71	7.75	7.74	7.93	7.92		
Final		7.25	7.23	7.57	7.60	7.50	7.10	7.47	
Alkalinity									
Hardness									
Conductivity	1210	1109	1202	1238	1252	1181	1195		
Chlorine									
Initials	TSS	TJW	LSD	LSD	LSD	TJW	TJW	TJW	

Discharger: Reference Test (KCl) Analyst: TJC
Location: S&ME Dates: 7/27/00 – 8/2/00
Template No.: Food: Live Brine Shrimp
Test Type: Fathead Minnow 7-day Chronic

750 mg/L ~~Control/Mod-Hard~~	Day 0	1	2	3	4	5	6	7	Remarks
Temperature	24.3	25.2/24.7	25.1/24.5	24.7/24.6	24.3/24.4	25.2/24.4	25.1/24.3	24.8	
D.O. Initial	7.55	7.95	7.97	7.73	7.96	7.76	7.47		
Final		7.42	7.50	7.36	6.12	5.15	5.63	6.79	
pH Initial	7.61	7.71	7.74	7.75	7.96	7.94	7.87		
Final		7.31	7.56	7.74	7.63	7.25	7.46	7.55	
Alkalinity									
Hardness									
Conductivity	1532	1667	1715	1722	1655	1655	1630		
Chlorine									
Initials	TJS	LSD	LSD	LSD	TJW	TJW	TJW	TJW	

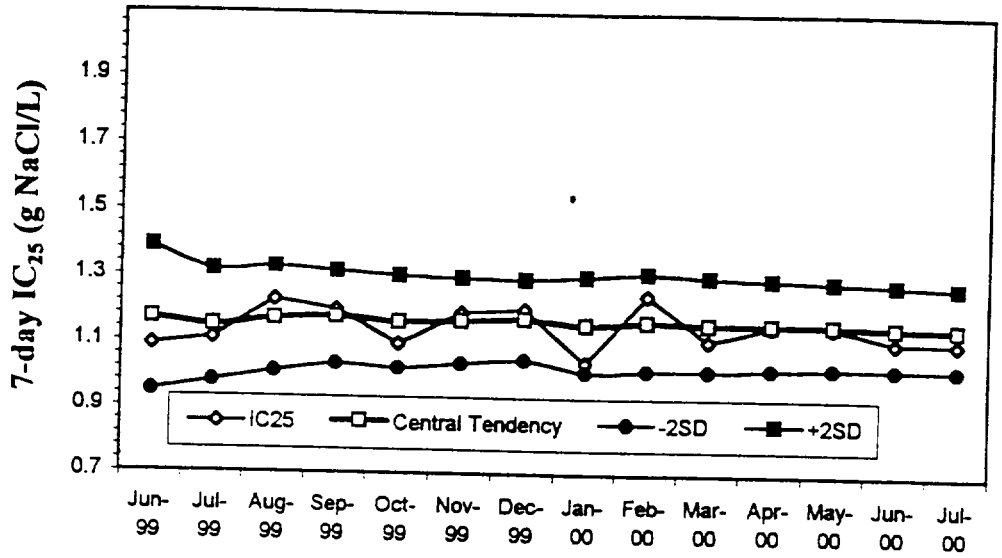
1000 Conc: ~~250~~ mg/L	Day 0	1	2	3	4	5	6	7	Remarks
Temperature	24.1	24.3/24.5	25.2/24.2	25.1/24.5	24.9/24.8	24.3/24.6	25.0/24.6	24.6	
D.O. Initial	8.35	7.84	7.96	7.98	7.73	7.85	7.73		
Final		7.26	7.44	7.40	7.57	6.38	6.04	6.69	
pH Initial	7.85	7.78	7.71	7.74	7.74	7.98	7.94		
Final		7.34	7.32	7.59	7.64	7.59	7.38	7.56	
Alkalinity									
Hardness									
Conductivity	2190	1970	2130	2150	2180	2130	2040		
Chlorine									
Initials	TJS	TJW	LSD	LSD	LSD	TJW	TJW	TJW	

Conc: 1500 mg/L	Day 0	1	2	3	4	5	6	7	Remarks
Temperature	24.1	24.3							
D.O. Initial	8.35	7.90							
Final		7.63	7.60						
pH Initial	7.96	7.70							
Final		7.33	7.12						
Alkalinity									
Hardness									
Conductivity	3180	3170							
Chlorine									
Initials	TJS	TJS							

Ceriodaphnia dubia Sodium Chloride Chronic Reference Toxicant Control Chart

CV% = 10.4

Source: S&ME Inc. Cultures



Dates	Values	Mean	-2 SD	+2 SD
J-99	1.0909	1.1686	0.9489	1.3884
J-99	1.1098	1.1490	0.9794	1.3186
A-99	1.2277	1.1687	1.0094	1.3279
S-99	1.1966	1.1743	1.0341	1.3144
O-99	1.0966	1.1613	1.0208	1.3018
N-99	1.1893	1.1653	1.0353	1.2953
D-99	1.2016	1.1699	1.0468	1.2929
J-00	1.0406	1.1555	1.0117	1.2993
F-00	1.2449	1.1644	1.0175	1.3113
M-00	1.1098	1.1595	1.0163	1.3026
A-00	1.1551	1.1591	1.0226	1.2956
M-00	1.1551	1.1588	1.0280	1.2895
J-00	1.1100	1.1553	1.0270	1.2836
J-00	1.1106	1.1523	1.0266	1.2781

CERIODAPHNIA TEST INFORMATION SHEET

Test Name: S+ME Ref. Tox. Test (Chronic) Test No.: _____

Test Conducted From: 7/14/00 (Day 0) To 7/21/00 (Day 7)

Sites Concentrations: 1. 500 mg/L 4. 1500 mg/L Template No. 1
2. 750 mg/L 5. 2000 mg/L
3. 1000 mg/L 6. _____

Stock (if applicable): 10,000 mg/L NaCl

Control Water Type (✓):

Moderately Hard Water – Trace Metals ☐

Other (describe): Cera mod hard ☑

Dilution Water Type (✓):

Moderately Hard Water – Trace Minerals ☐

Other (describe): Cera mod hard ☑

Source of Test Organisms: S&ME brood board nos. Day 13 of 7/11/00 brood board

Age of Test Organisms:
Isolated neonates for test on 7/14/00 (date) from 8:00 to 2:00 (time) Initials USD

Record of Minor Test Non-Conformity

Date: _____

Description of Non-Conformity: none

Initials: _____

Date: _____

Description of Non-Conformity: none

Initials: _____

Test Log sheets QA Reviewed By: [signature] (Reviewer Initials) on 7/21/00 (Date)

REV 01, January 00 (ceriodaphnia test info sheet)

