

Gibson, Victoria

From: Gibson, Victoria
Sent: Thursday, December 13, 2007 3:26 PM
To: Drew, Richard; Bradburn, Rick
Subject: FW: Hydrosphere Report - part1

Attachments: Document.pdf



Document.pdf (332
KB)

Good afternoon.

Trina thought one of you might be expecting this information from Telogia.

Part 2 through 4 will follow in separate e-mails.

Vickie

Victoria Gibson, Administrative Secretary for Trina Vielhauer, Chief Bureau of Air
Regulation Department of Air Resource Management victoria.gibson@dep.state.fl.us
850-921-9504 fax 850-921-9533

-----Original Message-----

From: digital sender
Sent: Thursday, December 13, 2007 3:21 PM
To: Gibson, Victoria
Subject: Hydrosphere Report ~ part1

Please open the attached document. This document was digitally sent to you using an HP
Digital Sending device.

Gibson, Victoria

From: Gibson, Victoria
Sent: Thursday, December 13, 2007 3:27 PM
To: Drew, Richard; Bradburn, Rick
Subject: FW: Hydrosphere Report - part 2

Attachments: Document.pdf



Document.pdf (1
MB)

-----Original Message-----

From: digital sender
Sent: Thursday, December 13, 2007 3:22 PM
To: Gibson, Victoria
Subject: Hydrosphere Report - part 2

Please open the attached document. This document was digitally sent to you using an HP Digital Sending device.

Gibson, Victoria

From: Gibson, Victoria
Sent: Thursday, December 13, 2007 3:27 PM
To: Drew, Richard; Bradburn, Rick
Subject: FW: Hydrosphere Report - part 3

Attachments: Document.pdf



Document.pdf (998
KB)

-----Original Message-----

From: digital sender
Sent: Thursday, December 13, 2007 3:23 PM
To: Gibson, Victoria
Subject: Hydrosphere Report - part 3

Please open the attached document. This document was digitally sent to you using an HP Digital Sending device.

Gibson, Victoria

From: Gibson, Victoria
Sent: Thursday, December 13, 2007 3:27 PM
To: Drew, Richard; Bradburn, Rick
Subject: FW: Hydrosphere Report - part 4

Attachments: Document.pdf



Document.pdf (628
KB)

-----Original Message-----

From: digital sender
Sent: Thursday, December 13, 2007 3:23 PM
To: Gibson, Victoria
Subject: Hydrosphere Report - part 4

Please open the attached document. This document was digitally sent to you using an HP Digital Sending device.

Prepared for:
Telogia Power
c/o Severn Trent Laboratories, Inc.
2846 Industrial Plaza Drive
Tallahassee, FL 32301

Prepared by:
Hydrosphere Research

Test Location:
11842 Research Circle
Alachua, FL 32615

Contact information:
Craig Watts, Lab Director
Tel: (386) 462-7889
Fax: (386) 462-7264

Total Number of Pages:
28

Test Number:
STL-TE 07289, 07290, 07291

Toxicity Test Report

FDEP Permit No: FL0039951

Test Type: Additional 96-Hour Acute
Static Renewal Definitive
Toxicity Tests

Initiated: October 23, 30 &
November 13, 2007

Q.M.



Hydrosphere Research is a NELAC/P Certified Lab

Contents

Synopsis

Whole Effluent Acute Toxicity Report

Summary of Observations and Deviations from Protocol

Appendix A. Raw Data Sheets

Appendix B. Reference Toxicant Data

Appendix C. Chain of Custody Record

Synopsis of Bioassays for Telogia Power

To comply with the additional whole effluent biomonitoring requirements in permit number FL0039951, personnel from Telogia Power, Liberty County, Florida collected grab samples on October 21, 22, 29 & November 12, 2007. The aquatic toxicology laboratory of Hydrosphere Research in Alachua, Florida received these samples in good condition. Bioassays were initiated on October 23, 30 & November 13, 2007.

Using these samples, a series of 96-hour acute static renewal definitive bioassays were conducted with the water flea (*Ceriodaphnia dubia*). Test concentrations were 0 (control), 6.25, 12.5, 25, 50, and 100 percent effluent for the acute static renewal bioassay tests.

The results for the acute static renewal definitive bioassays are summarized in the table below:

		% Survival			
		Grab Sample			
	%				
	Effluent	0600	1200	1800	0150
Test Initiated 10/23/07	Control	100	100	100	100
	6.25	100	100	100	100
	12.5	100	100	100	100
	25	100	100	100	100
	50	100	100	100	100
	100	70	100	95	100
	LC₅₀	>100%	>100%	>100%	>100%
	Test Initiated 10/30/07	Grab Sample 1100			
Control		100			
6.25		100			
12.5		100			
25		100			
50		100			
100		100			
LC₅₀		>100%			
Test Initiated 11/13/07	Grab Sample 1115				
	Control	100			
	6.25	100			
	12.5	100			
	25	95			
	50	100			
	100	0			
	LC₅₀	68.3%			

These bioassays were initiated within 36 hours of the sample's collection time, and were acceptable tests based on control survival and test conditions.



NPDES WHOLE EFFLUENT TOXICITY TESTING REPORT FORM

All blanks on this form are to be filled in. Blanks that are not used should be filled in with "N/A" or a line drawn through the blank. Please print.

Attachments: Please attach the following items to this report form and indicate with an "x" in box.

1.	All Chain-of-Custody Forms	X
2.	All Reference Toxicant Data for each Organism used in Test and Current Control Charts for each Organism	X
3.	All Raw Data (Bench Sheets) Pertaining to the Tests (i.e., all physical, chemical, and biological measurements)	X
4.	All Result Calculations	X
5.	Discharge Monitoring Reports (DMR) when Applicable	NA

Facility/industry/client name:	Telogia Power		
Permit number:	FL0039951	County:	Liberty

Consultant company name:	Hydrosphere Research	Telephone:	(386) 462-7889
Dates test(s) conducted--Begin:	10/23/07, 10/30/07, 11/13/07	End:	10/27/07, 11/03/07, 11/17/07
Persons conducting test(s) (print names):	M. Hooper, P. Meyer, F. Moise, D. Onash		

Authorized signature:		Date:	12/4/07
-----------------------	--	-------	---------

Laboratory report #/project #:	STL-TE 07289, 07290, 07291	Sampler (print name):	G. Coleman, S. Lewis, J. Moon
--------------------------------	----------------------------	-----------------------	-------------------------------

DMR monitoring period end date on which this test is reported (filled out by the Permittee--mm/dd/yy):			
Routine test:	NA	Additional test:	X
Failed routine test date:	10/02/07		

Samples								
No.	Date & Time Collected	Lab Sample #	Grab	24-Hour Composite	Arrival Temperature (°C)	Initial Residual Chlorine	Lab Dechlorination	
							Y/N	Chemical Used
1.	10/21/07-0800	07289A	X	NA	0.2	<0.04	N	NA
2.	10/21/07-1415	07289B	X	NA	0.2	<0.04	N	NA
3.	10/21/07-2000	07289C	X	NA	0.2	0.04	N	NA
4.	10/22/07-0200	07289D	X	NA	0.2	0.07	N	NA
5.	10/29/07-1100	07290A	X	NA	0.2	0.04	N	NA
6.	11/12/07-1115	07291A	X	NA	0.8	<0.04	N	NA
7.	NA	NA	NA	NA	NA	NA	NA	NA
8.	NA	NA	NA	NA	NA	NA	NA	NA
9.	NA	NA	NA	NA	NA	NA	NA	NA
10.	NA	NA	NA	NA	NA	NA	NA	NA

Refrigerant used for sample transportation:	Wet Ice	Blue Ice	Other (describe)	Samples Aerated	
	X	NA	NA	Yes (describe)	No
				X, All samples for 5 minutes	NA

Samples delivered by:	Bus	Hand	Common Carrier	Samples Filtered	
	NA	NA	X	Yes (describe)	No
				NA	X



SUMMARY OF TEST CONDITIONS

Type of Test ^a	Test Concentrations ^b (% Effluent)	Test Species Used ^c	Age of Test Organism	Amount & Type of Food	How Often Fed	Test Chamber Volume	Volume of Effluent Used	Type of Chamber	# of Organisms/ Chamber	# of Replicates	Temp. Range (°C)
D	6.25, 12.5, 25, 50, 100	CD	< 24 hours	0.1 ml YCT + 0.1 ml S. cap / 20 ml	1/day	30 ml	20 ml	Plastic cup	5	4	25.0 ± 1.0
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

G. "Other" type of test:	NA	Temperature readings:	Single	Multiple	Continuous
			NA	X	NA

Description of control water:	Moderately Hard Reconstituted	Photoperiod during test:	16 hours light / 8 hours dark
-------------------------------	-------------------------------	--------------------------	-------------------------------

Reference Toxicant Data ^d					
Name of Toxicant	Dates of Test		Species ^c	In-House or Commercially Obtained	LC ₅₀ /NOEC/IC ₂₅
	Begin	End			
KCl	11/06/07	11/08/07	CD	In-house	LC ₅₀ = 0.57 g/L
NA	NA	NA	NA	NA	NA

^aPlease fill the "Type of Test" box with the appropriate letter:

^cWrite appropriate letters for the following species in this column:

- A. 48-Hr/Non-Renewal/Single Concentration (Screen)
- B. 48-Hr/Non-Renewal/Multi-Concentration (Definitive)
- C. 96-Hr/Renewed Every 48 Hrs/Single Concentration (Screen)
- D. 96-Hr/Renewed Every 48 Hrs/Multi-Concentration (Definitive)
- E. 7-Day Chronic/Single Concentration (Screen)/Renewed Daily
- F. 7-Day Chronic/Multi-Concentration (Definitive)/Renewed Daily
- G. Other (described in the "G" box)

- CD - *Ceriodaphnia dubia*
- FM - *Pimephales promelas* (fathead minnow)
- SS - *Menidia beryllina* (inland silverside)
- MS - *Americanmysis bahia* (formerly *Mysidopsis bahia*, mysid shrimp)
- CL - *Cyprinella leedsii* (bannerfin shiner)
- Other - Please describe:

^bList all concentrations of effluent used (i.e., 0%, 6.25%, 12.5%, 25%, 50%, 100%).

^dAttach all reference toxicant raw data & control charts for each organism/reference toxicant used for the test.



TEST RESULTS
ACUTE

Test Species	Test Concentrations ^b (% Effluent)	Grab Sample ^c	Composite Sample ^c	% Mortality ^d (48 Hours)	% Mortality ^d (96 Hours)	LC ₅₀ ^e
Control ^a	0	NA	NA	NA	0	NA
CD	6.25, 12.5, 25, 50, 100	1	NA	NA	NA	>100%
CD	6.25, 12.5, 25, 50, 100	2	NA	NA	NA	>100%
CD	6.25, 12.5, 25, 50, 100	3	NA	NA	NA	>100%
CD	6.25, 12.5, 25, 50, 100	4	NA	NA	NA	>100%
CD	6.25, 12.5, 25, 50, 100	5	NA	NA	NA	>100%
CD	6.25, 12.5, 25, 50, 100	6	NA	NA	NA	68.3%
NA	NA	NA	NA	NA	NA	NA
Control ^a	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA

^aList % Control Mortality in appropriate column (48 or 96 hr) for organisms (use abbreviations shown on footnote "c" of page 2) that you list under the word "Control." Control mortality must not exceed 10% for a valid acute test.

^bList all concentrations of effluent used (i.e., 0%, 6.25%, 12.5%, 25%, 50%, 100%).

^cRecord number that corresponds with the number of the sample in the "Date & Time Collected" column in sample section on page 1.

^dList % Mortality for each organism and control if you are conducting a single concentration (Screen) test.

^eIf multi-concentration (Definitive) tests are conducted on grab or composite samples, record the calculated LC₅₀ in this column for each sample. Enter "N/A" in all % Mortality columns and LC₅₀ box at bottom of this table.

Species	LC ₅₀ ^f
CD	NA
NA	NA

If a single concentration (screen) test is conducted and >50% mortality occurs in any one of the four grab or composite samples, record <100% in this column. If ≤50% mortality occurs in all four grabs or composites, record >100% in this column. Draw a line through the LC₅₀ column in the above table.



**TEST RESULTS
CHRONIC**

Test Species ^a	Test Concentrations ^b (% Effluent)	NOEC			
		Survival ^c	Growth ^c	Reproduction ^c	Fecundity ^c
NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA

^aUse abbreviations shown on footnote "c" of page 2.

^bList all concentrations of effluent used (i.e., 0%, 6.25%, 12.5%, 25%, 50%, 100%).

^cFor single concentration tests (Screen), if there is a significant difference ($P = 0.05$) between survival, growth, reproduction, or fecundity in 100% or IWC, and control, record <100% in proper column. If there is not a significant difference between survival, growth, reproduction, or fecundity in 100% or IWC, and control, record >100% in proper column.

CD Survival in Control (>80%)	NA
Average Number of Young per Female in CD Control (min 15 young/surviving female)	NA

FM Survival in Control (>80%)	NA
Average FM Dry Weight in Control (min ADW 0.25 mg/FM in surviving controls)	NA

MS Survival in Control (>80%)	NA
Average MS Dry Weight in Control (min ADW 0.20 mg/MS in surviving controls)	NA
Egg Production in MS by 50% of Females (Y/N)	NA

SS Survival in Control (>80%)	NA
Average SS Dry Weight in Control (min immediate ADW 0.50 mg/SS in surviving controls)	NA

Summary of Observations and Deviations from Protocol

A series of additional 96-hour acute static renewal definitive tests were initiated October 23, 30 and November 23, 2007 for Telogia Power, Liberty County, Florida.

During these tests, in all test vessels the dissolved oxygen content remained above 4.0 milligrams per liter, the temperature remained within the limits established in the Comprehensive Quality Assurance Plan, and the pH range was normal. The results of the standard reference toxicant tests, provided in Appendix B, indicate that the organisms were of normal sensitivity for this laboratory.

There were no unusual observations or deviations from standard test protocol. These test results meet all requirements of NELAC.

Notes:

1. Bioassay tests reported herein were conducted in accordance with one or more of the following:
 - a. U.S. Environmental Protection Agency. Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms. Fifth Edition. EPA-821-R-02-012. October 2002.
 - b. U.S. Environmental Protection Agency. Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms. Fourth Edition. EPA-821-R-02-013. October 2002.
 - c. U.S. Environmental Protection Agency. Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms. Third Edition. EPA-821-R-02-014. October 2002.
2. Chemical and physical parameters reported herein were determined by methods described in "Methods for Chemical Analysis of Water and Waste", EPA 600/4-79-020, March, 1984.
3. The adverse effect measured in acute tests is mortality. Assessment of mortality is described in documents listed above. Chronic test endpoints are mortality and reproduction or growth, and assessment of these test endpoints are also described in the appropriate documents listed above.
4. Bioassay tests were performed at the Hydrosphere Research Aquatic Toxicology Laboratory, 11842 Research Circle, Alachua, FL 32615, telephone number (386) 462-7889. This laboratory is NELAC/P certified by the State of Florida Department of Health and Rehabilitation Services (E82295).
5. *C. dubia* test organisms were cultured in-house.

Appendix A
Raw Data Sheets

Survival

Acute Freshwater Method (EPA-821-R-02-012, Method 2002.0)

Client: Telogia Power
 Code: STL-TE Job: 07289
 Species: Ceriodaphnia dubia Code: CD
 ID #: 3913 Age: <24-hours

Control Water: MHR
 ID #: 1679
 Test Vessel: 30-mL plastic cup
 Test Volume: 20-mLs per replicate

Initiation Date: 10/23/07 Termination Date: 10/27/07
 Sample Description:

Sample ID	%	REP	Live Counts				
			T	W	R	F	S
Control	0	A	5	5	5	5	5
		B	5	5	5	5	5
		C	5	5	5	5	5
		D	5	5	5	5	5
A	6.25	A	5	5	5	5	5
		B	5	5	5	5	5
		C	5	5	5	5	5
		D	5	5	5	5	5
A	12.5	A	5	5	5	5	5
		B	5	5	5	5	5
		C	5	5	5	5	5
		D	5	5	5	5	5
A	25	A	5	5	5	5	5
		B	5	5	5	5	5
		C	5	5	5	5	5
		D	5	5	5	5	5
A	50	A	5	5	5	5	5
		B	5	5	5	5	5
		C	5	5	5	5	5
		D	5	5	5	5	5
A	100	A	5	5	4	4	4
		B	5	5	3	3	3
		C	5	5	3	3	3
		D	5	5	4	4	4

pH				
0 new	24 old solution	48 old	72 new	96 old solution
		8.0		7.9
		7.9		7.9
7.7	8.0	7.9	7.9	7.8
		8.0		7.7
		8.0		7.9
7.7	8.0	8.0	7.8	7.8
		8.0		7.9
		8.0		7.9
7.7	8.0	8.0	7.8	7.9
		8.0		7.9
		8.0		7.9
7.6	8.0	8.0	7.7	7.9
		8.0		8.0
		8.0		8.0
7.5	8.0	8.1	7.7	7.9
		8.1		8.0

Dissolved Oxygen (mg/L)				
0 new	24 old solution	48 old	72 new	96 old solution
		7.8		8.0
		7.8		8.0
8.1	7.8	7.8	8.3	8.0
		7.9		8.0
		7.9		8.0
8.1	7.9	7.9	8.3	8.0
		7.9		8.1
		7.9		8.1
8.1	7.9	7.9	8.3	8.0
		7.9		8.1
		7.9		8.2
8.0	7.9	8.0	8.4	8.0
		8.0		8.2
		8.0		8.2
7.4	8.0	8.0	8.4	8.0
		8.0		8.2

Conductivity (umho/cm)				
0 new	24 old solution	48 old	72 new	96 old solution
		392		420
		396		422
370	371	395	318	358
		398		431
		490		528
		493		515
400	422	494	388	444
		496		518
		580		649
		585		634
480	503	588	472	553
		594		646
		761		788
		758		816
625	645	764	598	695
		757		822
		1066		1118
		1092		1151
900	904	1080	859	998
		1081		1179
		1616		1725
		1647		1806
1420	1413	1659	1358	1533
		1660		1826

Meter ID #:
 Initials:
 Time: 1600 1425 1525 1535 1800

8	5	5	5	7
	7.9	7.9	7.9	7.9

7	4	4	4	5
	7.9	7.9	7.9	7.9

5	4	4	4	3
	7.9	7.9	7.9	7.9

NOTES & COMMENTS:
 ① correction = 1600 ② 10/27/07
 1 Measured at the end of each 24-h exposure period, on one replicate

Sample ID	%
Control	0
A	6.25
A	12.5
A	25
A	50
A	100

Temperature (°C)				
0	24	48	72	96
	24.6	24.2	24.2	24.2
	24.6	24.2	24.2	24.2
	24.5	24.2	24.2	24.2
	24.5	24.1	24.2	24.2
	24.4	24.1	24.2	24.2
	24.3	24.1	24.2	24.2

Feeding Type: F-CD and F-SC
 Amount: 0.1-mL of each 2-hours prior to test solution renewal
 Time: 1000

Survival

Acute Freshwater Method (EPA-821-R-02-012, Method 2002.0)

Client: Telogia Power
 Code: STL-TE Job: 07289
 Species: Ceriodaphnia dubia Code: CD
 ID #: 3913 Age: < 24-hours

Control Water: MHR
 ID #: 1679
 Test Vessel: 30-mL plastic cup
 Test Volume: 20-mLs per replicate

Initiation Date: 10/23/07 Termination Date: 10/27/07
 Sample Description:

Sample ID	%	R E P	Live Counts				
			T	W	R	F	S
Control	0	A	5	5	5	5	5
		B	5	5	5	5	5
		C	5	5	5	5	5
		D	5	5	5	5	5
B	6.25	A	5	5	5	5	5
		B	5	5	5	5	5
		C	5	5	5	5	5
		D	5	5	5	5	5
B	12.5	A	5	5	5	5	5
		B	5	5	5	5	5
		C	5	5	5	5	5
		D	5	5	5	5	5
B	25	A	5	5	5	5	5
		B	5	5	5	5	5
		C	5	5	5	5	5
		D	5	5	5	5	5
B	50	A	5	5	5	5	5
		B	5	5	5	5	5
		C	5	5	5	5	5
		D	5	5	5	5	5
B	100	A	5	5	5	5	5
		B	5	5	5	5	5
		C	5	5	5	5	5
		D	5	5	5	5	5

pH				
0 new	24 old solution	48 old	72 new	96 old solution
7.8	8.0	8.0	7.9	7.9
7.7	8.0	8.0	7.9	7.9
7.7	8.0	8.0	7.9	7.9
7.7	8.1	8.1	8.0	7.9
7.6	8.1	8.1	8.0	8.0
7.5	8.2	8.2	8.0	8.0

Dissolved Oxygen (mg/L)				
0 new	24 old solution	48 old	72 new	96 old solution
8.0	7.8	7.8	8.3	7.9
8.0	7.8	7.8	8.4	8.0
8.0	7.8	7.8	8.4	8.0
8.0	7.9	7.9	8.4	8.0
7.9	7.9	7.9	8.4	8.1
7.9	7.9	7.9	8.3	8.1

Conductivity (µmho/cm)				
0 new	24 old solution	48 old	72 new	96 old solution
320	388	416	383	365
385	415	471	380	430
450	467	547	430	500
570	582	678	551	626
740	801	925	765	852
1225	1199	1399	1195	1292

Meter ID #: 8 5 5 5 9
 Initials: Jh Jh Jh Jh Jh
 Time: 1500 1430 1530 1540 1600

NOTES & COMMENTS:
 ① correction - (W) (1600) 10/27/07

Feeding Type: F-CD and F-SC
 Amount: 0.1-mL of each 2-hours prior to test solution renewal
 Time: 1000

Sample ID	%
Control	0
B	6.25
B	12.5
B	25
B	50
B	100

Temperature (°C) ¹				
0	24	48	72	96
	24.6	24.2	24.1	24.2
	24.5	24.2	24.1	24.2
	24.5	24.2	24.1	24.2
	24.4	24.2	24.1	24.2
	24.4	24.2	24.1	24.2
	24.4	24.2	24.1	24.2
	31	31	31	34

¹ Measured at the end of each 24-h exposure period, on one replicate

Survival

Acute Freshwater Method (EPA-821-R-02-012, Method 2002.0)

Client: Telogia Power
 Code: STL-TE Job: 07289
 Species: Ceriodaphnia dubia Code: CD
 ID#: 3913 Age: <24-hours

Control Water: MHR
 ID#: 1679
 Test Vessel: 30-mL plastic cup
 Test Volume: 20-mLs per replicate

Initiation Date: 10/23/07 Termination Date: 10/27/07
 Sample Description:

Sample ID	%	REP	Live Counts					pH					Dissolved Oxygen (mg/L)					Conductivity (µmho/cm)												
			0	24	48	72	96	0 new	24 old solution	48 old	48 new	72 old solution	96 old	0 new	24 old solution	48 old	48 new	72 old solution	96 old	0 new	24 old solution	48 old	48 new	72 old solution	96 old					
Control	0	A	5	5	5	5	5	7.8	8.0	8.0	7.9	7.9	8.0	7.7	7.8	8.4	7.8	8.0	320	347	415	403	402	406	320	371	462	485	481	470
		B	5	5	5	5	5			8.0			8.0					8.0			465					524			535	
		C	5	5	5	5	5	7.7	8.0	8.0	7.9	7.9	8.1	7.8	7.8	8.3	7.9	8.0	388	405	472	473	471	371	435	531	531	550		
		D	5	5	5	5	5			8.0	8.0	7.9	8.1	7.8	7.8	8.4	7.9	8.0	411	469	520	548	537	542	497	590	608	603	600	
C	6.25	A	5	5	5	5	5			8.0			8.1					8.1			660					727			733	
		B	5	5	5	5	5			8.0			8.2					8.1			672					738			732	
		C	5	5	5	5	5	7.7	8.0	8.0	8.0	7.9	8.1	7.8	7.8	8.4	7.9	8.0	555	583	650	650	676	527	610	738	738	732		
		D	5	5	5	5	5			8.1	8.1	8.0	8.2	7.9	7.9	8.4	8.0	8.0			676	527	610			732			732	
C	12.5	A	5	5	5	5	5			8.0			8.3					8.1			920					971			987	
		B	5	5	5	5	5			8.0			8.3					8.1			926					987			1009	
		C	5	5	5	5	5	7.6	8.0	8.2	8.1	8.0	8.2	7.9	7.9	8.4	8.0	8.1	411	822	938	933	737	855	996	996	996	996		
		D	5	5	5	5	5			8.2	8.1	8.0	8.3	7.9	7.9	8.4	8.0	8.1			938	933	737	855	996	996	996	996		
C	25	A	5	5	5	5	5			8.3			8.3					8.1			1350					1454			1454	
		B	5	5	5	5	5			8.3			8.3					8.1			1362					1450			1450	
		C	5	5	5	5	5	7.5	8.1	8.3	8.1	8.1	8.3	7.1	8.0	8.4	8.0	8.1	585	1184	1384	1376	1121	1254	1453	1453	1453	1453		
		D	5	5	5	5	5			8.3	8.1	8.1	8.3	7.1	8.0	8.4	8.0	8.1			1376	1121	1254	1453		1453			1453	

Meter ID #: 8 5 5 5 7
 Initials: [Handwritten]
 Time: 1500 1435 1540 1545 1600

NOTES & COMMENTS:
 ① correction - @ 10/27/07

Sample ID	%
Control	0
C	6.25
C	12.5
C	25
C	50
C	100

Sample ID	Temperature (°C)				
	0	24	48	72	96
Control	24.4	24.2	24.2	24.2	24.2
C	24.4	24.2	24.2	24.2	24.2
C	24.5	24.2	24.2	24.2	24.2
C	24.5	24.2	24.2	24.2	24.2
C	24.4	24.2	24.2	24.2	24.2
C	24.4	24.2	24.2	24.2	24.2

Feeding Type: F-CD and F-SC
 Amount: 0.1-mL of each 2-hours prior to test solution renewal
 Time: 1600

Survival

Acute Freshwater Method (EPA-821-R-02-012, Method 2002.0)

Client: Telogia Power
 Code: STL-TE Job: 07289
 Species: Ceriodaphnia dubia Code: CD
 ID #: 3913 Age: < 24-hours

Control Water: MHR
 ID #: 1679
 Test Vessel: 30-mL plastic cup
 Test Volume: 20-mLs per replicate

Initiation Date: 10/23/07 Termination Date: 10/27/07
 Sample Description:

Sample ID	%	R E P	Live Counts				
			T	U	R	F	F
Control	0	A	5	5	5	5	5
		B	5	5	5	5	5
		C	5	5	5	5	5
		D	5	5	5	5	5
D	6.25	A	5	5	5	5	5
		B	5	5	5	5	5
		C	5	5	5	5	5
		D	5	5	5	5	5
D	12.5	A	5	5	5	5	5
		B	5	5	5	5	5
		C	5	5	5	5	5
		D	5	5	5	5	5
D	25	A	5	5	5	5	5
		B	5	5	5	5	5
		C	5	5	5	5	5
		D	5	5	5	5	5
D	50	A	5	5	5	5	5
		B	5	5	5	5	5
		C	5	5	5	5	5
		D	5	5	5	5	5
D	100	A	5	5	5	5	5
		B	5	5	5	5	5
		C	5	5	5	5	5
		D	5	5	5	5	5

pH				
0 new	24 old solution	48 old	72 new	96 old solution
7.7	8.0	8.0	7.9	7.9
7.7	8.0	8.0	7.9	7.9
7.6	8.0	8.0	8.0	7.9
7.6	8.1	8.1	8.0	7.9
7.6	8.1	8.1	8.0	7.9
7.6	8.1	8.1	8.0	7.9
7.6	8.1	8.1	8.0	7.9
7.6	8.1	8.1	8.0	7.9
7.6	8.1	8.1	8.0	7.9

Dissolved Oxygen (mg/L)				
0 new	24 old solution	48 old	72 new	96 old solution
8.1	8.0	7.9	8.2	7.8
8.0	8.0	7.9	8.3	7.8
8.0	8.0	8.0	8.4	7.9
8.0	8.0	8.0	8.4	7.9
8.0	8.0	8.0	8.4	7.9
8.0	8.0	8.0	8.4	7.9
8.0	8.0	8.0	8.4	7.9
8.0	8.0	8.0	8.4	7.9
8.0	8.0	8.0	8.4	7.9

Conductivity (µmho/cm)				
0 new	24 old solution	48 old	72 new	96 old solution
320	349	407	320	370
400	418	491	384	444
470	489	570	435	513
610	683	720	535	611
870	863	1009	815	950
1350	1332	1540	1294	1430

Meter ID #: 8 5 5 5 7
 Initials: 7h 7h 7h 7h
 Time: 1500 1435 1355 1450 1600

NOTES & COMMENTS:

Feeding Type: F-CD and F-SC
 Amount: 0.1-mL of each 2-hours prior to test solution renewal
 Time: 1000

Sample ID	%
Control	0
D	6.25
D	12.5
D	25
D	50
D	100

Temperature (°C) ¹				
0	24	48	72	96
24.3	24.2	24.2	24.2	24.2
24.3	24.2	24.2	24.2	24.2
24.3	24.2	24.2	24.2	24.2
24.3	24.2	24.2	24.2	24.2
24.3	24.2	24.1	24.2	24.2
24.3	24.2	24.1	24.2	24.2

¹ Measured at the end of each 24-h exposure period, on one replicate

Meter ID#:

→ 31 31 31 34

Survival

Acute Freshwater Method (EPA-821-R-02-012, Method 2002.0)

Client: **Telogia Power**
 Code: **STL-TE** Job: **07290**
 Species: **Ceriodaphnia dubia** Code: **CD**
 ID #: **3916** Age: **< 24-hours**

Control Water: **MHR**
 ID #: **1684**
 Test Vessel: **30-mL plastic cup**
 Test Volume: **20-mLs per replicate**

Initiation Date: **10/30/07** Termination Date: **11/3/07**
 Sample Description:

Sample ID	%	R E P	Live Counts				
			T	W	R	F	S
Control	0	A	5	5	5	5	5
		B	5	5	5	5	5
		C	5	5	5	5	5
		D	5	5	5	5	5
A	6.25	A	5	5	5	5	5
		B	5	5	5	5	5
		C	5	5	5	5	5
		D	5	5	5	5	5
A	12.5	A	5	5	5	5	5
		B	5	5	5	5	5
		C	5	5	5	5	5
		D	5	5	5	5	5
A	25	A	5	5	5	5	5
		B	5	5	5	5	5
		C	5	5	5	5	5
		D	5	5	5	5	5
A	50	A	5	5	5	5	5
		B	5	5	5	5	5
		C	5	5	5	5	5
		D	5	5	5	5	5
A	100	A	5	5	5	5	5
		B	5	5	5	5	5
		C	5	5	5	5	5
		D	5	5	5	5	5

pH				
0	24	48	72	96
new	old solution	old	new	old solution
8.1	7.8	7.9	7.8	7.8
8.0	7.7	7.9	7.8	7.8
8.0	7.7	7.9	7.8	7.8
7.9	7.7	8.0	7.8	7.9
7.9	7.8	8.1	7.7	8.0
7.9	7.8	8.2	7.7	8.1

Dissolved Oxygen (mg/L)				
0	24	48	72	96
new	old solution	old	new	old solution
8.3	7.5	7.9	8.2	8.0
8.4	7.6	7.8	8.2	8.1
8.4	7.7	7.8	8.2	8.1
8.4	7.5	7.8	8.2	8.2
8.4	7.6	7.8	8.3	8.2
8.3	7.7	7.7	8.2	8.2

Conductivity (µmho/cm)				
0	24	48	72	96
new	old solution	old	new	old solution
304	320	357	304	382
400	410	427	408	465
482	520	688	486	558
667	690	761	659	763
1077	1050	1110	994	1127
1678	1650	1761	1677	1786

Meter ID #: **5 8 5 5 7**
 Initials: **7h 10 7h 7h 7h**
 Time: **1415 1409 1620 1435 1505**

NOTES & COMMENTS:
 ① correction 594 7h 11/1/07

Sample ID	%
Control	0
A	6.25
A	12.5
A	25
A	50
A	100

Temperature (°C)				
0	24	48	72	96
	24.4	24.2	24.0	24.4
	24.4	24.2	24.0	24.4
	24.4	24.2	24.0	24.4
	24.4	24.2	24.0	24.4
	24.4	24.2	24.0	24.4
	24.1	24.2	24.0	24.4

Feeding Type: **F-CD and F-SC**
 Amount: **0.1-mL of each 2-hours prior to test solution renewal**
 Time: **1345**



Client: Telogia Power
 Code: STL-TE Job: 07290

Sample Data

#	Sample Info			Dissolved Oxygen (D.O.)					Total Residual Chlorine			Ammonia		Conductivity		Salinity		Alkalinity/Hardness						
	Date		Letter Code	Description	D.O. (mg/L)	D.O. (%)	Aeration (min)	Post-Aeration D.O. (mg/L)	Initials	TRC (mg/L)	Dechlor ¹	Post-Dechl. (mg/L)	TRC Initials	T-NH ₃ (mg/L)	pH	Initials	Conductivity (µmho/cm)	Initials	Salinity (ppt)	Adjusted (ppt)	Initials	Alkalinity (mgCaCO ₃ /l)	Hardness (mgCaCO ₃ /l)	Initials
	M/D/Y	Day																						
1	10/30/07	T	A	D-001	9.1	112	5	8.2	7h	0.04	---	me		7.8	7h		1731	7h	---	700		30	1000	me
2	11/1/07	R	A	D-001	9.1	110	5	8.2	7h	---	---	L		7.6	7h		1669	7h	---	7h		---	---	L
3	/ /																							
4	/ /																							
5	/ /																							
6	/ /																							
7	/ /																							
8	/ /																							
9	/ /																							
10	/ /																							
11	/ /																							
12	/ /																							
13	/ /																							
14	/ /																							
15	/ /																							
16	/ /																							

Comments:

16

SRT ^{2,3}					
Chronic or Acute?	Species	Source*	Need to be Concurrent? (Check)	SRT Test	
				Date	<= 30d?
C or A	CD	H or V		10/2	Y or N
C or A		H or V		/	Y or N
C or A		H or V		/	Y or N
C or A		H or V		/	Y or N
C or A		H or V		/	Y or N
C or A		H or V		/	Y or N

Dilution Waters		Alkalinity/Hardness		
Code	ID #	Alkalinity (mgCaCO ₃ /l)	Hardness (mgCaCO ₃ /l)	Initials
M4R	1684	64	84	7h

¹ 1-mL Effluent Dechlorinator (8-g/L NaThio) per 1-L Effluent Sample per 1-ppm TRC (EPA-821-R-02-012, Section 9.1.6, pg 41)
² Important: Organisms from Vendors need to have concurrent SRT's (EPA-821-R-02-012, Section 4.7.3, pg 8)
³ Important: SRT's shall be conducted concurrently, or no greater than 30-days before the date of routine test. (EDEP permits)

*H = Hydrosphere or AI (monthly, <= 30-days or concurrent)
 V = Outside Vendor (concurrent Only)

Survival

Acute Freshwater Method (EPA-821-R-02-012, Method 2002.0)

Client: Telogia Power
 Code: STL-TE Job: 07291
 Species: Ceriodaphnia dubia Code: CD
 ID#: 3741 Age: < 24-hours

Control Water: MHR
 ID#: 1690
 Test Vessel: 30-mL plastic cup
 Test Volume: 20-mLs per replicate

Initiation Date: 11/17/07 Termination Date: 11/17/07
 Sample Description:

Sample ID	%	R E P	Live Counts					pH					Dissolved Oxygen (mg/L)					Conductivity (µmho/cm)				
			T	W	R	F	F	0 new	24 old solution	48 old	72 new	96 old solution	0 new	24 old solution	48 old	72 new	96 old solution	0 new	24 old solution	48 old	72 new	96 old solution
Control	0	A B C D	5	5	5	5	5	8.1				8.2	8.1				7.4	300				410
A	6.25	A B C D	5	5	5	5	5	8.1	7.8			8.2	8.1	7.8			7.3	455	545			610
A	12.5	A B C D	5	5	5	5	5	8.1	7.8			8.2	8.1	7.8			7.4	515	710			870
A	25	A B C D	5	5	5	4	4	8.1	7.9			8.2	8.1	7.9			7.5	855	1025			1130
A	50	A B C D	5	5	5	5	5	8.1	7.9			8.2	8.1	7.9			7.4	1295	1620			1730
A	100	A B C D	5	5	0	—	—	8.1	7.9			8.2	8.1	7.9			7.4	1345	2710			1860

Meter ID #:

Initials:

Time:

Feeding Type:

Amount:

Time:

5 7 8 7 8
 150 140 160 164 115
 F:CD and F:SC
 0.1 mL of each
 2-hours prior to
 test solution renewal
 100

NOTES & COMMENTS:

¹ Measured at the end of each 24-h exposure period, on one replicate

Sample ID

%

Control	0
A	6.25
A	12.5
A	25
A	50
A	100

Meter ID #:

Temperature (°C)¹

0	24	48	72	96
25.6	25.4	25.4	25.2	
25.6	25.4	25.4	25.1	
25.6	25.4	25.4	25.2	
25.6	25.4	25.4	25.1	
25.6	25.4	25.4	25.2	
48	48	48	48	

CT-TOX: BINOMIAL, MOVING AVERAGE, PROBIT, AND SPEARMAN METHODS

SPEARMAN-KARBER

TRIM: .00%
 LC50: 68.302
 95% LOWER CONFIDENCE: 63.784
 95% UPPER CONFIDENCE: 73.140

CONC. %	NUMBER EXPOSED	NUMBER DEAD	PERCENT DEAD	BINOMIAL PROB. (%)
6.25	20.	0. ✓	.00	.9537D-04
12.50	20.	0. ✓	.00	.9537D-04
25.00	20.	1. ✓	5.00	.2003D-02
50.00	20.	0. ✓	.00	.9537D-04
100.00	20.	20. ✓	100.00	.9537D-04

THE BINOMIAL TEST SHOWS THAT 50.00 AND 100.00 CAN BE USED AS STATISTICALLY SOUND CONSERVATIVE 95 PERCENT CONFIDENCE LIMITS SINCE THE ACTUAL CONFIDENCE LEVEL ASSOCIATED WITH THESE LIMITS IS 99.9998 PERCENT.
 AN APPROXIMATE LC50 FOR THIS DATA SET IS 70.711

WHEN THERE ARE LESS THAN TWO CONCENTRATIONS AT WHICH THE PERCENT DEAD IS BETWEEN 0 AND 100, NEITHER THE MOVING AVERAGE NOR THE PROBIT METHOD CAN GIVE ANY STATISTICALLY SOUND RESULTS.

DATE: 11/13/07 TEST NUMBER: 07291 DURATION: 96 hours
 SAMPLE: STL-TE SPECIES: Ceriodaphnia dubia

METHOD	LC50	CONFIDENCE LIMITS		
		LOWER	UPPER	SPAN
BINOMIAL	70.711	50.000	100.000	50.000
MAA	*****	*****	*****	*****
PROBIT	*****	*****	*****	*****
SPEARMAN	68.302	63.784	73.140	9.357

NOTE: MORTALITY PROPORTIONS WERE NOT MONOTONICALLY INCREASING.
 ADJUSTMENTS WERE MADE PRIOR TO SPEARMAN-KARBER ESTIMATION.

**** = LIMIT DOES NOT EXIST



Client: Telogia Power
 Code: STL-TE Job: 07291

Sample Data

#	Sample Info			Dissolved Oxygen (D.O.)				Total Residual Chlorine			Ammonia		Conductivity		Salinity		Alkalinity/Hardness							
	Date		Letter Code	Description	D.O. (mg/L)	D.O. (%)	Aeration (min)	Post Aeration D.O. (mg/L)	Initials	TRC (mg/L)	Dechlor ¹	TRC Post-Dechl. (mg/L)	Initials	T-NH ₃ (mg/L)	pH	Initials	Conductivity (umho/cm)	Initials	Salinity (ppb)	Adjusted (ppb)	Initials	Alkalinity (mgCaCO ₃ /L)	Hardness (mgCaCO ₃ /L)	Initials
	M/D/Y	Day																						
1	4/13/07	J	A		93	113	5	84	ME		0.04			X	7.2		2410					74	1000+	CLW
2	11/14/07	R	A		89	107	-	-	ME					-	7.5		2300							
3	/ /																							
4	/ /																							
5	/ /																							
6	/ /																							
7	/ /																							
8	/ /																							
9	/ /																							
10	/ /																							
11	/ /																							
12	/ /																							
13	/ /																							
14	/ /																							
15	/ /																							
16	/ /																							

Comments:

19

SRT ^{2,3}					
Chronic or Acute?	Species	Source*	Needs to be Concurrent? (Check)	SRT Test	
				Date	<= 30d?
C or A		H or V		/	Y or N
C or A		H or V		/	Y or N
C or A		H or V		/	Y or N
C or A		H or V		/	Y or N
C or A		H or V		/	Y or N
C or A		H or V		/	Y or N

* H = Hydrosphere or AI (monthly, <= 30 days or concurrent)
 V = Outside Vendor (concurrent only)

Dilution Waters		Alkalinity/Hardness		
Code	ID #	Alkalinity (mgCaCO ₃ /L)	Hardness (mgCaCO ₃ /L)	Initials

¹ 1-mL Effluent Dechlorinator (8-g/L NaThio) per 1-L Effluent Sample per 1-ppm TRC (EPA-821-R-02-012; Section 9.1.6, pg 41)
² Important: Organisms from Vendors need to have concurrent SRT's (EPA-821-R-02-012; Section 4.7.3; pg 8)
³ Important: SRT's shall be conducted concurrently or no greater than 30 days before the date of routine tests (FDDEP permits)

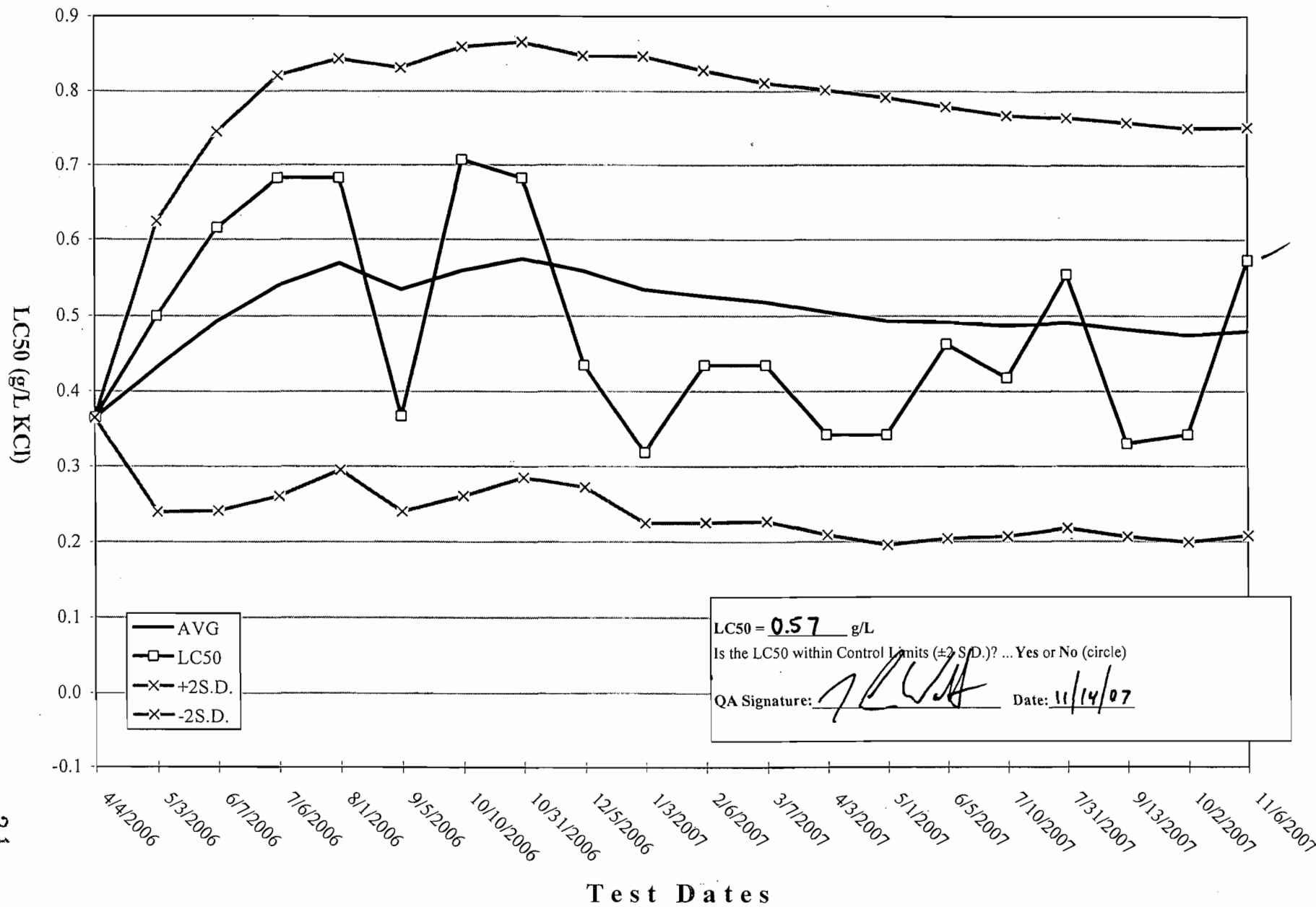
Appendix B
Reference Toxicant Data



HYDROSPHERE
research

Control Chart-I

Control Limits for Standard Reference Toxicant Tests
ACUTE ... *Ceriodaphnia dubia* (cultured at Hydrosphere)

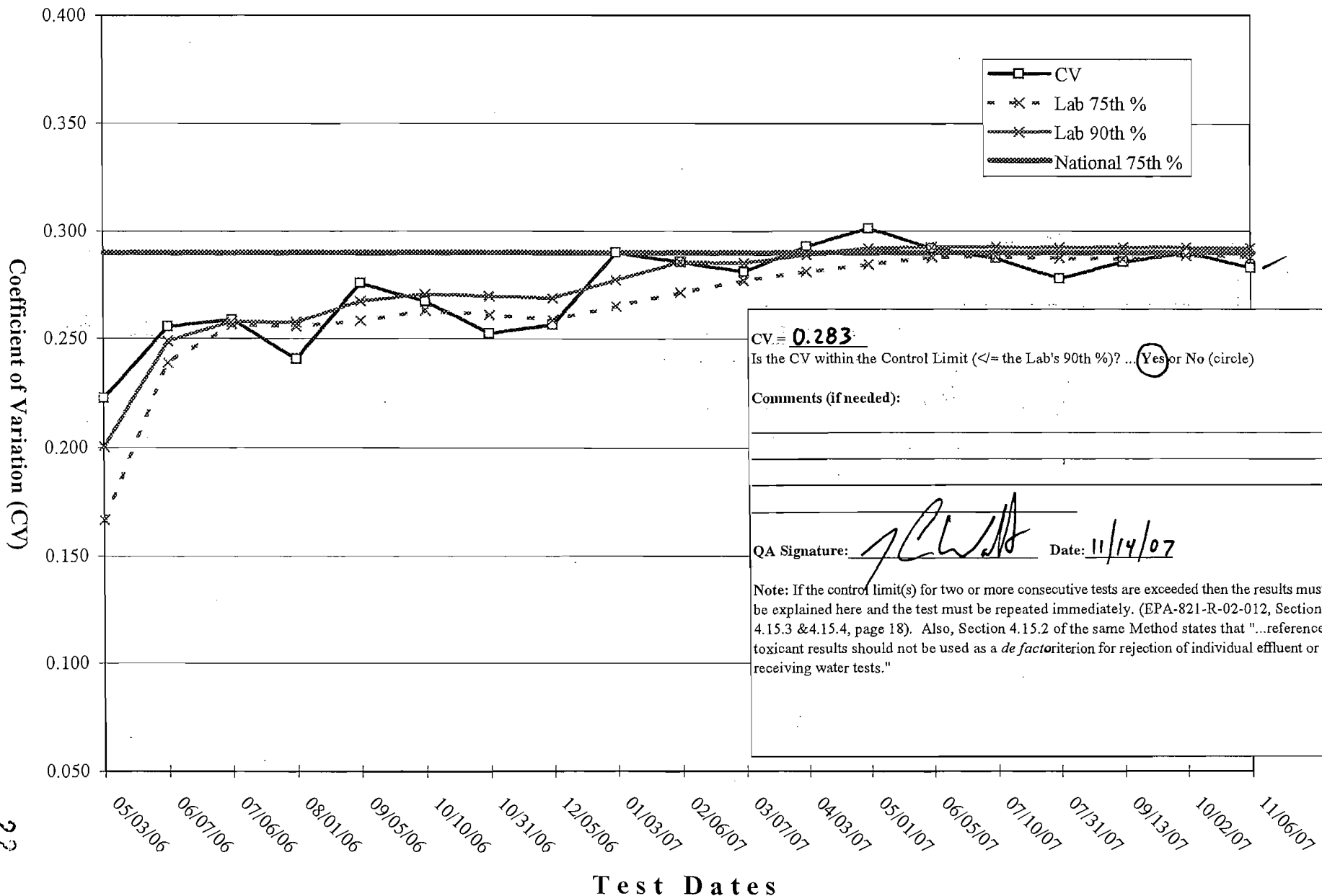




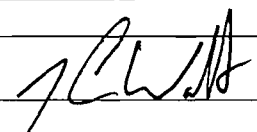
HYDROSPHERE
research

Control Chart - II

Coefficient of Variation for Standard Reference Toxicant Tests
ACUTE ... *Ceriodaphnia dubia* (cultured at Hydrosphere)



CV = 0.283
 Is the CV within the Control Limit (<= the Lab's 90th %)? ... Yes or No (circle)
 Comments (if needed):

 QA Signature:  Date: 11/14/07
 Note: If the control limit(s) for two or more consecutive tests are exceeded then the results must be explained here and the test must be repeated immediately. (EPA-821-R-02-012, Sections 4.15.3 & 4.15.4, page 18). Also, Section 4.15.2 of the same Method states that "...reference toxicant results should not be used as a *de factor* criterion for rejection of individual effluent or receiving water tests."