Ceriodaphnia Daily Test Information Logsheet

Test Name: Salve Ref. Test Dates: 7/14/00 - 7/21/00

Daily Test information	Temperature Information (cup -25±1°C)			Feeding Information				Test Initiation, Water Change, or Test Termination		Control Water Carboy No. and Additional comments	
Date and Initials	Incubator Temp. (°C)		Therm. No.	Fed 100 uL YCT	YCT Date	Fed 100 uL Selenastrum	Selanastrum Date	Start Time	End Time		
	a.m.	p.m.								Carboy #	Date Prep.
Day 0	25.2	25.1	1	✓	5/16	✓	7/4/00	1.45	2:15	2	7/13
Day 1	25.1	25.2	1	✓	5/16	✓	7/4/00	1:30	2:00	2	7/13
Day 2	25.2	25.2	1	✓	5/16	✓	7/4/00	1:15	2:15	2	7/13
Day 3	25.2	24.8	1	✓	5/16	✓	7/4/00	1:05	1:30	2	7/13
Day 4	25.3	24.8	1	✓	5/16	✓	7/4/00	1:30	2:00	2	7/13
Day 5	25.4	24.8	1	✓	5/16	✓	7/4/00	1:45	2:15	2	7/13
Day 6	25.2	24.6	1	✓	5/16	✓	7/4/00	1:50	2:25	2	7/13
Day 7	25.2		1					1:05			

Discharger: Reference Test (NaCl)
Location: S&ME
Date Sample Collected: _____

Analyst: TJW/HE
Test Start-Date/Time: 7/14/00 ~~2:00~~ TJW 1:45
Test Stop-Date/Time: 7/21/00 1:05

Conc.	Init.	Day	Replicate 1	2	3	4	5	6	7	8	9	10	Number of Young	Number of Adults	Young per Adult
			–	–	–	–	–	–	–	–	–	–			
Control DMW 25%	TSS	1	0	0	0	0	0	0	0	0	0	0	0	10	0
	Ke	2	0	0	0	0	0	0	0	0	0	0	0	10	0
	TJW	3	0	0	3	2	3	3	5	4	3	3	26	10	2.6
	TJW	4	0	0	0	0	0	0	0	0	0	0	0	10	0
	TJW	5	0	7	8	7	10	9	9	11	10	9	88	10	8.8
	TJW	6	13	11	12	11	11	12	12	12	13	12	119	10	11.9
	TJW	7	14	16	18	13	15	10	0	15	12	12	125	10	12.5
		Total	35	34	41	33	39	34	26	42	38	36	358	10	35.8

Conc.	Init.	Day	Replicate 1	2	3	4	5	6	7	8	9	10	Number of Young	Number of Adults	Young per Adult
			–	–	–	–	–	–	–	–	–	–			
500 mg/L	TSS	1	0	0	0	0	0	0	0	0	0	0	0	10	0
	Ke	2	0	0	0	0	0	0	0	0	0	0	0	10	0
	TJW	3	3	3	0	0	3	3	3	0	0	0	15	10	1.5
	TJW	4	0	0	7	0	0	0	0	0	4	0	11	10	1.1
	TJW	5	8	8	0	2	10	8	10	8	8	6	68	10	6.8
	TJW	6	10	11	12	11	13	16	14	13	9	10	119	10	11.9
	TJW	7	13	12	16	13	11	15	0	14	0	10	104	10	10.4
		Total	34	34	35	26	37	42	27	35	21	26	317	10	31.7

Conc.	Init.	Day	Replicate 1	2	3	4	5	6	7	8	9	10	Number of Young	Number of Adults	Young per Adult
			–	–	–	–	–	–	–	–	–	–			
750 mg/L	TSS	1	0	0	0	0	0	0	0	0	0	0	0	10	0
	Ke	2	0	0	0	0	0	0	0	0	0	0	0	10	0
	TJW	3	3	0	3	0	0	0	0	0	0	0	~~2~~ 6 TJW	~~1~~ 10 TJW	0.6
	TJW	4	0	5	0	0	6	0	0	0	0	0	11	10	1.1
	TJW	5	~~14~~ TJW	~~21~~ TJW	7	8	1	9	5	8	7	7	~~6~~ 57	10	6.1
	TJW	6	10	14	11	9	11	10	13	10	14	12	114	10	11.4
	TJW	7	10	12	10	17	13	18	18	12	11	14	~~141~~ 135	10	14.0
		Total	27	22	31	34	31	37	36	30	32	33	322	10	32.2

8-24-2000

Conc.	Init.	Day	Replicate 1	2	3	4	5	6	7	8	9	10	Number of Young	Number of Adults	Young per Adult
			–	–	–	–	–	–	–	–	–	–			
	TSS	1	0	0	0	0	0	0	0	0	0	0	0	10	0
	lc	2	0	0	0	0	0	0	0	0	0	0	0	10	0
	TDW	3	2	0	0	1	1	0	0	0	0	3	7	10	0.7
1,000 mg/L	TDW	4	0	0	4	0	0	0	0	4	2	0	10	10	1
	TDW	5	8	8	7	10	9	7	10	8	6	7	80	10	8
	TDW	6	12	8	12	11	12	10	14	10	5	10	104	10	10.4
	TDW	7	11	10	0	13	9	11	10	10	10	11	95	10	9.5
		Total	33	26	23	35	31	28	34	32	23	31	296	10	29.6

Conc.	Init.	Day	Replicate 1	2	3	4	5	6	7	8	9	10	Number of Young	Number of Adults	Young per Adult
			–	–	–	–	–	–	–	–	–	–			
	TSS	1	0	0	0	0	0	0	0	0	0	0	0	10	0
	lc	2	0	0	0	0	0	0	0	0	0	0	0	10	0
	TDW	3	0	1	2	0	2	2	0	0	0	0	7	10	0.7
1,500 mg/L	TDW	4	0	0	0	0	0	0	4	3	3	0	10	10	1
	TDW	5	3	5	5	7	8	4	5	9	5	6	57	10	5.7
	TDW	6	5	9	6	6	8	9	5	8	6	8	70	10	7.0
	TDW	7	7	9	0	0	6	0	0	0	0	0	22	10	2.2
		Total	15	24	13	13	24	15	14	20	14	14	166	10	16.6

Conc.	Init.	Day	Replicate 1	2	3	4	5	6	7	8	9	10	Number of Young	Number of Adults	Young per Adult
			–	–	–	–	–	–	–	–	–	–			
	TSS	1	X	0	0	0	X	0	0	X	0	0	0	7	0
		2	|	0	ex	0	|	0	0	|	0	0	0	6	0
		3	|	0	|	0	|	0	0	|	0	0	0	6	0
2,000 mg/L		4	|	0	|	0	|	0	0	|	0	0	0	6	0
		5	|	0	|	0	|	3	0	|	0	0	3	6	0.5
		6	|	4	|	TDW 03	|	5	0	|	2	2	16	6	2.67
		7	|	0	|	0	|	0	3	|	0	3	6	6	1.0
			✓		✓		✓			✓					
		Total	0	4	0	3	0	8	3	0	2	5	25	6	4.17