CT-TOX: BINOMIAL, MOVING AVERAGE, PROBIT, AND SPEARMAN METHODS

SPEARMAN-KARBER

TRIM: .00%
 LC50: .574
 95% LOWER CONFIDENCE: .498
 95% UPPER CONFIDENCE: .662

CONC. g/L	NUMBER EXPOSED	NUMBER DEAD	PERCENT DEAD	BINOMIAL PROB. (%)
.13	20.	0 ✓	.00	.9537D-04
.25	20.	0 ✓	.00	.9537D-04
.50	20.	6 ✓	30.00	.5766D+01
1.00	20.	20 ✓	100.00	.9537D-04
2.00	20.	20 ✓	100.00	.9537D-04

THE BINOMIAL TEST SHOWS THAT .25 AND 1.00 CAN BE USED AS STATISTICALLY SOUND CONSERVATIVE 95 PERCENT CONFIDENCE LIMITS SINCE THE ACTUAL CONFIDENCE LEVEL ASSOCIATED WITH THESE LIMITS IS 99.9998 PERCENT.
 AN APPROXIMATE LC50 FOR THIS DATA SET IS .584

WHEN THERE ARE LESS THAN TWO CONCENTRATIONS AT WHICH THE PERCENT DEAD IS BETWEEN 0 AND 100, NEITHER THE MOVING AVERAGE NOR THE PROBIT METHOD CAN GIVE ANY STATISTICALLY SOUND RESULTS.

DATE: 11/06/07 TEST NUMBER: 07NovCD DURATION: 48 hours
 SAMPLE: KCl SPECIES: Ceriodaphnia dubia

METHOD	LC50	CONFIDENCE LIMITS		
		LOWER	UPPER	SPAN
BINOMIAL	.584	.250	1.000	.750
MAA	*****	*****	*****	*****
PROBIT	*****	*****	*****	*****
SPEARMAN	.574	.498	.662	.164


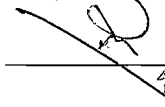
Appendix C
Chain of Custody



HYDROSPHERE
research

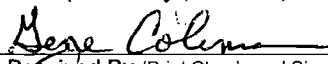
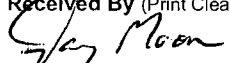
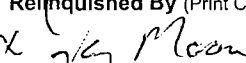
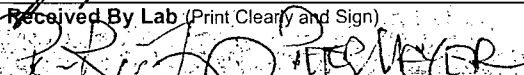
CHAIN OF CUSTODY

Please complete ALL fields other than grey areas
(grey areas are to be completed by lab personnel)

Client Name Telogia Power		Client Shipping Address Highway 65 South Telogia, FL 32360	
Sample Kit Tracking Information Cooler <u>1</u> of <u>1</u> Container Type <input checked="" type="checkbox"/> 1/2 Gallon Jug <input type="checkbox"/> 5 Gallon Cubitainer™ <input type="checkbox"/> Other _____ # of Containers <u>8</u>		Method of Shipment <input checked="" type="checkbox"/> Fed Ex Ground <input type="checkbox"/> Fed Ex Overnight <input type="checkbox"/> Client Pickup <input type="checkbox"/> UPS <input type="checkbox"/> Greyhound <input type="checkbox"/> Other _____	
Prepared and Shipped By  Date 10/22/07		Sample Kit Received By (Print Clearly and Sign)  Date <u>10/22/07</u> Time <u>12:00</u> Condition of Seal Upon Receipt (Check One) <input type="checkbox"/> Intact <input type="checkbox"/> Other (describe) _____	

Ship Sample Priority Overnight To Hydrosphere Research 11842 Research Circle Alachua, FL 32615 (386) 462-7889 <i>Be sure to mark for Saturday delivery if appropriate.</i>		Refrigerant Used for Shipping <input checked="" type="checkbox"/> Wet Ice <input type="checkbox"/> Other _____ <i>Samples must arrive at the lab at 6.0°C or less but never frozen. Pack cooler completely with ice before shipping.</i>		Composite Sample Information Samples/ Hour _____ Volume/Sample _____ Total Hours _____ Total Volume _____ Initiated Date <u>10/22/07</u> Time _____ Ended Date _____ Time _____ Chilled During Collection <input type="checkbox"/> Yes <input type="checkbox"/> No	
Sampling Location Permit # <u>FL003951-001-1W7C</u> County Samples Collected In <u>LIBERTY</u>		Sample(s) Shipped Via <input type="checkbox"/> Fed Ex <input type="checkbox"/> Greyhound <input checked="" type="checkbox"/> Client <input type="checkbox"/> UPS <input type="checkbox"/> Other _____			

Outfall Number	Date	Time (24 Hour Format)	Sample Type		# of Containers	Sampled By (Print Clearly and Sign)	For Lab Use	
			Comp.	Grab			Arrival Temp (°C)	Sample Id. No.
D001	10-21-07	8:00 AM	✓		2	Gene Coleman Gene Coleman	0.2	01285/A
D001	10-21-07	2:15 PM	✓		2	Jordy Moon Jordy Moon		B
D001	10-21-07	8:00 PM	✓		2	Stacey Lewis Stacey Lewis		C
D001	10-22-07	2:00 AM	✓		2	Stacey Lewis Stacey Lewis		D


Relinquished By (Print Clearly and Sign) 		Date 10-22-07	Time 7:43 AM	Shipped Via CLIENT
Received By (Print Clearly and Sign) 		Date 10-22-07	Time 7:43	Relinquished By (Print Clearly and Sign) 
Received By Lab (Print Clearly and Sign) 		Date 10/22/07	Time 12:03	Shippers Tracking Numbers NONE



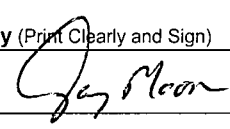
HYDROSPHERE
research

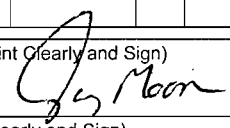
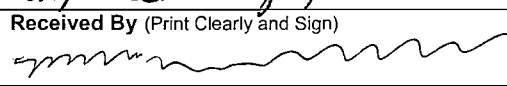
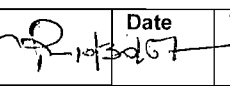
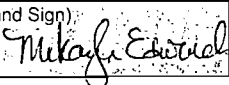
CHAIN OF CUSTODY

Please complete ALL fields other than grey areas (grey areas are to be completed by lab personnel)

Client Name Telogia Power		Client Shipping Address Highway 65 South Telogia, FL 32360	
Sample Kit Tracking Information Cooler <u>1</u> of <u>1</u> Container Type: <input checked="" type="checkbox"/> 1/2 Gallon Jug <input type="checkbox"/> 5 Gallon Cubitainer™ <input type="checkbox"/> Other _____ # of Containers <u>2</u>		Method of Shipment <input checked="" type="checkbox"/> FedEx Ground <input type="checkbox"/> FedEx Overnight <input type="checkbox"/> Client Pickup <input type="checkbox"/> UPS <input type="checkbox"/> Greyhound <input type="checkbox"/> Other _____	
Prepared and Shipped By  Date <u>10-29-07</u>		Sample Kit Received By (Print Clearly and Sign) <u>Jay Moon</u> Date <u>10-29-07</u> Time <u>10:45</u>	
Condition of Seal Upon Receipt (Check One) <input checked="" type="checkbox"/> Intact <input type="checkbox"/> Other (describe) _____			

Ship Sample Priority Overnight To Hydrosphere Research 11842 Research Circle Alachua, FL 32615 (386) 462-7889 <i>Be sure to mark for Saturday delivery if appropriate.</i>		Refrigerant Used for Shipping <input checked="" type="checkbox"/> Wet Ice <input type="checkbox"/> Other _____ <i>Samples must arrive at the lab at 6.0°C or less but never frozen. Pack cooler completely with ice before shipping.</i>		Composite Sample Information Samples/ Hour <u>1</u> Volume/Sample <u>1gal.</u> Total Hours _____ Total Volume _____	
Sampling Location Permit # _____ County Samples Collected In _____		Sample(s) Shipped Via <input type="checkbox"/> Fed Ex <input type="checkbox"/> Greyhound <input checked="" type="checkbox"/> Client <input type="checkbox"/> UPS <input type="checkbox"/> Other _____		Initiated Date <u>10-29-07</u> Time <u>1100</u> Ended Date <u>10-29-07</u> Time <u>1100</u> Chilled During Collection <input type="checkbox"/> Yes <input type="checkbox"/> No	

Outfall Number	Date	Time (24 Hour Format)	Sample Type		# of Containers	Sampled By (Print Clearly and Sign)	For Lab Use	
			Comp.	Grab			Arrival Temp (°C)	Sample Id. No.
D001	10-29-07	1100		✓	1	Jay Moon 	0.7	072907/1

Relinquished By (Print Clearly and Sign) Jay Moon 		Date 10-30-07	Time 0905	Shipped Via CLIENT		
Received By (Print Clearly and Sign) 		Date	Time	Relinquished By (Print Clearly and Sign) 	Date	Time
Received By Lab (Print Clearly and Sign) Mikayla Edwards 		Date 10/30/07	Time 9:09	Shippers Tracking Numbers NONE	27	

Distribution White (Original) – Lab, Yellow – Lab, Pink – Client

See Provisions on back



HYDROSPHERE
research

CHAIN OF CUSTODY

Please complete ALL fields other than grey areas (grey areas are to be completed by lab personnel)

Client Name Telogia Power		Client Shipping Address Highway 65 South Telogia, FL 32360	
Sample Kit Tracking Information Cooler 1 of 1 Container Type: <input checked="" type="checkbox"/> 1/2 Gallon Jug <input type="checkbox"/> 5 Gallon Cubitainer <input type="checkbox"/> Other # of Containers: 2		Method of Shipment <input checked="" type="checkbox"/> Fed Ex Ground <input type="checkbox"/> Fed Ex Overnight <input type="checkbox"/> Client Pickup <input type="checkbox"/> UPS <input type="checkbox"/> Greyhound <input type="checkbox"/> Other	
Prepared and Shipped By <i>[Signature]</i> Date: 11/12/07		Sample Kit Received By (Print Clearly and Sign) Jay Moon <i>[Signature]</i> Date: 11-12-07 Time: 10:00	
Condition of Seal Upon Receipt (Check One) <input checked="" type="checkbox"/> Intact <input type="checkbox"/> Other (describe)			

Ship Sample Priority Overnight To Hydrosphere Research 11842 Research Circle Alachua, FL 32615 (386) 462-7889 <i>Be sure to mark for Saturday delivery if appropriate.</i>	Refrigerant Used for Shipping <input checked="" type="checkbox"/> Wet Ice <input type="checkbox"/> Other <i>Samples must arrive at the lab at 6.0°C or less but never frozen. Pack cooler completely with ice before shipping.</i>	Composite Sample Information Samples/ Hour _____ Volume/Sample _____ Total Hours _____ Total Volume <u>1 gal.</u> Initiated Date <u>11-12-07</u> Time <u>1115</u> Ended Date <u>11-12-07</u> Time <u>1115</u> Chilled During Collection <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Sampling Location	Sample(s) Shipped Via <input type="checkbox"/> Fed Ex <input type="checkbox"/> Greyhound <input type="checkbox"/> Client <input type="checkbox"/> UPS <input type="checkbox"/> Other	
Permit #		
County Samples Collected In		

Outfall Number	Date	Time (24 Hour Format)	Sample Type		# of Containers	Sampled By (Print Clearly and Sign)	For Lab Use	
			Comp.	Grab			Arrival Temp (°C)	Sample Id/No.
D001	11-12-07	1115			2	Jay Moon <i>[Signature]</i>	68	0721/11

Relinquished By (Print Clearly and Sign) Jay Moon <i>[Signature]</i>	Date 11-13-07	Time	Shipped Via 10/11/13
Received By (Print Clearly and Sign) <i>[Signature]</i>	Date	Time	Relinquished By (Print Clearly and Sign) <i>[Signature]</i> 11/13
Received By Lab (Print Clearly and Sign) <i>[Signature]</i>	Date 11/13/07	Time 1530	Shippers Tracking Numbers 98ent 11/13

Distribution White (Original) – Lab, Yellow – Lab, Pink – Client


See Provisions on back

BEST AVAILABLE COPY

Telogia Power LLC
P. Box 199 Hwy. 65 South
Telogia, Florida 32360

FIRST CLASS



UNITED STATES POSTAGE

PITNEY BOWERS
02 1P \$ 001.
0004173607 DEC 12
MAILED FROM ZIP CODE 3

FDEP
AIR
2600 Blair Stone Road
Tallahass, Florida 32399-2400



Florida Department of Environmental Protection

Lawton Chiles
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Virginia B. Wetherell
Secretary

July 23, 1993

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Edwin L. Peters
General Manager
Timber Energy Resources, Inc.
Post Office Box 199
Telogia, Florida 32360

Dear Mr. Peters:

Re: Letter Amendment to the Operation Permit, No. AO 39-205360, to Authorize Timber Energy Resources, Inc., to Conduct Pollutant Emissions Performance Tests While Firing a Combination of Wood/Wood Waste and ITT Rayonier's Clarifier Residue in Timber Energy Resources, Inc.'s No. 1 Boiler

The Department has reviewed the request received February 10, 1993, submitted by Mr. Jerome J. Guidry on behalf of Timber Energy Resources, Inc. (TERI); and, supplemental information received March 22 and May 10, 1993, submitted by Dr. Thomas A. Herbert and Mr. Jerome J. Guidry, respectively. We have also considered the Department's legal authority to allow TERI to conduct performance tests for pollutant emissions while firing wood/wood waste with ITT Rayonier's clarifier residue (residue) in the facility's No. 1 boiler. Paragraph 403.061(15), Florida Statutes (F.S.) authorizes the Department to consult with any person proposing to construct, install, or otherwise acquire a pollution control device or system concerning the efficacy of such device or system, or the pollution problem which may be related to the source, device, or system. Paragraph 403.061(16), F.S., authorizes the Department to encourage voluntary cooperation by persons in order to achieve the purposes of the state environmental control act. Paragraph 403.061(18), F.S., authorizes the Department to encourage and conduct studies, investigations, and research relating to the causes and control of pollution. Florida Administrative Code (F.A.C.) Rule 17-210.700(5) authorizes the Department to consider variation in industrial equipment and make allowances for excess emissions that provide practical regulatory controls consistent with the public interest.

In accordance with the provisions of Paragraphs 403.061(15), (16), and (18), F.S., and F.A.C. Rule 17-210.700(5), you are hereby authorized to conduct performance tests for pollutant emissions on the facility's No. 1 boiler while firing 1) 100% wood/wood waste and 2) wood/wood waste-residue combination. The No. 1 boiler is permitted at a maximum heat input rate of 230 MMBtu/hr (wood/wood waste input/feed rate of 23.42 tons/hr @ a heating value of ~10

Mr. Edwin L. Peters
Amendment to AO 39-205360
July 23, 1993
Page 2

MMBtu/ton). For the proposed combination fuel test, the maximum input/feed rate of the residue will be 2.5 tons/hr as received (the residue has a heating value of 2,990 Btu/lb as received and 7,790 Btu/lb dry). The No. 1 boiler's total heat input rate for each of the proposed tests shall be essentially equivalent or the test results may be deemed invalid for comparative purposes, which is the sole reason for authorizing and conducting these tests. The No. 1 boiler was permitted under the construction permit, No. AC 39-090091, and is not permitted to fire the residue in accordance with the referenced permit.

Screening for a modification and Prevention of Significant Deterioration (PSD) shall be in accordance with Chapter 403, F.S.; F.A.C. Chapters 17-210 thru 17-297, and 17-4; and, Title 40 Code of Federal Regulations (CFR; July, 1992 version), which will compare the actual pollutant emissions of the baseline tests (100% wood/wood waste) to the actual pollutant emissions of the performance tests while firing a wood/wood waste-residue combination. The performance test results will be evaluated by the Department's Bureau of Air Regulation (BAR) and Northwest District and other potentially affected parties (i.e., U.S. EPA, National Park Service, etc.).

The performance tests shall be subject to the following conditions:

1. The permittee shall notify, in writing, the Department's Northwest District and Bureau of Air Regulation (BAR) offices at least 15 days prior to commencement of the performance tests. A written report shall be submitted to these offices within 45 days upon completion of the last test run.
2. The results from the baseline pollutant emissions tests (100% wood/wood waste) shall be compared to the wood/wood waste-residue combination pollutant emission tests to determine if:
 - a) PSD or non-PSD emissions review is required where actual emissions increased (baseline versus wood/wood waste-residue combination), which includes a construction permit application and the appropriate processing fee; or,
 - b) the construction permit, No. AC 39-090091, can be amended to allow the firing of a wood/wood waste-residue combination in the facility's No. 1 boiler on a continuous basis.
3. All pollutant emissions results shall be compared to "actual emissions" for PSD review purposes (see Region IV, U.S. EPA's letter dated April 4, 1990).