Ceriodaphnia Survival and Reproduction Test-Reproduction

Start Date:	7/14/00 02:00	Test ID:	Ref700cr	Sample ID:	REF-Ref Toxicant
End Date:	7/21/00 02:05	Lab ID:	S&ME Inc.	Sample Type:	NACL-Sodium chloride
Sample Date:		Protocol:	EPAF 91-EPA Freshwater	Test Species:	CD-Ceriodaphnia dubia
Comments:					

Conc-gm/L	1	2	3	4	5	6	7	8	9	10
D-Control	35.000	34.000	41.000	33.000	39.000	34.000	26.000	42.000	38.000	36.000
500	34.000	34.000	35.000	26.000	37.000	42.000	27.000	35.000	21.000	26.000
750	27.000	32.000	31.000	34.000	31.000	37.000	36.000	30.000	32.000	33.000
1000	33.000	26.000	23.000	35.000	31.000	28.000	34.000	32.000	23.000	31.000
1500	15.000	24.000	13.000	13.000	24.000	15.000	14.000	20.000	14.000	14.000
2000	0.000	4.000	0.000	3.000	0.000	8.000	3.000	0.000	2.000	5.000

			Transform: Untransformed						1-Tailed		Isotonic	
Conc-gm/L	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Mean	N-Mean
D-Control	35.800	1.0000	35.800	26.000	42.000	12.888	10				35.800	1.0000
500	31.700	0.8855	31.700	21.000	42.000	20.174	10	2.084	2.287	4.499	32.000	0.8939
750	32.300	0.9022	32.300	27.000	37.000	9.003	10	1.779	2.287	4.499	32.000	0.8939
*1000	29.600	0.8268	29.600	23.000	35.000	14.786	10	3.151	2.287	4.499	29.600	0.8268
*1500	16.600	0.4637	16.600	13.000	24.000	26.366	10	9.759	2.287	4.499	16.600	0.4637
*2000	2.500	0.0698	2.500	0.000	8.000	107.083	10	16.926	2.287	4.499	2.500	0.0698

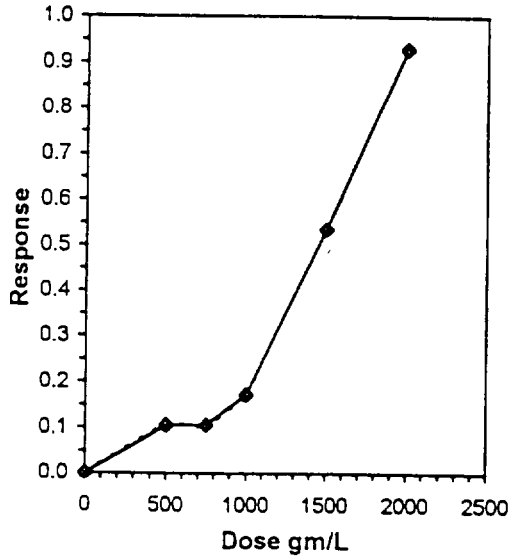
Auxiliary Tests	Statistic	Critical	Skew	Kurt
Kolmogorov D Test indicates normal distribution (p > 0.01)	0.55935	1.035	-0.1002	0.08823
Bartlett's Test indicates equal variances (p = 0.13)	8.6146	15.0863		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test	750	1000	866.025		4.49883	0.12567	1624.83	19.3537	3.2E-24	5, 54

Linear Interpolation (80 Resamples)

Point	gm/L	SD	95% CL		Skew
IC05*	235.526	212.991	136.373	802.692	1.0374
IC10*	471.053	255.661	272.746	1011.55	0.1803
IC15	913.542	220.999	409.12	1070.28	-0.9413
IC20	1036.92	78.9068	836.218	1132.72	-0.9741
IC25	1105.77	53.8859	1000.63	1195.58	-0.4190
IC40	1312.31	40.5622	1235.52	1388.67	0.1240
IC50	1450	43.5549	1375.51	1523.61	0.2104

* indicates IC estimate less than the lowest concentration



ToxCalc v5.0

Reviewed by: [illegible]

Discharger: Reference Test (NaCl)
Location: S&ME
Template No.:
Test Type: Ceriodaphnia 7-day Chronic

Analyst: [illegible] TJW
Dates: 7/14/00 1:45 - 7/21/00 7:05
Food: YCT + algae

Control: 25% DM	Day 0	1	2	3	4	5	6	7	Remarks
Temperature	24.4	24.6	24.9	24.2	24.4	24.5	24.7		
D.O. Initial	7.73	7.78	7.78	7.77	7.84	8.03	8.00		
Final		7.35	7.41	8.13	7.57	7.60	7.91	8.02	
pH Initial	7.78	7.86	7.90	7.78	7.77	7.78	7.77		
Final		7.76	7.76	8.02	7.79	7.76	7.87	7.94	
Alkalinity									
Hardness									
Conductivity	241	251	250	245	224	219	244		
Chlorine									
Initials	[illegible]	[illegible]	[illegible]	TJW	TJW	TJW	TJW		

Conc: 500 mg/L	Day 0	1	2	3	4	5	6	7	Remarks
Temperature	24.6	24.6	24.9	24.3	24.3	24.7	24.6		
D.O. Initial	7.78	7.78	7.79	7.90	7.81	8.00	7.98		
Final		7.41	7.38	8.21	7.59	7.72	7.91	7.91	
pH Initial	7.79	7.86	7.90	7.91	7.88	7.90	7.91		
Final		7.77	7.76	8.09	7.89	7.85	7.93	8.03	
Alkalinity									
Hardness									
Conductivity	1345	1325	1332	1234	1117	1195	1241		
Chlorine									
Initials	[illegible]	[illegible]	[illegible]	TJW	TJW	TJW	TJW	TJW	

Conc: 750 mg/L	Day 0	1	2	3	4	5	6	7	Remarks
Temperature	25.1	24.5	24.9	24.3	24.2	24.6	24.5		
D.O. Initial	7.76	7.78	7.80	7.95	7.68	7.84	7.97		
Final		7.42	7.35	8.19	7.57	7.74	7.89	7.97	
pH Initial	7.91	7.85	7.91	7.94	7.91	7.93	7.94		
Final		7.71	7.75	8.18	7.90	7.86	7.94	8.02	
Alkalinity									
Hardness									
Conductivity	1784	1760	1756	1759	1626	1326	1075		
Chlorine									
Initials	[illegible]	[illegible]	[illegible]	TJW	TJW	TJW	TJW		

CD Reflex 7-day Chronic 07-14-2000 - 07-21-2000

Day									
Conc: 1,000 mg/L	0	1	2	3	4	5	6	7	Remarks
Temperature	25.1	24.6	24.6	24.3	24.2	24.6	24.5		
D.O. Initial	7.77	7.79	7.76	7.92	7.69	7.78	8.04		
Final		7.40	7.40	8.22	7.55	7.69	7.80	7.80	
pH Initial	8.98	7.89	7.91	7.96	7.94	7.95	7.97		
Final		7.74	7.70	8.12	7.90	7.88	7.95	8.00	
Alkalinity									
Hardness									
Conductivity	2310	2290	2180	2270	2090	2020	2160		
Chlorine									
Initials	Ke	Ke	Ke	TJW	TJW	TJW	TJW	TJW	

Day									
Conc: 1,500 mg/L	0	1	2	3	4	5	6	7	Remarks
Temperature	25.2	24.6	24.8	24.3	24.2	24.6	24.6		
D.O. Initial	7.75	7.80	7.80	7.99	7.73	7.82	7.97		
Final		7.42	7.45	8.22	7.66	7.79	7.91	7.97	
pH Initial	8.01	7.90	7.92	7.97	7.96	7.96	7.98		
Final		7.72	7.73	8.13	7.91	7.90	7.95	8.01	
Alkalinity									
Hardness									
Conductivity	3240	2100	2000	3310	2900	2900	3200		
Chlorine									
Initials	Ke	Ke	Ke	TJW	TJW	TJW	TJW	TJW	

Day									
Conc: 2,000 mg/L	0	1	2	3	4	5	6	7	Remarks
Temperature	25.2	24.7	24.9	24.3	24.2	24.6	24.6		
D.O. Initial	7.78	7.82	7.82	7.97	7.66	7.86	8.02		
Final		7.42	7.43	8.17	7.66	7.89	7.96	7.93	
pH Initial	8.01	7.91	7.92	7.99	7.97	7.97	8.00		
Final		7.70	7.71	8.11	7.95	7.92	7.97	8.03	
Alkalinity									
Hardness									
Conductivity	4240	4190	4200	4190	3860	3760	4000		
Chlorine									
Initials	Ke	Ke	Ke	TJW	TJW	TJW	TJW	TJW	

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

Name TVA - SEQUOYAH NUCLEAR PLANT
Address BOX 2000
(INTEROFFICE SB-2A)
SODDY - DAISY IN 37384
Facility TVA - SEQUOYAH NUCLEAR PLANT
Location HAMILITON COUNTY

ATTN: Diedre B. Nida

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

(2-16)	(17-19)
TN0026450	101 G
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
From	00	08	01	To	00	08	31
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

MAJOR
(SUBR 01)
F - FINAL
DIFFUSER DISCHARGE
EFFLUENT

*** NO DISCHARGE [ ] ***

Form Approved.
OMB No. 2040-0004
Approval expires 05-31-98

NOTE: Read instructions before completing this form

PARAMETER (32-37)		QUANTITY OR LOADING (3 Card Only) AVERAGE (46-53)	MAXIMUM (54-61)	UNITS	QUALITY OR CONCENTRATION (4 Card Only) MINIMUM (38-45)	AVERAGE (46-53)	MAXIMUM (54-61)	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
TEMPERATURE, WATER DEG. CENTIGRADE	SAMPLE MEASUREMENT	********	********	**	********	********	30.2	(04)	0	31 / 31	MODELD
00010 Z 0 0 INSTREAM MONITORING	PERMIT REQUIREMENT	********	********	****	********	********	30.5 DAILY MX	DEG. C.		SEE PERMIT	CK REQ
TEMPERATURE, WATER DEG. CENTIGRADE	SAMPLE MEASUREMENT	********	********	**	********	********	43.0	(04)	0	31 / 31	RCORDR
00010 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	********	REPORT DAILY MX	DEG. C.		SEE PERMIT	CK REQ
PH	SAMPLE MEASUREMENT	********	********	**	7.5	********	7.8	(12)	0	10 / 31	GRAB
00400 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	6.0 MINIMUM	********	9.0 MAXIMUM	SU		WEEKLY	GRAB
SOLIDS, TOTAL SUSPENDED	SAMPLE MEASUREMENT	********	********	**	********	4	4	(19)	0	05 / 31	GRAB
00530 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	30 DAILY MX	100 DAILY MX	MG/L		WEEKLY	GRAB
OIL & GREASE FREON EXTR-GRAV METH	SAMPLE MEASUREMENT	********	********	**	********	<5	<5	(19)	0	05 / 31	GRAB
00556 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	15 DAILY MX	20 DAILY MX	MG/L		WEEKLY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	SAMPLE MEASUREMENT	********	1659	(03)	********	********	********	**	0	31 / 31	RCORDR
50050 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	REPORT DAILY MX	MGD	********	********	********	****		CONTIN UOUS	RCORDR
CHLORINE, TOTAL RESIDUAL	SAMPLE MEASUREMENT	********	********	**	********	********	0.026	(19)	0	61 / 31	GRAB
50060 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	********	0.058 INST MAX	MG/L		WEEK-DAYS	CALCTD

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		TELEPHONE		DATE		
Richard T. Purcell 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 FINE 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 maximum imprisonment of between 6 months and 5 years.)	Diedre B. Nida Environmental Supervisor	423	843-6700	00	09	13
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

No closed mode operation. The following injections occured: 1. PCL-222 phosphate (max. calc. conc. was 0.058mg/L--limit 0.100mg/L) 2. CL-363 (max. calc. conc. was 0.006mg/L--limit 0.100mg/L) 3. Cuprostat-PF (max. calc. conc. was 0.108mg/L--limit 0.400mg/L) 4. H-130M (max. calc. conc. was 0.027mg/L--limit 0.050mg/L) 5. PCL-401/PCL-222 co-polymer (max. calc. conc. was 0.020mg/L--limit 0.100mg/L)

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

Name TVA - SEQUOYAH NUCLEAR PLANT
Address BOX 2000
(INTEROFFICE SB-2A)
SODDY - DAISY IN 37384
Facility TVA - SEQUOYAH NUCLEAR PLANT
Location HAMILITON COUNTY

ATTN: Diedre B. Nida

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

(2-16)	(17-19)
TN0026450	101 G
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
From	00	08	01	To	00	08	31
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

MAJOR
(SUBR 01)
F - FINAL
DIFFUSER DISCHARGE
EFFLUENT

*** NO DISCHARGE [ ] ***

Form Approved
OMB No. 2040-0004
Approval expires 05-31-98

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
TEMPERATURE - C, RATE OF CHANGE	SAMPLE MEASUREMENT	********	********	**	********	********	0.9	(04)	0	31 / 31	CALCTD
82234 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	********	2.0	DEG. C.			CALCTD
DELTA TEMPERATURE - C	SAMPLE MEASUREMENT	********	********	**	********	********	2.6	(04)	0	31 / 31	CALCTD
00016 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	********	3.0	DEG. C.			CALCTD
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
BORON, TOTAL	SAMPLE MEASUREMENT	********	********	**	<0.2	<0.2	<0.2	(19)	0	02 / 31	GRAB
01022 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	REPORT	REPORT	REPORT	MG/L			GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
Richard T. Purcell 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 FINE 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 maximum imprisonment of between 6 months and 5 years.)	Diedre B. Nida Environmental Supervisor SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	423 AREA CODE	843-6700 NUMBER	00 YEAR	09 MO	13 DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

Toxicity was sampled from 7/26/2000 - 8/1/2000, results will be submitted with the quarterly DMR.