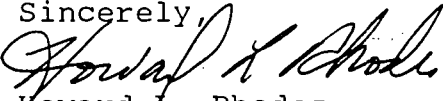
Mr. Edwin L. Peters
Amendment to AO 39-205360
July 23, 1993
Page 3

4. The contents of Mr. Jerome J. Guidry's letter with enclosure received February 10, 1993, Dr. Thomas A. Herbert's letter with enclosures received March 11, 1993, and Mr. Jerome J. Guidry's letter received May 5, 1993 (FAX; hard copy received May 10), are adopted by reference, with the following exceptions:
 - o The time frame that will be permitted to execute the compatibility evaluations and performance tests is 14 calendar days from the first day of introducing the residue into the No. 1 boiler; and, notification shall be submitted to the Department's Northwest District of this date.
 - o If additional time is needed, the permittee shall request an extension of time and provide the Department with documentation of the progress accomplished to date and shall identify what is left to be done to complete the performance tests.
 - o Accountability of the No. 1 boiler's operations (i.e., steam generation and total Btu heat input) during the performance tests shall be required.
 - o A Type I audit is required and shall be coordinated with the Department's Northwest District office. The "Compliance Verification Audit Handbook", dated March, 1982, will be used as a guidance for performing the audit.
 - o Documentation of the actual firing rates, by weight, of each and separate fuel stream 1) 100% wood/wood waste and 2) wood/wood waste-residue combination shall be required.
 - o The Department will take the responsibility of providing a cover letter to and mailing the performance test results to the reviewing parties (i.e., Department's Northwest District, U.S. EPA, National Park Service, etc.).
5. These authorized performance tests shall not result in the release of objectionable odors pursuant to F.A.C. Rule 17-296.320(2).
6. Performance testing shall immediately cease upon the occurrence of a valid environmental complaint by a citizen or other party, or a nuisance or danger to public health or welfare. Performance testing shall not resume until appropriate measures to correct the problem have been implemented.
7. The performance tests for pollutant emissions shall be conducted under the direct supervision and responsible charge of a professional engineer registered in Florida.

Mr. Edwin L. Peters
Amendment to AO 39-205360
July 23, 1993
Page 4

8. This Department action is just to authorize the performance tests for pollutant emissions on the facility's No. 1 boiler while firing a wood/wood waste-residue combination. Any firing of the residue after the last performance test run is completed will be deemed a violation of the past construction permit, No. AC 39-090091, and operation permit, No. AO 39-205360.
9. Complete documentation (recording) of any firing of the residue in the facility's No. 1 boiler shall be required (i.e., testing results; materials utilized, by weight; etc.) and kept on file for a minimum of two years.
10. The Department' BAR and Northwest District shall be notified in writing on the date of the last test run completion.
11. The performance tests shall be conducted while the No. 1 boiler is operating at 90-100% of the permitted capacity.
12. Operation Permit, No. AO 39-205360, and all related material are incorporated by reference. This authorization to conduct performance tests does not permit the violation of any permit condition or Department regulations.
13. Samples of the scrubber medium shall be taken before and after each performance test. The samples shall be tested for pH, metals, and VOCs.
14. Attachments (See Attachment Section) are incorporated.

The Department has relied on the information referenced in the attachments in authorizing this permit amendment to the operation permit, No. AO 39-205360. This letter amendment and its Attachments must be attached to the air operation permit, No. AO 39-205360, and shall become a part of the permit.

Sincerely,

Howard L. Rhodes
Director
Division of Air Resources
Management

HLR/BM/rbm

Attachments

cc: E. Middleswart, NWD
J. Koogler, Ph.D., P.E., K&A
J. Braswell, Esq., DER
J. Guidry, P.E., TSI
J. Neubauer, NWDB

Attachment Section

1. Mr. Jerome J. Guidry's letter with enclosure received February 10, 1993.
2. Mr. C. H. Fancy's letter with enclosures dated March 11, 1993.
3. Dr. Thomas A. Herbert's letter with enclosures received March 22, 1993.
4. Mr. Jerome J. Guidry's letter received May 5, 1993, via FAX (hard copy received May 10, 1993).
5. 40 CFR (July, 1992 version).
6. Ms. Jewell A. Harper's letter dated April 4, 1990.
7. Compliance Verification Audit Handbook (March, 1982).
8. Intent to Issue package dated May 13, 1993.
9. Public Notice received July 14, 1993.
10. Final Determination dated July 23, 1993.

ATTACHMENT 10

Final Determination

July 23, 1993

Timber Energy Resources, Inc.


AO 39-205360 Amendment

The operation permit amendment application package has been reviewed by the Department. The Department's Intent to Issue was distributed on May 21, 1993, and available for public inspection at the Department's Northwest District office, Northwest District Branch office, and Bureau of Air Regulation office. Public Notice of the Department's Intent to Issue was published in the Tallahassee Democrat on June 5, 1993.

There were no comments received during the public notice period. Therefore, it is recommended that the operation permit amendment be issued as drafted.

Florida Department of
Environmental Protection

Memorandum

TO: Howard L. Rhodes
FROM: Clair Fancy 
DATE: July 22, 1993
SUBJ: Approval of an Operation Permit Amendment
AO 39-205360
Timber Energy Resources, Inc: No. 1 Boiler

Attached for your approval and signature is an operation permit amendment prepared by the Bureau of Air Regulation for the above referenced company to conduct a battery of pollutant emissions tests while firing a combination of 100% wood/wood waste and a combination of wood/wood waste and ITT Rayonier's clarifier residue in their No. 1 boiler. The purpose for the tests is to identify the pollutants emitted from the process and to assess the future control needs if the material is to be co-fired on a regular basis.

Timber Energy Resources, Inc.'s No. 1 boiler normally fires wood/wood waste to provide heat for steam production. If the test results are favorable, then the utilization of the clarifier residue on a regular basis will remove the need for landfilling this material in the future. The facility is located outside of Telogia, Liberty County, Florida.

The project has been evaluated for hazardous waste concerns by the Department's Hazardous Waste Section and the material, as presented in the documents supplied by the applicant/applicant's representative, was deemed to be a nonhazardous waste.

I recommend your approval and signature.

CHF/BM/rbm

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- 1. Addressee's Address
- 2. Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
 Mr. Edwin L. Peters
 General Manager
 Timber Energy Resources, Inc.
 P. O. Box 199
 Telogia, FL 32360

4a. Article Number
 P 230 523 756

4b. Service Type
 Registered Insured
 Certified COD
 Express Mail Return Receipt for Merchandise

7. Date of Delivery
 8-3-93

5. Signature (Addressee)

8. Addressee's Address (Only if requested and fee is paid)

6. Signature (Agent)
K. Baluy

PS Form 3811, December 1991 ☆U.S. GPO: 1992-323-402 **DOMESTIC RETURN RECEIPT**

Thank you for using Return Receipt Service.

P 230 523 756



Receipt for Certified Mail

No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

Sent to
 Mr. Edwin L. Peters, Timber
 Street and No. Energy Resources
 P O Box 199
 P.O., State and ZIP Code
 Telogia, FL 32360

Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date	

PS Form 3800, June 1991

Mailed: 8-2-93
 Permit: AO 39-205360



LAMPL\HERBERT CONSULTANTS

P.O. Box 10129
Tallahassee, Florida 32302-2129
Tel: (904) 222-4634 Fax: (904) 224-9952

RECEIVED

JUL 14 1993

**Division of Air
Resources Management**

July 12, 1993

C. H. Fancy, P.E.
Chief of Air Regulation
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee FL 32399-2400

RE: Amendment to AO 39-205360; Timber Energy Resources Facility, Telogia, Florida

Dear Mr. Fancy:

On May 21, 1993, you sent a letter to Mr. Edwin Peters, General Manager of Timber Energy Resources with a draft permit and a public notice. On June 5, 1993, the intent to issue notice was published in the Tallahassee Democrat. The proof of publication is included with this letter.

I would appreciate it if the processing of the permit could proceed.

Sincerely,

LAMPL\HERBERT CONSULTANTS, INC.

Thomas A. Herbert, Ph.D., P.G.
Associate/Agent for Timber Energy Resources

TAH/shr

cc: B. Mitchell
E. Middleswart, NWD
G. Neubaum, NWDB } 6-14-93

TALLAHASSEE DEMOCRAT
PUBLISHED DAILY
TALLAHASSEE - LEON - FLORIDA

STATE OF FLORIDA COUNTY OF LEON:
Before the undersigned authority personally appeared Phyllis Drapp who on oath says that she is Legal Advertising Representative of the Tallahassee Democrat, a daily newspaper published at Tallahassee in Leon County, Florida; that the attached copy of advertising being a Legal Ad in the matter of

STATE OF FLORIDA

in the Second Judicial Circuit Court was published in said newspaper in the issues of:

JUNE 5, 1993

Affiant further says that the said Tallahassee Democrat is a newspaper published at Tallahassee, in the said Leon County, Florida, and that the said newspaper has heretofore been continuously published in said Leon County, Florida, each day and has been entered as second class mail matter at the post office in Tallahassee, in said Leon County, Florida, for a period of one year next preceding the first publication of the attached copy of advertisement; and affiant further says that she has neither paid nor promised any person, firm or corporation any discount, rebate, commission or refund for the purpose of securing this publication in the said newspaper.

Phyllis Drapp

PHYLLIS DRAPP
LEGAL ADVERTISING REPRESENTATIVE

Sworn To And Subscribed Before Me

7 Day of July

A.D. 1993

(SEAL) NOTARY

Lee Pierce
Notary Public

Notary Public, State of Florida

My Commission Expires April 27, 1995

Bonded Thru Troy Fain - Insurance Inc.

State of Florida
Department of Environmental Regulation
Notice of Intent to Issue

Timber Energy Resources, Inc.

Amendment to AO 39-205360

The Department of Environmental Regulation (Department) hereby gives notice of its intent to issue to Timber Energy Resources, Inc. (TERI), an amendment to the operation permit, No. AO 39-205360, authorizing performance tests for pollutant emissions while firing wood/wood waste with ITT Rayonier's clarifier residue (residue) in the facility's No. 1 boiler, as detailed in the application/request package. The Department is issuing this intent to issue for the reasons stated below and in the proposed amendment.

The applicant, TERI, Post Office Box 199, Telogia, Florida 32360, submitted a request on February 10, 1993, to the Department's Bureau of Air Regulation (BAR) for authorization to conduct pollutant emissions test on the facility's No. 1 boiler. The performance tests for pollutant emissions will be conducted at baseline conditions (100% wood/wood waste) and while firing a combination of wood/wood waste and residue.

The No. 1 boiler is permitted at a maximum heat input rate of 230 MMBtu/hr (wood/wood waste input/feet rate of 23.42 tons/hr (a heating value of -10 MMBtu/ton). For the proposed combination fuel test, the maximum input/feet rate of the residue will be 2.5 tons/hr as received (the residue has a heating value of 2,990 Btu/lb as received and 7,790 Btu/lb dry). The No. 1 boiler's total heat input rate for each of the proposed tests shall be essentially equivalent or the test results may be deemed invalid for comparative purposes, which is the sole reason for authorizing and conducting these tests. The No. 1 boiler was permitted under the construction permit, No. AC 39-090091, and is not permitted to fire the residue in accordance with the referenced permit.

Screening for a modification and Prevention of Significant Deterioration (PSD) will be in accordance with Chapter 403, Florida Statutes (F.S.); Florida Administrative Code (F.A.C.) Chapters 17-210 thru 17-297, and 17-4; and, Title 40 Code of Federal Regulations (CFR; July, 1992 version).

If, after the performance test results are evaluated by the Department's BAR and Northwest District and other potentially affected parties (i.e., U.S. EPA, National Park Service, etc.) and it is determined that actual pollutant emissions (baseline (a) 100% wood/wood waste vs. wood/wood waste-residue combination) did not increase, then an amendment to the construction permit, No. AC 39-090091, will be issued with certain Specific Conditions authorizing continuous firing of a wood/wood waste-residue combination in the facility's No. 1 boiler. However, if there is an actual emissions increase in pollutant emissions, TERI will not be permitted to fire the residue in the facility's No. 1 boiler without further emissions evaluation by the Department and affected parties.

The proposed project will occur at the applicant's facility located off State road 65 south of Telogia, Liberty County, Florida.

The Department has permitting jurisdiction under Chapter 403, F.S.; F.A.C. Chapters 17-210 thru 17-297, and 17-4; and, 40 CFR (July 1992 version). The project is not exempt from permitting procedures. The Department has determined that a permit amendment is required for the proposed activity.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, F.S. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, within fourteen (14) days of publication of this notice. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, F.S.

The Petition shall contain the following information:
(a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed;

(b) A statement of how and when each petitioner received notice of the Department's action or proposed action;

(c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;

(d) A statement of the material facts disputed by Petitioner, if any;

(e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action;

(f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed; and

(g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this Notice. Persons whose substantial interests will be affected by any decision of the Department with regard to the request/application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of publication of this notice in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

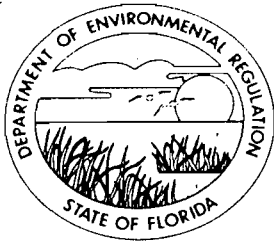
The amendment request/application package is available for public inspection during business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Department of Environmental Regulation
Bureau of Air Regulation Office
Magnolia Park Courtyard
141 South Magnolia Drive
Tallahassee, Florida

Department of Environmental Regulation
Northwest District Office
160 Governmental Center
Pensacola Florida 32501-5794

Department of Environmental Regulation
Northwest District Branch Office
2815 Remington Green Circle
Tallahassee, Florida 32308

Any person may send written comments on the proposed action to Mr. Preston Lewis at the Department's Tallahassee address. All comments received within 14 days of the publication of this notice will be considered in the Department's final actions.



Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Virginia B. Wetherell, Secretary

May 21, 1993

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Edwin L. Peters
General Manager
Timber Energy Resources, Inc.
Post Office Box 199
Telogia, Florida 32360

Dear Mr. Peters:

Re: Request for Authorization to Conduct Pollutant Emissions Performance Tests While Firing a Combination of Wood/Wood Waste and ITT Rayonier's Clarifier Residue in Timber Energy Resources, Inc.'s No. 1 Boiler (AO 39-205360)

Attached is one copy of the proposed performance test authorization amendment to operation permit, No. AO 39-205360, for Timber Energy Resources, Inc. (TERI), to conduct pollutant emissions tests on the facility's No. 1 boiler. The proposed performance tests for pollutant emissions will be conducted at baseline conditions (100% wood/wood waste) and while firing a combination of wood/wood waste and ITT Rayonier's clarifier residue (residue). The No. 1 boiler was permitted under the construction permit, No. AC 39-090091, and is not permitted to fire the residue in accordance with the referenced permit.

The No. 1 boiler is permitted at a maximum heat input rate of 230 MMBtu/hr (wood/wood waste input/feed rate of 23.42 tons/hr @ a heating value of ~10 MMBtu/ton). For the proposed combination fuel test, the maximum input/feed rate of the residue will be 2.5 tons/hr as received (the residue has a heating value of 2,990 Btu/lb as received and 7,790 Btu/lb dry). The No. 1 boiler's total heat input rate for each of the proposed tests shall be essentially equivalent or the test results may be deemed invalid for comparative purposes, which is the sole reason for authorizing and conducting these tests.

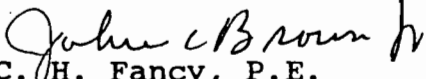
The emissions tests are being proposed in order to gather data regarding pollutant emissions while firing a combination of wood/wood waste and residue. Screening for a modification and Prevention of Significant Deterioration (PSD) will be in accordance with Chapter 403, Florida Statutes; Florida Administrative Code (F.A.C.) Chapters 17-210 thru 17-297, and 17-4; and, Title 40 Code of Federal Regulations (CFR; July, 1992 version). If, after the performance test results are evaluated by the Department's Bureau of Air Regulation and Northwest District and other potentially affected parties (i.e., U.S. EPA, National Park Service, etc.) and it is

Mr. Edwin L. Peters
Amendment to AO 39-205360
May 21, 1993
Page Two

determined that actual pollutant emissions [baseline @ 100% wood/wood waste vs. wood/wood waste-residue combination] did not increase, then the Department will issue an amendment to the construction permit, No. AC 39-090091, authorizing continuous firing of a wood/wood waste-residue combination in the facility's No. 1 boiler. However, if there is an actual emissions increase in pollutant emissions, TERI will not be permitted to fire the residue in the facility's No. 1 boiler without further emissions evaluation by the Department and affected parties.

If there are any questions, please call Mr. Preston Lewis at (904)488-1344 or submit any written comments you wish to have considered concerning the Department's proposed action to me.

Sincerely,


C.H. Fancy, P.E.
Chief
Bureau of Air Regulation

CHF/BM/rbm

Attachments

c: E. Middleswart, NWD
J. Guidry, P.E., TSI
J. Koogler, Ph.D., P.E., K&A
J. Neubauer, NWDB
J. Braswell, Esq., DER

BEFORE THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

In the Matter of
Application/Request for Permit Amendment by:

Timber Energy Resources, Inc.
P. O. Box 199
Telogia, Florida 32360

DER File No. AO 39-205360

INTENT TO ISSUE

The Department of Environmental Regulation (Department) hereby gives notice of its intent to issue to Timber Energy Resources, Inc. (TERI), an amendment to the operation permit, No. AO 39-205360, authorizing performance tests for pollutant emissions while firing wood/wood waste with ITT Rayonier's clarifier residue (residue) in the facility's No. 1 boiler, as detailed in the application/request package specified above. The Department is issuing this Intent to Issue for the reasons stated below and in the attached proposed amendment.

The applicant, TERI, submitted a request on February 10, 1993, to the Department's Bureau of Air Regulation (BAR) for authorization to conduct pollutant emissions tests on the facility's No. 1 boiler while firing a wood/wood waste-residue combination. The performance tests for pollutant emissions will be conducted at baseline conditions (100% wood/wood waste) and while firing a combination of wood/wood waste and residue.

The No. 1 boiler is permitted at a maximum heat input rate of 230 MMBtu/hr (wood/wood waste input/feed rate of 23.42 tons/hr @ a heating value of ~10 MMBtu/ton). For the proposed combination fuel test, the maximum input/feed rate of the residue will be 2.5 tons/hr as received (the residue has a heating value of 2,990 Btu/lb as received and 7,790 Btu/lb dry). The No. 1 boiler's total heat input rate for each of the proposed tests shall be essentially equivalent or the test results may be deemed invalid for comparative purposes, which is the sole reason for authorizing and conducting these tests. The No. 1 boiler was permitted under the construction permit, No. AC 39-090091, and is not permitted to fire the residue in accordance with the referenced permit.

Screening for a modification and Prevention of Significant Deterioration (PSD) will be in accordance with Chapter 403, Florida Statutes (F.S.); Florida Administrative Code (F.A.C.) Chapters 17-210 thru 17-297, and 17-4; and, Title 40 Code of Federal Regulations (CFR; July, 1992 version). If, after the performance test results are evaluated by the Department's BAR and Northwest District and other potentially affected parties (i.e., U.S. EPA, National Park Service, etc.) and it is determined that actual

pollutant emissions [baseline @ 100% wood/wood waste vs. wood/wood waste-residue combination] did not increase, then an amendment to the construction permit, No. AC 39-090091, will be issued with certain Specific Conditions authorizing continuous firing of a wood/wood waste-residue combination in the facility's No. 1 boiler. However, if there is an actual emissions increase in pollutant emissions, TERI will not be permitted to fire the residue in the facility's No. 1 boiler without further emissions evaluation by the Department and affected parties.

The proposed project will occur at the applicant's facility located off State Road 65 south of Telogia, Liberty County, Florida.

The Department has permitting jurisdiction under Chapter 403, F.S.; F.A.C. Chapters 17-210 thru 17-297, and 17-4; and, 40 CFR (July, 1992 version). The project is not exempt from permitting procedures. The Department has determined that a permit amendment is required for the proposed activity.

Pursuant to Section 403.815, F.S., and DER Rule 17-103.150, F.A.C., you (the applicant) are required to publish at your own expense the enclosed Notice of Intent to Issue a Permit Amendment. The notice shall be published one time only within 30 days, in the legal ad section of a newspaper of general circulation in the area affected. For the purpose of this rule, "publication in a newspaper of general circulation in the area affected" means publication in a newspaper meeting the requirements of Sections 50.011 and 50.031, F.S., in the county where the activity is to take place. Where there is more than one newspaper of general circulation in the county, the newspaper used must be the one with significant circulation in the area that may be affected by the permitting action. If you are uncertain that a newspaper meets these requirements, please contact the Department at the address or telephone number listed below. The applicant shall provide proof of publication to the Department's Bureau of Air Regulation, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400 (904-488-1344), within seven days of publication. Failure to publish the notice and provide proof of publication within the allotted time may result in the denial of the amendment.

The Department will issue the permit amendment with the attached conditions unless a petition for an administrative proceeding (hearing) is filed pursuant to the provisions of Section 120.57, F.S.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, F.S. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Petitions filed by the permit amendment applicant and the parties listed below must be filed within 14 days of receipt of this intent. Petitions filed by other persons must be filed within 14 days of publication of the public notice or within 14 days of receipt of this intent, whichever first occurs. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition

within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, F.S.

The Petition shall contain the following information;

(a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed;

(b) A statement of how and when each petitioner received notice of the Department's action or proposed action;

(c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;

(d) A statement of the material facts disputed by Petitioner, if any;

(e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action;

(f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and,

(g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any decision of the Department with regard to the request/application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of publication of this notice in the Office in General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION



J. H. Fancy, P.E.

Chief

Bureau of Air Regulation

Copies furnished to:

E. Middleswart, NWD

J. Koogler, Ph.D., P.E., K&A

J. Braswell, Esq., DER

J. Guidry, P.E., TSI

J. Neubauer, NWDB

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this NOTICE OF INTENT TO ISSUE and all copies were mailed before the close of business on May 21, 1993.

FILING AND ACKNOWLEDGMENT
FILED, on this date, pursuant to
§120.52(9), Florida Statute, with
the designated Department Clerk,
receipt of which is hereby
acknowledged.

Charlotte J. Hayes 5/21/93
Clerk Date

State of Florida
Department of Environmental Regulation
Notice of Intent to Issue

Timber Energy Resources, Inc.

Amendment to AO 39-205360

The Department of Environmental Regulation (Department) hereby gives notice of its intent to issue to Timber Energy Resources, Inc. (TERI), an amendment to the operation permit, No. AO 39-205360, authorizing performance tests for pollutant emissions while firing wood/wood waste with ITT Rayonier's clarifier residue (residue) in the facility's No. 1 boiler, as detailed in the application/request package. The Department is issuing this Intent to Issue for the reasons stated below and in the proposed amendment.

The applicant, TERI, Post Office Box 199, Telogia, Florida 32360, submitted a request on February 10, 1993, to the Department's Bureau of Air Regulation (BAR) for authorization to conduct pollutant emissions tests on the facility's No. 1 boiler. The performance tests for pollutant emissions will be conducted at baseline conditions (100% wood/wood waste) and while firing a combination of wood/wood waste and residue.

The No. 1 boiler is permitted at a maximum heat input rate of 230 MMBtu/hr (wood/wood waste input/feed rate of 23.42 tons/hr @ a heating value of ~10 MMBtu/ton). For the proposed combination fuel test, the maximum input/feed rate of the residue will be 2.5 tons/hr as received (the residue has a heating value of 2,990 Btu/lb as received and 7,790 Btu/lb dry). The No. 1 boiler's total heat input rate for each of the proposed tests shall be essentially equivalent or the test results may be deemed invalid for comparative purposes, which is the sole reason for authorizing and conducting these tests. The No. 1 boiler was permitted under the construction permit, No. AC 39-090091, and is not permitted to fire the residue in accordance with the referenced permit.

Screening for a modification and Prevention of Significant Deterioration (PSD) will be in accordance with Chapter 403, Florida Statutes (F.S.); Florida Administrative Code (F.A.C.) Chapters 17-210 thru 17-297, and 17-4; and, Title 40 Code of Federal Regulations (CFR; July, 1992 version).

If, after the performance test results are evaluated by the Department's BAR and Northwest District and other potentially affected parties (i.e., U.S. EPA, National Park Service, etc.) and it is determined that actual pollutant emissions [baseline @ 100% wood/wood waste vs. wood/wood waste-residue combination] did not increase, then an amendment to the construction permit, No. AC 39-090091, will be issued with certain Specific Conditions authorizing continuous firing of a wood/wood waste-residue combination in the

facility's No. 1 boiler. However, if there is an actual emissions increase in pollutant emissions, TERI will not be permitted to fire the residue in the facility's No. 1 boiler without further emissions evaluation by the Department and affected parties.

The proposed project will occur at the applicant's facility located off State Road 65 south of Telogia, Liberty County, Florida.

The Department has permitting jurisdiction under Chapter 403, F.S.; F.A.C. Chapters 17-210 thru 17-297, and 17-4; and, 40 CFR (July, 1992 version). The project is not exempt from permitting procedures. The Department has determined that a permit amendment is required for the proposed activity.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, F.S. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, within fourteen (14) days of publication of this notice. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, F.S.

The Petition shall contain the following information:

(a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed;

(b) A statement of how and when each petitioner received notice of the Department's action or proposed action;

(c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;

(d) A statement of the material facts disputed by Petitioner, if any;

(e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action;

(f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and,

(g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this Notice. Persons whose substantial interests will be affected by any decision of the Department with regard to the request/application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be

filed (received) within 14 days of publication of this notice in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

The amendment request/application package is available for public inspection during business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Department of Environmental Regulation
Bureau of Air Regulation Office
Magnolia Park Courtyard
111 South Magnolia Drive
Tallahassee, Florida

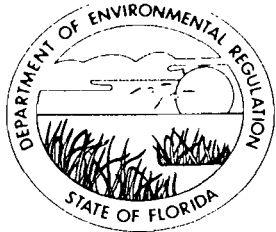
Department of Environmental Regulation
Northwest District Office
160 Governmental Center
Pensacola, Florida 32501-5794

Department of Environmental Regulation
Northwest District Branch Office
2815 Remington Green Circle
Tallahassee, Florida 32308

Any person may send written comments on the proposed action to Mr. Preston Lewis at the Department's Tallahassee address. All comments received within 14 days of the publication of this notice will be considered in the Department's final action.

Attachment Section

1. Mr. Jerome J. Guidry's letter with enclosure received February 10, 1993.
2. Mr. C. H. Fancy's letter with enclosures dated March 11, 1993.
3. Dr. Thomas A. Herbert's letter with enclosures received March 22, 1993.
4. Mr. Jerome J. Guidry's letter received May 5, 1993, via FAX (hard copy received May 10, 1993).
5. 40 CFR (July, 1992 version).
6. Ms. Jewell A. Harper's letter dated April 4, 1990.
7. Compliance Verification Audit Handbook (March, 1982).
8. Intent to Issue package dated May 13, 1993.
9. Public Notice received Month Day, 1993.
10. Final Determination dated Month Day, 1993.



DRAFT

Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Virginia B. Wetherell, Secretary

June xx, 1993

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Edwin L. Peters
General Manager
Timber Energy Resources, Inc.
Post Office Box 199
Telogia, Florida 32360

Dear Mr. Peters:

Re: Letter Amendment to the Operation Permit, No. AO 39-205360, to Authorize Timber Energy Resources, Inc., to Conduct Pollutant Emissions Performance Tests While Firing a Combination of Wood/Wood Waste and ITT Rayonier's Clarifier Residue in Timber Energy Resources, Inc.'s No. 1 Boiler

The Department has reviewed the request received February 10, 1993, submitted by Mr. Jerome J. Guidry on behalf of Timber Energy Resources, Inc. (TERI); and, supplemental information received March 22 and May 10, 1993, submitted by Dr. Thomas A. Herbert and Mr. Jerome J. Guidry, respectively. We have also considered the Department's legal authority to allow TERI to conduct performance tests for pollutant emissions while firing wood/wood waste with ITT Rayonier's clarifier residue (residue) in the facility's No. 1 boiler. Paragraph 403.061(15), Florida Statutes (F.S.) authorizes the Department to consult with any person proposing to construct, install, or otherwise acquire a pollution control device or system concerning the efficacy of such device or system, or the pollution problem which may be related to the source, device, or system. Paragraph 403.061(16), F.S., authorizes the Department to encourage voluntary cooperation by persons in order to achieve the purposes of the state environmental control act. Paragraph 403.061(18), F.S., authorizes the Department to encourage and conduct studies, investigations, and research relating to the causes and control of pollution. Florida Administrative Code (F.A.C.) Rule 17-210.700(5) authorizes the Department to consider variation in industrial equipment and make allowances for excess emissions that provide practical regulatory controls consistent with the public interest.

In accordance with the provisions of Paragraphs 403.061(15), (16), and (18), F.S., and F.A.C. Rule 17-210.700(5), you are hereby authorized to conduct performance tests for pollutant emissions on the facility's No. 1 boiler while firing 1) 100% wood/wood waste and 2) wood/wood waste-residue combination. The No. 1 boiler is

DRAFT

Mr. Edwin L. Peters
Amendment to AO 39-205360
June xx, 1993
Page 2

MMBtu/ton). For the proposed combination fuel test, the maximum input/feed rate of the residue will be 2.5 tons/hr as received (the residue has a heating value of 2,990 Btu/lb as received and 7,790 Btu/lb dry). The No. 1 boiler's total heat input rate for each of the proposed tests shall be essentially equivalent or the test results may be deemed invalid for comparative purposes, which is the sole reason for authorizing and conducting these tests. The No. 1 boiler was permitted under the construction permit, No. AC 39-090091, and is not permitted to fire the residue in accordance with the referenced permit.

Screening for a modification and Prevention of Significant Deterioration (PSD) shall be in accordance with Chapter 403, F.S.; F.A.C. Chapters 17-210 thru 17-297, and 17-4; and, Title 40 Code of Federal Regulations (CFR; July, 1992 version), which will compare the actual pollutant emissions of the baseline tests (100% wood/wood waste) to the actual pollutant emissions of the performance tests while firing a wood/wood waste-residue combination. The performance test results will be evaluated by the Department's Bureau of Air Regulation (BAR) and Northwest District and other potentially affected parties (i.e., U.S. EPA, National Park Service, etc.).

The performance tests shall be subject to the following conditions:

1. The permittee shall notify, in writing, the Department's Northwest District and Bureau of Air Regulation (BAR) offices at least 15 days prior to commencement of the performance tests. A written report shall be submitted to these offices within 45 days upon completion of the last test run.
2. The results from the baseline pollutant emissions tests (100% wood/wood waste) shall be compared to the wood/wood waste-residue combination pollutant emission tests to determine if:
 - a) PSD or non-PSD emissions review is required where actual emissions increased (baseline versus wood/wood waste-residue combination), which includes a construction permit application and the appropriate processing fee; or,
 - b) the construction permit, No. AC 39-090091, can be amended to allow the firing of a wood/wood waste-residue combination in the facility's No. 1 boiler on a continuous basis.
3. All pollutant emissions results shall be compared to "actual emissions" for PSD review purposes (see Region IV, U.S. EPA's letter dated April 4, 1990).

DRAFT

Mr. Edwin L. Peters
Amendment to AO 39-205360
June xx, 1993
Page 3

4. The contents of Mr. Jerome J. Guidry's letter with enclosure received February 10, 1993, Dr. Thomas A. Herbert's letter with enclosures received March 11, 1993, and Mr. Jerome J. Guidry's letter received May 5, 1993 (FAX; hard copy received May 10), are adopted by reference, with the following exceptions:
 - o The time frame that will be permitted to execute the compatibility evaluations and performance tests is 14 calendar days from the first day of introducing the residue into the No. 1 boiler; and, notification shall be submitted to the Department's Northwest District of this date.
 - o If additional time is needed, the permittee shall request an extension of time and provide the Department with documentation of the progress accomplished to date and shall identify what is left to be done to complete the performance tests.
 - o Accountability of the No. 1 boiler's operations (i.e., steam generation and total Btu heat input) during the performance tests shall be required.
 - o A Type I audit is required and shall be coordinated with the Department's Northwest District office. The "Compliance Verification Audit Handbook", dated March, 1982, will be used as a guidance for performing the audit.
 - o Documentation of the actual firing rates, by weight, of each and separate fuel stream 1) 100% wood/wood waste and 2) wood/wood waste-residue combination shall be required.
 - o The Department will take the responsibility of providing a cover letter to and mailing the performance test results to the reviewing parties (i.e., Department's Northwest District, U.S. EPA, National Park Service, etc.).
5. These authorized performance tests shall not result in the release of objectionable odors pursuant to F.A.C. Rule 17-296.320(2).
6. Performance testing shall immediately cease upon the occurrence of a valid environmental complaint by a citizen or other party, or a nuisance or danger to public health or welfare. Performance testing shall not resume until appropriate measures to correct the problem have been implemented.
7. The performance tests for pollutant emissions shall be conducted under the direct supervision and responsible charge of a professional engineer registered in Florida.

DRAFT

Mr. Edwin L. Peters
Amendment to AO 39-205360
June xx, 1993
Page 4

8. This Department action is just to authorize the performance tests for pollutant emissions on the facility's No. 1 boiler while firing a wood/wood waste-residue combination. Any firing of the residue after the last performance test run is completed will be deemed a violation of the past construction permit, No. AC 39-090091, and operation permit, No. AO 39-205360.
9. Complete documentation (recording) of any firing of the residue in the facility's No. 1 boiler shall be required (i.e., testing results; materials utilized, by weight; etc.) and kept on file for a minimum of two years.
10. The Department' BAR and Northwest District shall be notified in writing on the date of the last test run completion.
11. The performance tests shall be conducted while the No. 1 boiler is operating at 90-100% of the permitted capacity.
12. Operation Permit, No. AO 39-205360, and all related material are incorporated by reference. This authorization to conduct performance tests does not permit the violation of any permit condition or Department regulations.
13. Samples of the scrubber medium shall be taken before and after each performance test. The samples shall be tested for pH, metals, and VOCs.
14. Attachments (See Attachment Section) are incorporated.

The Department has relied on the information referenced in the attachments in authorizing this permit amendment to the operation permit, No. AO 39-205360. This letter amendment and its Attachments must be attached to the air operation permit, No. AO 39-205360, and shall become a part of the permit.

Sincerely,

Howard L. Rhodes
Director
Division of Air Resources
Management

HLR/BM/rbm

Attachments


cc: E. Middleswart, NWD J. Guidry, P.E., TSI
 J. Koogler, Ph.D., P.E., K&A J. Neubauer, NWDB
 J. Braswell, Esq., DER

Is your RETURN ADDRESS completed on the reverse side?