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

Name TVA - SEQUOYAH NUCLEAR PLANT
Address BOX 2000
(INTEROFFICE SB-2A)
SODDY - DAISY IN 37384
Facility TVA - SEQUOYAH NUCLEAR PLANT
Location HAMILITON COUNTY

ATTN: Diedre B. Nida

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

(2-16) PERMIT NUMBER	(17-19) DISCHARGE NUMBER
TN0026450	103 G

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
From	00	08	01	To	00	08	31
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

MAJOR
(SUBR 01)
F - FINAL
LOW VOL. WASTE TREATMENT POND
EFFLUENT
*** NO DISCHARGE [ ] ***

Form Approved.
OMB No. 2040-0004
Approval expires 05-31-98

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
PH	SAMPLE MEASUREMENT	********	********	**	7.2	********	8.4	(12)	0	12 / 31	GRAB
00400 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	**	6.0 MINIMUM	********	9.0 MAXIMUM	SU		THREE/ WEEK	GRAB
SOLIDS, TOTAL SUSPENDED	SAMPLE MEASUREMENT	128	178	(26)	********	11	15	(19)	0	05 / 31	GRAB
00530 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	380 MO AVG	1250 DAILY MX	LBS/DY	********	30 MO AVG	100 DAILY MX	MG/L		WEEKLY	GRAB
OIL & GREASE FREON EXTR-GRAV METH	SAMPLE MEASUREMENT	<59	82	(26)	********	<5	6	(19)	0	05 / 31	GRAB
00556 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	190 MO AVG	250 DAILY MX	LBS/DY	********	15 MO AVG	20 DAILY MX	MG/L		WEEKLY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	SAMPLE MEASUREMENT	1.124	2.087	(03)	********	********	********	**	0	31 / 31	TOTAL
50050 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	REPORT MO AVG	REPORT DAILY MX	MGD	********	********	********	**		DAILY	TOTAL
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
Richard T. Purcell 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 FINE 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 maximum imprisonment of between 6 months and 5 years)	Diedre B. Nida Environmental Supervisor SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	423 AREA CODE	843-6700 NUMBER	00 YEAR	09 MO	13 DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

Name TVA - SEQUOYAH NUCLEAR PLANT
Address BOX 2000
(INTEROFFICE SB-2A)
SODDY - DAISY TN 37384
Facility TVA - SEQUOYAH NUCLEAR PLANT
Location HAMILTON COUNTY

ATTN: Diedre B. Nida

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

(2-16)	(17-19)
TN0026450	107 G
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
From	00	08	01	To	00	08	31
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

MAJOR
(SUBR 01)
F - FINAL
METAL CLEANING WASTE POND
EFFLUENT

*** NO DISCHARGE XX ***

Form Approved.
OMB No. 2040-0004
Approval expires 05-31-98

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
PH	SAMPLE MEASUREMENT	********	********	**		********		(12)			
00400 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	6.0 MINIMUM	********	9.0 MAXIMUM	SU		DAILY	GRAB
PHOSPHORUS, TOTAL (AS P)	SAMPLE MEASUREMENT	********	********	**	********	********		(19)			
00665 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	********	1.0 DAILY MX	MG/L		DAILY	COMP-8
SOLIDS, TOTAL SUSPENDED	SAMPLE MEASUREMENT	********	********	**	********	********		(19)			
00530 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	********	30 DAILY MX	MG/L		DAILY	COMP-8
OIL & GREASE FREON EXTR-GRAV METH	SAMPLE MEASUREMENT	********	********	**	********	********		(19)			
00556 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	********	15 DAILY MX	MG/L		DAILY	GRAB
COPPER, TOTAL (AS CU)	SAMPLE MEASUREMENT	********	********	**	********	********		(19)			
01042 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	********	1.0 DAILY MX	MG/L		DAILY	COMP-8
IRON, TOTAL (AS FE)	SAMPLE MEASUREMENT	********	********	**	********	********		(19)			
01045 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	********	1.0 DAILY MX	MG/L		DAILY	COMP-8
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	SAMPLE MEASUREMENT			(03)	********	********	********	**			
50050 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	REPORT MO AVG	REPORT DAILY MX	MGD	********	********	********	****		DAILY	CALCTD

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
Richard T. Purcell 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 FINE 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 maximum imprisonment of between 6 months and 5 years.)	Diedre B. Nida Environmental Supervisor SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	423	843-6700	00	09	13
TYPED OR PRINTED			AREA CODE	NUMBER	YEAR	MO	DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

No phosphate bearing chemicals were employed. There were no releases during August 2000.

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

Name TVA - SEQUOYAH NUCLEAR PLANT
Address BOX 2000
(INTEROFFICE SB 2A)
SODDY - DAISY TN 37384
Facility TVA - SEQUOYAH NUCLEAR PLANT
Location HAMILITON COUNTY

ATTN: Diedre B. Nida

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

(2-16)	(17-19)
TN0026450	110 G
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
From	00	08	01	To	00	08	31
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

MAJOR
(SUBR 01)
F - FINAL
RECYCLED COOLING WATER
EFFLUENT

*** NO DISCHARGE XX ***

Form Approved.
OMB No. 2040-0004
Approval expires 05-31-98

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
TEMPERATURE, WATER DEG. CENTIGRADE	SAMPLE MEASUREMENT	********	********	**	********	********		(04)			
00010 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	********	38.3 DAILY MX	DEG. C.		DAILY	GRAB-4
PH	SAMPLE MEASUREMENT	********	********	**		********		(12)			
00400 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	6.0 MINIMUM	********	9.0 MAXIMUM	SU		WEEKLY	GRAB
CHLORINE, TOTAL RESIDUAL	SAMPLE MEASUREMENT	********	********	**	********	********		(19)			
50060 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	********	0.10 DAILY MX	MG/L		WEEKLY	GRAB-4
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
Richard T. Purcell 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 FINE 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 maximum imprisonment of between 6 months and 5 years.)	Diedre B. Nida Environmental Supervisor	423	843-6700	00	09	13
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

No Discharge this Period

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

Name TVA - SEQUOYAH NUCLEAR PLANT
Address BOX 2000
(INTEROFFICE SB-2A)
SODDY DAISY TN 37384
Facility TVA - SEQUOYAH NUCLEAR PLANT
Location HAMILTON COUNTY