SENDER: <ul style="list-style-type: none"> • Complete items 1 and/or 2 for additional services. • Complete items 3, and 4a & b. • Print your name and address on the reverse of this form so that we can return this card to you. • Attach this form to the front of the mailpiece, or on the back if space does not permit. • Write "Return Receipt Requested" on the mailpiece below the article number. • The Return Receipt will show to whom the article was delivered and the date delivered. 		I also wish to receive the following services (for an extra fee): <ol style="list-style-type: none"> <input type="checkbox"/> Addressee's Address <input type="checkbox"/> Restricted Delivery Consult postmaster for fee.	
3. Article Addressed to: Mr. Edwin L. Peters General Manager Timber Energy Resources, Inc. P. O. Box 199 Telogia, FL 32360		4a. Article Number P 230 524 304	
		4b. Service Type <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise	
		7. Date of Delivery <i>5-21-93</i>	
5. Signature (Addressee) <i>[Signature]</i>		8. Addressee's Address (Only if requested and fee is paid)	
6. Signature (Agent) <i>Kathleen Bailey</i>			

Thank you for using Return Receipt Service.

P-230 524 304



Receipt for Certified Mail
 No Insurance Coverage Provided
 Do not use for International Mail
 (See Reverse)

Sent to Mr. Edwin L. Peters, Timber	
Street and No. Energy Resources	
P. O. Box 199	
P.O., State and ZIP Code Telogia, FL 32360	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date Mailed: 5-21-93 Permit: A039-205360	

PS Form 3800, June 1991



Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Virginia B. Wetherell, Secretary

FAX TRANSMITTAL SHEET

TO: Riek Prusa

DATE: 5-19-93

PHONE: MWD - ~~904-444-8417~~
New # : 904-444-8417

TOTAL NUMBER OF PAGES, INCLUDING COVER PAGE: 6

FROM: Bruce Mitchell

DIVISION OF AIR RESOURCES MANAGEMENT

COMMENTS: Note, Ed was cc'd on the original, also,
there are additional evaluation sheets that
I am not sending (lab results of some samples) -
you have it in the "cc" file.
Bruce

MESSAGE CONFIRMATION

MAY-19-'93 WED 13:22

TERM ID: DIV OF AIR RES MGMT P-9999

TEL NO: 904-522-6979

NO.	DATE	ST. TIME	TOTAL TIME	ID	DEPT CODE	OK	NG
051	05-19	13:20	00:02:47	DER PENSACOLA		05	00



Technical Services, Inc. VFD

May 5, 1993

MAY 10 1993

Mr. Bruce Mitchell
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Division of Air
Resources Management

Re: Timber Energy Resources, Inc.
Request for temporary research and testing permit
Permit Number: A039-205360

Dear Mr. Mitchell:

As per your telephone request today, I am providing you with the following information in support of the above referenced request:

Source of residue to be burned with the wood waste: Filtrate from clarifiers.

Heating value of the residue: 2,990 BTU/lb as received; 7,790 BTU/lb dry.
The residue will be fired as received.

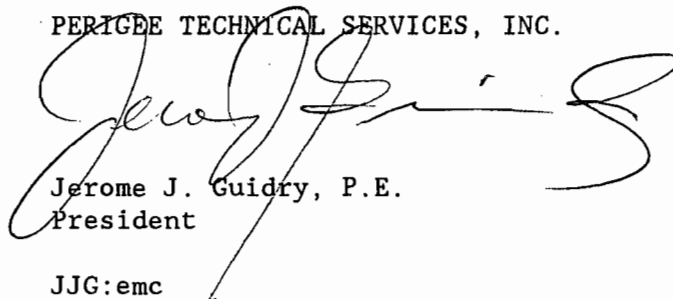
Percent wood waste to residue: We expect this ratio to be in the 5:1 to 8:1 range. Since it is expected that the residue will be burned at a relatively constant rate of approximately 2.5 tons per hour and the wood waste will make up the remainder of the heat input requirement, this ratio will vary as the heat input to the boiler changes.

Tons/hour input to boiler: The expected normal input rate for wood waste and residue will be 16.7 and 2.5 tons per hour, respectively.

Please call me at (407) 859-7374 if you have any questions.

Very truly yours,

PERIGEE TECHNICAL SERVICES, INC.



Jerome J. Guidry, P.E.
President

JJG:emc

cc: Ed Middleswart
T. A. Herbert

\\addinfo.ltr/157.0



Technical Services, Inc.

FAX COVER SHEET

DATE: May 5, 1993 TIME: 1:45 pm

PLEASE DELIVER THE FOLLOWING PAGES TO:

NAME: Bruce Mitchell FAX NUMBER: 904/922-6979

COMPANY: FDER

FROM: Jerome Guidry

REGARDING: Response to information request

TOTAL NUMBER OF PAGES INCLUDING THIS COVER SHEET: 2

PLEASE CALL (407) 859-7374 IF YOU EXPERIENCE ANY PROBLEMS WITH THIS TRANSMITTAL OR IF YOU DO NOT RECEIVE ALL THE PAGES.

Original letter to be sent via regular mail. Thank you for your assistance.



LAMPL\HERBERT CONSULTANTS
P.O. Box 10129
Tallahassee, Florida 32302-2129
Tel: (904) 222-4634 Fax: (904) 224-9952

RECEIVED
MAR 22 1993
Division of Air
Resources Management

March 22, 1993

C. H. Fancy, P.E.
Chief of Air Regulation
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee FL 32399-2400

RE: Request to Conduct Tests Burning a Residue from a Paper & Pulp Process with a Permitted Wood Waste Fuel at Timber Energy Resources Facility, Telogia, Florida

Dear Mr. Fancy:

On March 11, 1993, in a letter to Mr. Jerome J. Guidry, P.E., you requested additional characterizations of the paper and pulp residue. Our firm is the lead consultant for projects with Timber Energy Resources and as such we have retained Mr. Guidry on air permitting matters. I am responding directly from Tallahassee to expedite the transmittal.

Enclosed are summary data sheets of analyses conducted by Savannah Laboratories on behalf of ITT Rayonier. The data sheets list TCLP analyses on primary and secondary waste for samples taken 4/8/92. Additional, supporting analyses were conducted for pressed and unpressed waste on 6/5/90, 7/14/92 and 8/10/92.

I talked with Mr. Tom Stevens, Manager of Savannah's Tallahassee laboratory and he confirmed that all TCLP analyses are run at Savannah using Method 1311. Similarly, the Ph units ranged from 6.5 to 7.8 indicating that corrosivity is not an issue.

Should you have additional questions, either Mr. Guidry or myself will be available.

Sincerely,

LAMPL\HERBERT CONSULTANTS, INC.

Thomas A. Herbert, Ph.D., P.G.

Associate

cc: B. Mitchell
E. Maddox
M. Reddy (DWM: Haz Was) 4-9-93 RM

The Resource Industries Consulting Group

BEST AVAILABLE COPY



Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Virginia B. Wetherell, Secretary

March 11, 1993

Mr. Jerome J. Guidry, P.E.
 President
 Perigee Technical Services, Inc.
 6658 The Landings Drive
 Orlando, Florida 32812-3528

Dear Mr. Guidry:

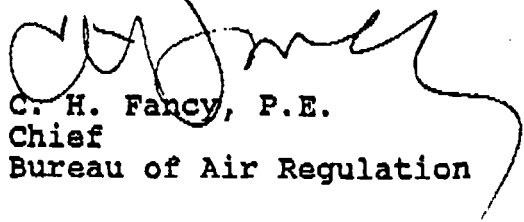
Re: Request to Conduct Tests While Burning a Residue from a Paper & Pulp Process with a Permitted Wood Waste Fuel

The Department has reviewed your letter with enclosures received February 10, 1993, which requested permission to conduct tests for air pollutants while burning the above referenced waste stream along with the permitted fuel at Timber Energy Resources, Inc. Based on an evaluation of the data submitted, the request is considered insufficient to make a final Departmental decision. Therefore, please have the residue analyzed for the following parameters, in accordance with the citings, and submit the results:

- o Mobility of Both Organic and Inorganic Analytes Present in Liquid, Solid, and Multiphasic Wastes: 40 CFR 261, Appendix II-Method 1311 Toxicity Characteristic Leaching Procedure; and,
- o Characteristic of Corrosivity: 40 CFR 261.22.

If there are any questions, please call Mr. Bruce Mitchell at (904)488-1344 or write to me at the above address.

Sincerely,



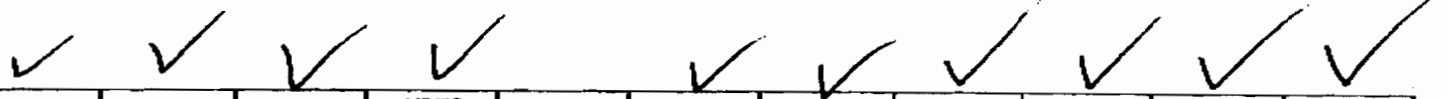
C. H. Fancy, P.E.
 Chief
 Bureau of Air Regulation

CHF/BM/rbm

Enclosures

cc: E. Middleswart, NWD
 M. Redig, BS&HW
 J. Braswell, Esq., DER

	6/5/90 Primary Sludge µg/kg	6/5/90 Primary Sludge Pressate µg/l	6/5/90 Primary Sludge TCLP mg/l	4/8/92 Primary Sludge Pressed TCLP mg/l	4/8/92 Secondary Sludge TCLP mg/l	7/20/92 Primary Pressed Sludge µg/kg dw	7/14/92 Secondary Pressed Sludge µg/kg dw	8/7/92 Primary Pressed Sludge µg/kg dw	8/7/92 Secondary Pressed Sludge µg/kg dw	8/10/92 Primary Sludge Pressate µg/l	8/10/92 Secondary Sludge Pressate µg/l
a-BHC	<330	<25								<100	<100
b-BHC	<330	<25									
d-BHC	<330	<25								<100	<100
g-BHC	<330	<25									
Acenaphthene	<330	<50				<39,000	<13,000	<3,300	<3,300	<100	<100
Acrolein	<330	<25				<2,900	<1,800				
Acrylonitrile	<500	<25				<29	<18				
Anthracene	<500	<50				<39,000	<13,000	<3,300	<3,300	<100	<100
Benzene	<20	<1.0	<0.050	<0.020	<0.020	<29	<18	<18	<13	<5.0	<5.0
Benzidine	<330	<50				<310,000	<100,000				
Benzo (a) Anthracene	<330	<50				<39,000	<13,000	<3,300	<3,300	<100	<100
Benzo (a) Pyrene	<330	<50				<39,000	<13,000	<3,300	<3,300	<100	<100
Benzo (b) Fluoranthene	<330	<50				<39,000	<13,000	<3,300	<3,300	<100	<100
Benzo (g,h,i) Perylene	<330	<50				<39,000	<13,000	<3,300	<3,300	<100	<100
Benzo (k) Fluoranthene	<330	<50				<39,000	<13,000	<3,300	<3,300	<100	<100
Bis (2-chloroethyl) Ether	<330	<50				<39,000	<13,000	<3,300	<3,300	<100	<100
Dis (2-chloroethoxy) Methane	<330	<50				<39,000	<13,000	<3,300	<3,300	<100	<100



	6/5/90 Primary Sludge µg/kg	6/5/90 Primary Sludge Pressate µg/l	6/5/90 Primary Sludge TCIP mg/l	4/8/92 Primary Sludge Pressed TCIP mg/l	4/8/92 Secondary Sludge TCIP mg/l	7/20/92 Primary Pressed Sludge µg/kg dw	7/14/92 Secondary Pressed Sludge µg/kg dw	8/7/92 Primary Pressed Sludge µg/kg dw	8/7/92 Secondary Pressed Sludge µg/kg dw	8/10/92 Primary Sludge Pressate µg/l	8/10/92 Secondary Sludge Pressate µg/l
Bis (2-chloroisopropyl) Ether	<330	<50				<39,000	<13,000	<3,300	<3,300	<100	<100
Bis (2-Ethylhexyl) Phthalate	<330	<50				<39,000	<13,000	<3,300	<3,300	<100	<100
Bromodichloromethane	<20	<1				<39,000	<13,000	<18	<13	<5.0	<5.0
Bromomethane	<20	<1				<29	<18	<37	<27	<10	<10
Butyl Benzyl Phthalate	<330	<50				<39,000	<13,000				
Carbon Tetrachloride	<20	<1	<0.050	<0.020	<0.020	<29	<18	<18	<13	<5.0	<5.0
Chlordane	<1700	<200	<0.002			<600	<2,000	<17,000	<17,000	<500	<500
Chlorobenzene	<20	<1	<0.050	<0.020	<0.020	<29	<18	<18	<13	<5.0	<5.0
Chlorodibromomethane	<20	<1				<29	<18	<18	<13	<5.0	<5.0
Chloroethane	<20	<1				<29	<18	<37	<27	<10	<10
Chloroform	61.3	92.9	0.091	<0.020	<0.020	430	<18	150	<13	88	<5.0
Chloromethane	<20	<1				<29	<18	<37	<27	<10	<10
Chrysene	<330	<50				<39,000	<13,000	<3,300	<3,300	<100	<100
Cis-1,3-Dichloropropene	<20	<1				<29	<18	<18	<13	<5.0	<5.0
Di-n-butylphthalate	<330	<50				<39,000	<13,000	<3,300	<3,300	<100	<100
Di-n-octylphthalate	<330	<50				<39,000	<13,000	<3,300	<3,300	<200	<200
Dibenzo (a,h) Anthracene	<330	<50				<39,000	<13,000	<3,300	<3,300	<100	<100
Dichloromethane	<20	<1				<29	<18	<18	<13	<5.0	<5.0

COPY # _____

CONTROLLED
DOCUMENT

	6/5/90 Primary Sludge µg/kg	6/5/90 Primary Sludge Pressate µg/l	6/5/90 Primary Sludge TCIP mg/l	4/8/92 Primary Sludge Pressed TCIP mg/l	4/8/92 Secondary Sludge TCIP mg/l	7/20/92 Primary Pressed Sludge µg/kg dw	7/14/92 Secondary Pressed Sludge µg/kg dw	8/7/92 Primary Pressed Sludge µg/kg dw	8/7/92 Secondary Pressed Sludge µg/kg dw	8/10/92 Primary Sludge Pressate µg/l	8/10/92 Secondary Sludge Pressate µg/l
Diethyl Phthalate	<330	<50				<39,000	<13,000			<200	<200
Dimethyl Phthalate	<330	<50				<39,000	<13,000			<200	<200
Endosulfan I	<330	<25				<60	<13,000				
Endosulfan II	<330	<25				<120	<380				
Endosulfan Sulfate	<330	<25				<120	<380	<6,600	<6,600	<200	<200
Ethyl Benzene	<20	<1				<29	<18	<18	<13	<5.0	<5.0
Fluoranthene	<330	<50				<9,000	<13,000	<3,300	<3,300	<100	<100
Fluorene	<330	<50				<39,000	<13,000	<3,300	<3,300	<100	<100
Hexachlorobenzene	<330	<50	<0.10	<0.050	<0.050	<39,000	<13,000	<3,300	<3,300	<100	<100
Hexachlorocyclopentadiene	<330	<50				<39,000	<13,000	<3,300	<3,300		
Hexachloroethane	<330	<50	<0.10	<0.050	<0.050	<39,000	<13,000	<3,300	<3,300	<100	<100
Indeno (1,2,3-cd) Pyrene	<330	<50				<39,000	<13,000	<3,300	<3,300	<100	<100
Isophorone	<330	<50				<39,000	<13,000	<3,300	<3,300	<100	<100
N-Nitrosodi-n-Propylamine	<330	<50				<39,000	<13,000	<3,300	<3,300	<100	<100
N-Nitrosodimethylamine	<330	<50				<39,000	<13,000	<3,300	<3,300		
N-Nitrosodiphenylamine	<330	<50				<39,000	<13,000	<3,300	<3,300		
Naphthalene	850	<50				<39,000	15,000	<3,300	<3,300	<100	<100
Nitrobenzene	<330	<50	<0.10	<0.050	<0.050	<39,000	<13,000	<3,300	<3,300	<100	<100

COPY # _____

CONTROLLED
DOCUMENT

	6/5/90 Primary Sludge µg/kg	6/5/90 Primary Sludge Pressate µg/l	6/5/90 Primary Sludge TCLP mg/l	4/8/92 Primary Sludge Pressed TCLP mg/l	4/8/92 Secondary Sludge TCLP mg/l	7/20/92 Primary Pressed Sludge µg/kg dw	7/14/92 Secondary Pressed Sludge µg/kg dw	8/7/92 Primary Pressed Sludge µg/kg dw	8/7/92 Secondary Pressed Sludge µg/kg dw	8/10/92 Primary Sludge Pressate µg/l	8/10/92 Secondary Sludge Pressate µg/l
Pentachlorophenol	<1700	<50	<1.0	<0.25	<0.25	<200,000	<6,500	<17,000	<17,000	<500	<500
Phenanthrene	<330	<50				<39,000	<13,000	<3,300	<3,300	<100	<100
Phenol	470	<25				<39,000	<13,000	<3,300	<3,300	<100	<100
Pyrene	<330	<50				<39,000	<13,000	<3,300	<3,300	<100	<100
Tetrachloroethene	<20	<1	<0.050	<0.020	<0.020	<29	<18	<18	<13	<5.0	<5.0
Toluene	<20	<1				<29	<18	<18	<13	<5.0	<5.0
Total-1,2-Dichloroethene	<20	<1				<29	<18	<18	<13	<5.0	<5.0
Tribromomethane	<20	<1				<29	<18				
Trichloroethene	<20	<1	<0.050			<29	<18	<18	<13	<5.0	<5.0
Vinyl Chloride	<20	<1	<0.050	<0.040	<0.040	<29	<18	<37	<27	<10	<10
1,1-Dichloroethane	<20	<1				<29	<18	<18	<13	<5.0	<5.0
1,1-Dichloroethene	<20	<1				<29	<18	<18	<13	<5.0	<5.0
1,1,1-Trichloroethane	78.8	<1				<29	<18	<18	<13	<5.0	<5.0
1,1,2-Trichloroethane	<20	<1				<29	<18	<18	<13	<5.0	<5.0
1,1,2,2-Tetrachloroethane	<20	<1				<29	<18	<18	<13	<5.0	<5.0
1,2-Dichlorobenzene	<20	<1				<39,000	<13,000	<18	<13	<100	<100
1,2-Dichloroethane	<20	<1	<0.050	<0.020	<0.020	<29	<18	<18	<13	<5.0	<5.0
1,2-Dichloropropane	<20	<1				<29	<18	<18	<13	<5.0	<5.0