ATTN: Diedre B. Nida

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

(2-16) PERMIT NUMBER	(17-19) DISCHARGE NUMBER
TN0026450	112 G

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
From	00	08	01	To	00	08	31
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

MAJOR
(SUBR 01)
F - FINAL
SEWAGE TREATMENT PLANT
EFFLUENT

*** NO DISCHARGE XX ***

Form Approved.
OMB No. 2040-0004
Approval expires 05-31-98

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
BOD, 5-DAY (20 DEG. C)	SAMPLE MEASUREMENT	********	********	**	********			(19)			
00310 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	30 MO AVG	45 DAILY MX	MG/L		TWICE/ MONTH	GRAB
SOLIDS, TOTAL SUSPENDED	SAMPLE MEASUREMENT	********	********	**	********			(19)			
00530 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	30 MO AVG	45 DAILY MX	MG/L		TWICE/ MONTH	GRAB
SOLIDS, SETTLEABLE	SAMPLE MEASUREMENT	********	********	**	********	********		(25)			
00545 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	********	1.0 DAILY MX	MG/L		TWICE/ WEEK	GRAB
COLIFORM, FECAL MF, M-FC BROTH, 44.5C	SAMPLE MEASUREMENT	********	********	**	********			(13)			
31616 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	**	********	200 ARI MEAN	1000 DAILY MX	#/100 ML		TWICE/ MONTH	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	SAMPLE MEASUREMENT			(03)	********	********	********	**			
50050 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	REPORT MO AVG	REPORT DAILY MX	MGD	********	********	********	****		CONTIN UOUS	TOTALZ
CHLORINE, TOTAL RESIDUAL	SAMPLE MEASUREMENT	********	********	**	********	********		(19)			
50060 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	********	2.0 INST MAX	MG/L		WEEK-DAYS	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
Richard T. Purcell
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 FINE 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 maximum imprisonment of between 6 months and 5 years.)

Diedre B. Nida
Environmental Supervisor
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE		DATE		
423	843-6700	00	09	13
AREA CODE	NUMBER	YEAR	MO	DAY

COMMENTS 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. No Discharge this Period.

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

Name TVA - SEQUOYAH NUCLEAR PLANT
Address BOX 2000
(INTEROFFICE SB 2A)
SODDY - DAISY IN 37384
Facility TVA - SEQUOYAH NUCLEAR PLANT
Location HAMILITON COUNTY

ATTN: Diedre B. Nida

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

(2-16)	(17-19)
TN0026450	118 G
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
From	00	08	01	To	00	08	31
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

MAJOR
(SUBR 01)
F - FINAL
WASTEWATER & STORM WATER
EFFLUENT

*** NO DISCHARGE XX ***

Form Approved.
OMB No. 2040-0004
Approval expires 05-31-98

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING AVERAGE (46-53)	MAXIMUM (54-61)	UNITS	(4 Card Only) QUALITY OR CONCENTRATION MINIMUM (38-45)	AVERAGE (46-53)	MAXIMUM (54-61)	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
OXYGEN, DISSOLVED (DO)	SAMPLE MEASUREMENT	********	********	**		********	********	(19)			
00300 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	2.0 DAILY MN	********	********	MG/L		TWICE/ WEEK	GRAB
SOLIDS, TOTAL SUSPENDED	SAMPLE MEASUREMENT	********	********	**	********	********		(19)			
00530 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	********	100 DAILY MX	MG/L		TWICE/ WEEK	GRAB
SOLIDS, SETTLEABLE	SAMPLE MEASUREMENT	********	********	**	********	********		(25)			
00545 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	********	1.0 DAILY MX	MG/L		ONCE/ MONTH	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	SAMPLE MEASUREMENT			(03)	********	********	********	**			
50050 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	REPORT MO AVG	REPORT DAILY MX	MGD	********	********	********	**		ONCE/ BATCH	CALCTD
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
Richard T. Purcell 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 FINE 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 maximum imprisonment of between 6 months and 5 years.)	Diedre B. Nida Environmental Supervisor	423	843-6700	00	09	13
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

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

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)
Name TVA - SEQUOYAH NUCLEAR PLANT
Address BOX 2000
(INTEROFFICE SB 2A)
SODDY - DAISY IN 37384
Facility TVA - SEQUOYAH NUCLEAR PLANT
Location HAMILTON COUNTY

ATTN: Diedre B. Nida

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

(2-16) PERMIT NUMBER	(17-19) DISCHARGE NUMBER
TN0026450	101 G

MONITORING PERIOD

	YEAR (20-21)	MO (22-23)	DAY (24-25)		YEAR (26-27)	MO (28-29)	DAY (30-31)
From	00	07	01	To	00	07	31

MAJOR
(SUBR 01)
F - FINAL
DIFFUSER DISCHARGE
EFFLUENT
*** NO DISCHARGE [ ] ***

Form Approved.
OMB No. 2040-0004
Approval expires 05-31-98

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
TEMPERATURE, WATER DEG. CENTIGRADE	SAMPLE MEASUREMENT	********	********	**	********	********	30.4	(04)	0	31 / 31	MODELD
00010 Z 0 0 INSTREAM MONITORING	PERMIT REQUIREMENT	********	********	****	********	********	30.5 DAILY MX	DEG. C.		SEE PERMIT	CK REQ
TEMPERATURE, WATER DEG. CENTIGRADE	SAMPLE MEASUREMENT	********	********	**	********	********	41.6	(04)	0	31 / 31	RCORDR
00010 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	********	REPORT DAILY MX	DEG. C.		SEE PERMIT	CK REQ
PH	SAMPLE MEASUREMENT	********	********	**	7.4	********	7.8	(12)	0	08 / 31	GRAB
00400 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	6.0 MINIMUM	********	9.0 MAXIMUM	SU		WEEKLY	GRAB
SOLIDS, TOTAL SUSPENDED	SAMPLE MEASUREMENT	********	********	**	********	4	5	(19)	0	04 / 31	GRAB
00530 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	30 DAILY MX	100 DAILY MX	MG/L		WEEKLY	GRAB
OIL & GREASE FREON EXTR-GRAV METH	SAMPLE MEASUREMENT	********	********	**	********	<5	<5	(19)	0	04 / 31	GRAB
00556 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	15 DAILY MX	20 DAILY MX	MG/L		WEEKLY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	SAMPLE MEASUREMENT	********	1697	(03)	********	********	********	**	0	31 / 31	RCORDR
50050 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	REPORT DAILY MX	MGD	********	********	********	****		CONTIN UOUS	RCORDR
CHLORINE, TOTAL RESIDUAL	SAMPLE MEASUREMENT	********	********	**	********	********	0.022	(19)	0	54 / 31	GRAB
50060 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	********	0.058 INST MAX	MG/L		WEEK-DAYS	CALCTD

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
Richard T. Purcell 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 FINE 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 maximum imprisonment of between 6 months and 5 years.)	Diedre B. Nida Environmental Supervisor SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	423 AREA CODE	843-6700 NUMBER	00 YEAR	08 MO	09 DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

No closed mode operation. The following injections occured: 1. PCL-222 phosphate (max. calc. conc. was 0.055mg/L--limit 0.100mg/L) 2. CL-363 (max. calc. conc. was 0.006mg/L--limit 0.100mg/L) 3. Cuprostat-PF (max. calc. conc. was 0.108mg/L--limit 0.400mg/L) 4. PCL-401/PCL-222 co-polymer (max. calc. conc. was 0.019mg/L--limit 0.100mg/L).

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

Name TVA - SEQUOYAH NUCLEAR PLANT
Address BOX 2000
(INTEROFFICE SB 2A)
SODDY - DAISY IN 37384
Facility TVA - SEQUOYAH NUCLEAR PLANT
Location HAMILTON COUNTY

ATTN: Diedre B. Nida

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

(2-16) PERMIT NUMBER	(17-19) DISCHARGE NUMBER
TN0026450	101 G

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
From	00	07	01	To	00	07	31
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

MAJOR
(SUBR 01)
F - FINAL
DIFFUSER DISCHARGE
EFFLUENT

*** NO DISCHARGE [ ] ***

Form Approved.
OMB No. 2040-0004
Approval expires 05-31-98

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
TEMPERATURE - C, RATE OF CHANGE	SAMPLE MEASUREMENT	********	********	**	********	********	0.8	(04)	0	31 / 31	CALCTD
82234 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	********	2.0	DEG. C.			CALCTD
DELTA TEMPERATURE - C	SAMPLE MEASUREMENT	********	********	**	********	********	1.8	(04)	0	31 / 31	CALCTD
00016 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	********	3.0	DEG. C.			CALCTD
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
BORON, TOTAL	SAMPLE MEASUREMENT	********	********	**	<0.2	<0.2	<0.2	(19)	0	01 / 31	GRAB
01022 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	REPORT	REPORT	REPORT	MG/L			GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
Richard T Purcell 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 FINE 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 maximum imprisonment of between 6 months and 5 years.)	Diedre B. Nida Environmental Supervisor SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	423 AREA CODE	843-6700 NUMBER	00 YEAR	08 MO	09 DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

Toxicity was sampled from 7/26/2000 - 8/1/2000, results will be submitted with the quarterly DMR.

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

Name TVA - SEQUOYAH NUCLEAR PLANT
Address BOX 2000
(INTEROFFICE SB-2A)
SODDY - DAISY IN 37384
Facility TVA SEQUOYAH NUCLEAR PLANT
Location HAMILITON COUNTY

ATTN: Diedre B. Nida

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

(2-16)	(17-19)
TN0026450	103 G
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
From	00	07	01	To	00	07	31
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

MAJOR
(SUBR 01)
F - FINAL
LOW VOL. WASTE TREATMENT POND
EFFLUENT
*** NO DISCHARGE [ ] ***

Form Approved.
OMB No. 2040-0004
Approval expires 05-31-98

NOTE: Read instructions before completing this form

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
PH	SAMPLE MEASUREMENT	********	********	**	6.3	********	8.9	(12)	0	12 / 31	GRAB
00400 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	**	6.0 MINIMUM	********	9.0 MAXIMUM	SU		THREE/ WEEK	GRAB
SOLIDS, TOTAL SUSPENDED	SAMPLE MEASUREMENT	113	199	(26)	********	13	15	(19)	0	04 / 31	GRAB
00530 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	380 MO AVG	1250 DAILY MX	LBS/DY	********	30 MO AVG	100 DAILY MX	MG/L		WEEKLY	GRAB
OIL & GREASE FREON EXTR-GRAV METH	SAMPLE MEASUREMENT	<45	<66	(26)	********	<5	<5	(19)	0	04 / 31	GRAB
00556 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	190 MO AVG	250 DAILY MX	LBS/DY	********	15 MO AVG	20 DAILY MX	MG/L		WEEKLY	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	SAMPLE MEASUREMENT	1.042	1.591	(03)	********	********	********	**	0	31 / 31	TOTAL
50050 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	REPORT MO AVG	REPORT DAILY MX	MGD	********	********	********	**		DAILY	TOTAL
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
Richard T Purcell 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 FINE 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 maximum imprisonment of between 6 months and 5 years)	Diedre B. Nida Environmental Supervisor SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	423 AREA CODE	843-6700 NUMBER	00 YEAR	08 MO	09 DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS *(Reference all attachments here)*

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

Name TVA - SEQUOYAH NUCLEAR PLANT
Address BOX 2000
(INTEROFFICE SB 2A)
SODDY DAISY IN 37384
Facility TVA - SEQUOYAH NUCLEAR PLANT
Location HAMILTON COUNTY

ATTN: Diedre B. Nida

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

(2-16) PERMIT NUMBER	(17-19) DISCHARGE NUMBER
TN0026450	107 G

MONITORING PERIOD

	YEAR (20-21)	MO (22-23)	DAY (24-25)		YEAR (26-27)	MO (28-29)	DAY (30-31)
From	00	07	01	To	00	07	31

MAJOR
(SUBR 01)
F - FINAL
METAL CLEANING WASTE POND
EFFLUENT

*** NO DISCHARGE [XX] ***

Form Approved
OMB No. 2040-0004
Approval expires 05-31-98

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
PH	SAMPLE MEASUREMENT	********	********	**		********		(12)			
00400 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	6.0 MINIMUM	********	9.0 MAXIMUM	SU		DAILY	GRAB
PHOSPHORUS, TOTAL (AS P)	SAMPLE MEASUREMENT	********	********	**	********	********		(19)			
00665 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	********	1.0 DAILY MX	MG/L		DAILY	COMP-8
SOLIDS, TOTAL SUSPENDED	SAMPLE MEASUREMENT	********	********	**	********	********		(19)			
00530 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	********	30 DAILY MX	MG/L		DAILY	COMP-8
OIL & GREASE FREON EXTR-GRAV METH	SAMPLE MEASUREMENT	********	********	**	********	********		(19)			
00556 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	********	15 DAILY MX	MG/L		DAILY	GRAB
COPPER, TOTAL (AS CU)	SAMPLE MEASUREMENT	********	********	**	********	********		(19)			
01042 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	********	1.0 DAILY MX	MG/L		DAILY	COMP-8
IRON, TOTAL (AS FE)	SAMPLE MEASUREMENT	********	********	**	********	********		(19)			
01045 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	********	1.0 DAILY MX	MG/L		DAILY	COMP-8
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	SAMPLE MEASUREMENT			(03)	********	********	********	**			
50050 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	REPORT MO AVG	REPORT DAILY MX	MGD	********	********	********	****		DAILY	CALCTD

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		TELEPHONE		DATE		
Richard T. Purcell 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 FINE 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 maximum imprisonment of between 6 months and 5 years.)	Diedre B. Nida Environmental Supervisor SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	423 AREA CODE	843-6700 NUMBER	00 YEAR	08 MO	09 DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS *(Reference all attachments here)*

No phosphate bearing chemicals were employed. There were no releases during July 2000.

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

Name TVA - SEQUOYAH NUCLEAR PLANT
Address BOX 2000
(INTEROFFICE SB-2A)
SODDY - DAISY TN 37384
Facility TVA - SEQUOYAH NUCLEAR PLANT
Location HAMILTON COUNTY

ATTN: Diedre B. Nida

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

(2-16)	(17-19)
TN0026450	110 G
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
From	00	07	01	To	00	07	31
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

MAJOR
(SUBR 01)
F - FINAL
RECYCLED COOLING WATER
EFFLUENT
*** NO DISCHARGE [XX] ***

Form Approved.
OMB No. 2040-0004
Approval expires 05-31-98

NOTE: Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
TEMPERATURE, WATER DEG. CENTIGRADE	SAMPLE MEASUREMENT	********	********	**	********	********		(04)			
00010 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	********	38.3 DAILY MX	DEG. C.		DAILY	GRAB-4
PH	SAMPLE MEASUREMENT	********	********	**		********		(12)			
00400 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	6.0 MINIMUM	********	9.0 MAXIMUM	SU		WEEKLY	GRAB
CHLORINE, TOTAL RESIDUAL	SAMPLE MEASUREMENT	********	********	**	********	********		(19)			
50060 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	********	0.10 DAILY MX	MG/L		WEEKLY	GRAB-4
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
Richard T. Purcell 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 FINE 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 maximum imprisonment of between 6 months and 5 years.)	Diedre B. Nida Environmental Supervisor	423	843-6700	00	08	09
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS *(Reference all attachments here)*

No Discharge this Period

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

Name TVA - SEQUOYAH NUCLEAR PLANT
Address BOX 2000
(INTEROFFICE SB 2A)
SODDY - DAISY TN 37384
Facility TVA - SEQUOYAH NUCLEAR PLANT
Location HAMILITON COUNTY

ATTN Diedre B. Nida

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

(2-16) PERMIT NUMBER	(17-19) DISCHARGE NUMBER
TN0026450	112 G

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
From	00	07	01	To	00	07	31
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

MAJOR
(SUBR 01)
F - FINAL
SEWAGE TREATMENT PLANT
EFFLUENT

*** NO DISCHARGE XX ***

Form Approved
OMB No. 2040-0004
Approval expires 05-31-98

NOTE Read instructions before completing this form.

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
BOD, 5-DAY (20 DEG. C)	SAMPLE MEASUREMENT	********	********	**	********			(19)			
00310 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	30 MO AVG	45 DAILY MX	MG/L		TWICE/ MONTH	GRAB
SOLIDS, TOTAL SUSPENDED	SAMPLE MEASUREMENT	********	********	**	********			(19)			
00530 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	30 MO AVG	45 DAILY MX	MG/L		TWICE/ MONTH	GRAB
SOLIDS, SETTLEABLE	SAMPLE MEASUREMENT	********	********	**	********	********		(25)			
00545 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	********	1.0 DAILY MX	MG/L		TWICE/ WEEK	GRAB
COLIFORM, FECAL MF, M-FC BROTH, 44.5C	SAMPLE MEASUREMENT	********	********	**	********			(13)			
31616 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	**	********	200 ARI MEAN	1000 DAILY MX	#/100 ML		TWICE/ MONTH	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	SAMPLE MEASUREMENT			(03)	********	********	********	**			
50050 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	REPORT MO AVG	REPORT DAILY MX	MGD	********	********	********	****		CONTIN UOUS	TOTALZ
CHLORINE, TOTAL RESIDUAL	SAMPLE MEASUREMENT	********	********	**	********	********		(19)			
50060 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	********	2.0 INST MAX	MG/L		WEEK-DAYS	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER
Richard T. Purcell
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 FINE 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 maximum imprisonment of between 6 months and 5 years.)

Diedre B. Nida
Environmental Supervisor
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE		DATE		
423	843-6700	00	08	09
AREA CODE	NUMBER	YEAR	MO	DAY

COMMENTS 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. No Discharge this Period

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

Name TVA - SEQUOYAH NUCLEAR PLANT
Address BOX 2000
(INTEROFFICE SB-2A)
SODDY - DAISY IN 37384
Facility TVA - SEQUOYAH NUCLEAR PLANT
Location HAMILITON COUNTY

ATTN: Diedre B. Nida

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

(2-16) PERMIT NUMBER	(17-19) DISCHARGE NUMBER
TN0026450	118 G

MONITORING PERIOD

	YEAR (20-21)	MO (22-23)	DAY (24-25)		YEAR (26-27)	MO (28-29)	DAY (30-31)
From	00	07	01	To	00	07	31

MAJOR
(SUBR 01)
F - FINAL
WASTEWATER & STORM WATER
EFFLUENT

*** NO DISCHARGE [XX] ***

Form Approved
OMB No. 2040-0004
Approval expires 05 31-98

NOTE: Read instructions before completing this form

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING AVERAGE (46-53)	MAXIMUM (54-61)	UNITS	(4 Card Only) QUALITY OR CONCENTRATION MINIMUM (38-45)	AVERAGE (46-53)	MAXIMUM (54-61)	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
OXYGEN, DISSOLVED (DO)	SAMPLE MEASUREMENT	********	********	**		********	********	(19)			
00300 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	2.0 DAILY MN	********	********	MG/L		TWICE/ WEEK	GRAB
SOLIDS, TOTAL SUSPENDED	SAMPLE MEASUREMENT	********	********	**	********	********		(19)			
00530 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	********	100 DAILY MX	MG/L		TWICE/ WEEK	GRAB
SOLIDS, SETTLEABLE	SAMPLE MEASUREMENT	********	********	**	********	********		(25)			
00545 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	********	********	****	********	********	1.0 DAILY MX	MG/L		ONCE/ MONTH	GRAB
FLOW, IN CONDUIT OR THRU TREATMENT PLANT	SAMPLE MEASUREMENT			(03)	********	********	********	**			
50050 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT	REPORT MO AVG	REPORT DAILY MX	MGD	********	********	********	**		ONCE/ BATCH	CALCTD
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
Richard T. Purcell 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 FINE 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 maximum imprisonment of between 6 months and 5 years.)	Diedre B. Nida Environmental Supervisor SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	423 AREA CODE	843-6700 NUMBER	00 YEAR	08 MO	09 DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

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