COPY # _____

CONTROLLED
DOCUMENT

	6/5/90 Primary Sludge µg/kg	6/5/90 Primary Sludge Pressate µg/l	6/5/90 Primary Sludge TCLP mg/l	4/8/92 Primary Sludge Pressed TCLP mg/l	4/8/92 Secondary Sludge TCLP mg/l	7/20/92 Primary Pressed Sludge µg/kg dw	7/14/92 Secondary Pressed Sludge µg/kg dw	8/7/92 Primary Pressed Sludge µg/kg dw	8/7/92 Secondary Pressed Sludge µg/kg dw	8/10/92 Primary Sludge Pressate µg/l	8/10/92 Secondary Sludge Pressate µg/l
1,2-Diphenylhydrazine	<330	<50				<39,000	<13,000				
1,2,4-Trichlorobenzene	<330	<50				<39,000	<13,000	<3,300	<3,300	<100	<100
1,3-Dichlorobenzene	<20	<1	<0.050			<39,000	<13,000	<18	<13	<100	<100
1,4-Dichlorobenzene	<20	<1	<0.050	<0.050	<0.050	<39,000	<13,000	<18	<13	<100	<100
2-Chloroethylvinyl Ether	<20	<1				<29	<180	<180	<130	<50	
2-Chloronaphthalene	<330	<50				<39,000	<13,000	<3,300	<3,300	<100	
2-Chlorophenol	<330	<25				<39,000	<13,000	<3,300	<3,300		
2-Nitrophenol	<330	<25				<39,000	<13,000	<3,300	<3,300	<500	<500
2,4-Dichlorophenol	<330	<25				<39,000	<13,000	<3,300	<3,300	<100	<100
2,4-Dimethylphenol	<330	<25				<39,000	<13,000	<33,000	<33,000	<100	<100
2,4-Dinitrophenol	<1700	<75	<2.0			<200,000	<65,000	<17,000	<17,000	<500	<500
2,4-Dinitrotoluene	<330	<50	<0.10	<0.050	<0.050	<39,000	<13,000	<33,000	<33,000	<200	<200
2,4,6-Trichlorophenol	<330	<25	<0.50	<0.050	<0.050	<39,000	<13,000	<33,000	<33,000	<100	<100
2,6-Dinitrotoluene	<330	<50				<39,000	<13,000	<33,000	<33,000	<200	<200
3,3-Dichlorobenzidine	<330	<50				<78,000	<26,000	<66,000	<66,000	<200	<200
4-Bromophenyl Phenyl Ether	<330	<50				<39,000	<13,000	<33,000	<33,000	<100	<100
4-Chloro-3-Methylphenol	<330	<25				<39,000	<3,000	<33,000	<33,000	<100	<100
4-Chlorophenyl Phenyl Ether	<330	<50				<39,000	<13,000	<33,000	<33,000	<100	<100

	6/5/90 Primary Sludge µg/kg	6/5/90 Primary Sludge Pressate µg/l	6/5/90 Primary Sludge TCLP mg/l	4/8/92 Primary Sludge Pressed TCLP mg/l	4/8/92 Secondary Sludge TCLP mg/l	7/20/92 Primary Pressed Sludge µg/kg dw	7/14/92 Secondary Pressed Sludge µg/kg dw	8/7/92 Primary Pressed Sludge µg/kg dw	8/7/92 Secondary Pressed Sludge µg/kg dw	8/10/92 Primary Sludge Pressate µg/l	8/10/92 Secondary Sludge Pressate µg/l
4-Nitrophenol	<1700	<75				<200,000	<65,000	<17,000	<17,000	<500	<500
4,6-Dinitro-o cresol	<1700	<100				<200,000	<65,000	<17,000	<17,000	<500	<500
1,1-Dichloroethylene			<0.050	<0.020	<0.020						
Methyl Ethyl Ketone			<0.50	<0.20	<0.020						
Tetrachloroethylene			<0.050	<0.02	<0.020						
Trichloroethylene			<0.050	<0.02	<0.020						
Cresol (Ortho)			<0.50	<0.05	<0.05						
Cresol (M & P)			<0.50	<0.05	<0.050						
Hexachlorobutadiene			<0.10	<0.05	<0.050					<100	<100
2,4,5-Trichlorophenol			<0.50	<0.25	<0.25						
Pyridine			<5.0	<1.0	<1.0						

COPY # _____

CONTROLLED
DOCUMENT

	6/5/90 Primary Sludge µg/kg	6/5/90 Primary Sludge Pressate µg/l	6/5/90 Primary Sludge TCLP mg/l	4/8/92 Primary Sludge Pressed TCLP mg/l	4/8/92 Secondary Sludge TCLP mg/l	7/20/92 Primary Pressed Sludge mg/kg dw	7/14/92 Secondary Pressed Sludge µg/kg dw	8/7/92 Primary Pressed Sludge µg/kg dw	8/7/92 Secondary Pressed Sludge µg/kg dw	8/10/92 Primary Sludge Pressate µg/l	8/10/92 Secondary Sludge Pressate µg/l
Antimony						<17	<26				
Arsenic			<0.05	<0.20	<0.20	<3.4	<5.6			<0.010	<0.011
Barium			<1.00	<1.0	1.0	24	29			0.068	0.059
Beryllium						<1.7	<2.6				
Cadmium			<0.50	<0.010	<0.010	<1.7	<2.6			<0.0050	<0.0050
Chromium			<0.50	<0.050	<0.050	11	85			0.016	0.054
Copper						18	47	13	28	<0.025	<0.025
Lead			<0.50	<0.20	<0.20	5.8	31			<0.0050	<0.12
Manganese						72	99			0.36	0.27
Mercury			<0.01	<0.020	<0.020	0.07	0.13			<0.00020	<0.0020
Nickel						24	42				
Selenium			<0.05	<0.50	<0.50	<3.4	<5.6			<0.010	<0.010
Thallium						<3.4	<5.6				
Silver			<0.50	<0.010	<0.010	<3.3	<5.3			<0.010	<0.010
Zinc						89	310			0.036	0.100
Iron						2100	3100			0.50	1.60
Sodium						2600	4600	2500	4000	450	940

	6/5/90 Primary Sludge µg/kg	6/5/90 Primary Sludge Pressate µg/l	6/5/90 Primary Sludge TCLP mg/l	4/8/92 Primary Sludge Pressed TCLP mg/l	4/8/92 Secondary Sludge TCLP mg/l	7/20/92 Primary Pressed Sludge mg/kg dw	7/14/92 Secondary Pressed Sludge mg/kg dw	8/7/92 Primary Pressed Sludge µg/kg dw	8/7/92 Secondary Pressed Sludge µg/kg dw	8/10/92 Primary Sludge Pressate µg/l	8/10/92 Secondary Sludge Pressate µg/l
Phenolics						<1.4	<5.8				
Cyanide						<3.6	<5.9				
Density, g/cc						1.10	0.844				
Sulfate as SO ₄						3,400	28,000			680	930
Nitrate-N						<29	<18			<0.050	0.11
Chloride						710	1,100			570	680
pH Units						7.5	7.3	7.8	7.3	7.1	6.5
Total Organic Carbon						620,000	290,000				
Total Kjeldahl Nit.-N						14,000	28,000				
Total Phosphorous						1,100	2,000				
Color								Dark Black	Dark Black	500	1,500
Surfactants								<74		<0.50	<0.50
Odor								>200	>200	>256	>256
Total Dissolved Solids										4,700	17,000



Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Virginia B. Wetherell, Secretary

March 11, 1993

Mr. Jerome J. Guidry, P.E.
President
Perigee Technical Services, Inc.
6658 The Landings Drive
Orlando, Florida 32812-3528

Dear Mr. Guidry:

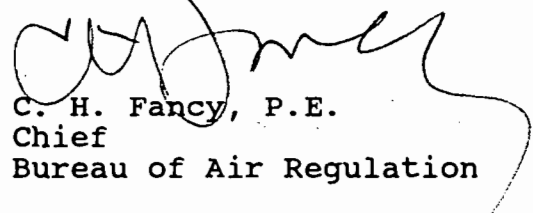
Re: Request to Conduct Tests While Burning a Residue from a Paper & Pulp Process with a Permitted Wood Waste Fuel

The Department has reviewed your letter with enclosures received February 10, 1993, which requested permission to conduct tests for air pollutants while burning the above referenced waste stream along with the permitted fuel at Timber Energy Resources, Inc. Based on an evaluation of the data submitted, the request is considered insufficient to make a final Departmental decision. Therefore, please have the residue analyzed for the following parameters, in accordance with the citings, and submit the results:

- o Mobility of Both Organic and Inorganic Analytes Present in Liquid, Solid, and Multiphasic Wastes: 40 CFR 261, Appendix II-Method 1311 Toxicity Characteristic Leaching Procedure; and,
- o Characteristic of Corrosivity: 40 CFR 261.22.

If there are any questions, please call Mr. Bruce Mitchell at (904)488-1344 or write to me at the above address.

Sincerely,



C. H. Fancy, P.E.
Chief
Bureau of Air Regulation

CHF/BM/rbm

Enclosures

cc: E. Middleswart, NWD
M. Redig, BS&HW
J. Braswell, Esq., DER

Environmental Protection Agency

Subpart C—Characteristics of
Hazardous Waste

§ 261.20 General.

(a) A solid waste, as defined in § 261.2, which is not excluded from regulation as a hazardous waste under § 261.4(b), is a hazardous waste if it exhibits any of the characteristics identified in this subpart.

[Comment: § 262.11 of this chapter sets forth the generator's responsibility to determine whether his waste exhibits one or more of the characteristics identified in this subpart.]

(b) A hazardous waste which is identified by a characteristic in this subpart is assigned every EPA Hazardous Waste Number that is applicable as set forth in this subpart. This number must be used in complying with the notification requirements of section 3010 of the Act and all applicable recordkeeping and reporting requirements under parts 262 through 265, 268, and 270 of this chapter.

(c) For purposes of this subpart, the Administrator will consider a sample obtained using any of the applicable sampling methods specified in appendix I to be a representative sample within the meaning of part 260 of this chapter.

[Comment: Since the appendix I sampling methods are not being formally adopted by the Administrator, a person who desires to employ an alternative sampling method is not required to demonstrate the equivalency of his method under the procedures set forth in §§ 260.20 and 260.21.]

(45 FR 33119, May 19, 1980, as amended at 51 FR 40836, Nov. 7, 1986; 55 FR 22684, June 1, 1990; 56 FR 3876, Jan. 31, 1991)

§ 261.21 Characteristic of ignitability.

(a) A solid waste exhibits the characteristic of ignitability if a representative sample of the waste has any of the following properties:

(1) It is a liquid, other than an aqueous solution containing less than 24 percent alcohol by volume and has a flash point less than 60°C (140°F), as determined by a Pensky-Martens Closed Cup Tester, using the test method specified in ASTM Standard D-93-79 or D-93-80 (incorporated by reference, see § 260.11), or a Setaflash

Closed Cup Tester, using the test method specified in ASTM Standard D-3278-78 (incorporated by reference, see § 260.11), or as determined by an equivalent test method approved by the Administrator under procedures set forth in §§ 260.20 and 260.21.

(2) It is not a liquid and is capable, under standard temperature and pressure, of causing fire through friction, absorption of moisture or spontaneous chemical changes and, when ignited, burns so vigorously and persistently that it creates a hazard.

(3) It is an ignitable compressed gas as defined in 49 CFR 173.300 and as determined by the test methods described in that regulation or equivalent test methods approved by the Administrator under §§ 260.20 and 260.21.

(4) It is an oxidizer as defined in 49 CFR 173.151.

(b) A solid waste that exhibits the characteristic of ignitability has the EPA Hazardous Waste Number of D001.

(45 FR 33119, May 19, 1980, as amended at 46 FR 35247, July 7, 1981; 55 FR 22684, June 1, 1990)

§ 261.22 Characteristic of corrosivity.

(a) A solid waste exhibits the characteristic of corrosivity if a representative sample of the waste has either of the following properties:

(1) It is aqueous and has a pH less than or equal to 2 or greater than or equal to 12.5, as determined by a pH meter using either an EPA test method or an equivalent test method approved by the Administrator under the procedures set forth in §§ 260.20 and 260.21. The EPA test method for pH is specified as Method 5.2 in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods" (incorporated by reference, see § 260.11).

(2) It is a liquid and corrodes steel (SAE 1020) at a rate greater than 6.35 mm (0.250 inch) per year at a test temperature of 55°C (130°F) as determined by the test method specified in NACE (National Association of Corrosion Engineers) Standard TM-01-69 as standardized in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods" (incorporated by

pling waste with properties similar to the indicated materials, will be considered by the Agency to be representative of the waste.

Extremely viscous liquid—ASTM Standard D140-70 Crushed or powdered material—ASTM Standard D346-75 Soil or rock-like material—ASTM Standard D420-69 Soil-like material—ASTM Standard D1452-65

Fly Ash-like material—ASTM Standard D2234-76 (ASTM Standards are available from ASTM, 1916 Race St., Philadelphia, PA 19103)

Containerized liquid wastes—"COLIWASA" described in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods," U.S. Environmental Protection Agency, Office of Solid Waste, Washington, D.C. 20460. (Copies may be obtained from Solid Waste Information, U.S. Environmental Protection Agency, 26 W. St. Clair St., Cincinnati, Ohio 45268)

Liquid waste in pits, ponds, lagoons, and similar reservoirs—"Pond Sampler" described in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods."*

This manual also contains additional information on application of these protocols.

APPENDIX II—METHOD 1311 TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP)

1.0 Scope and Application

1.1 The TCLP is designed to determine the mobility of both organic and inorganic analytes present in liquid, solid, and multiphase wastes.

1.2 If a total analysis of the waste demonstrates that individual analytes are not present in the waste, or that they are present but at such low concentrations that the appropriate regulatory levels could not possibly be exceeded, the TCLP need not be run.

1.3 If an analysis of any one of the liquid fractions of the TCLP extract indicates that a regulated compound is present at such high concentrations that, even after accounting for dilution from the other fractions of the extract, the concentration would be equal to or above the regulatory level for that compound, then the waste is hazardous and it is not necessary to analyze the remaining fractions of the extract.

1.4 If an analysis of extract obtained using a bottle extractor shows that the concentration of any regulated volatile analyte

*These methods are also described in "Samplers and Sampling Procedures for Hazardous Waste Streams," EPA 600/2-80-018, January 1980.

equals or exceeds the regulatory level for that compound, then the waste is hazardous and extraction using the ZHE is not necessary. However, extract from a bottle extractor cannot be used to demonstrate that the concentration of volatile compounds is below the regulatory level.

2.0 Summary of Method

2.1 For liquid wastes (i.e., those containing less than 0.5% dry solid material), the waste, after filtration through a 0.6 to 0.8 μm glass fiber filter, is defined as the TCLP extract.

2.2 For wastes containing greater than or equal to 0.5% solids, the liquid, if any, is separated from the solid phase and stored for later analysis; the particle size of the solid phase is reduced, if necessary. The solid phase is extracted with an amount of extraction fluid equal to 20 times the weight of the solid phase. The extraction fluid employed is a function of the alkalinity of the solid phase of the waste. A special extractor vessel is used when testing for volatile analytes (see Table 1 for a list of volatile compounds). Following extraction, the liquid extract is separated from the solid phase by filtration through a 0.6 to 0.8 μm glass fiber filter.

2.3 If compatible (i.e., multiple phases will not form on combination), the initial liquid phase of the waste is added to the liquid extract, and these are analyzed together. If incompatible, the liquids are analyzed separately and the results are mathematically combined to yield a volume-weighted average concentration.

3.0 Interferences

3.1 Potential interferences that may be encountered during analysis are discussed in the individual analytical methods.

4.0 Apparatus and Materials

4.1 Agitation apparatus: The agitation apparatus must be capable of rotating the extraction vessel in an end-over-end fashion (see Figure 1) at 30 ± 2 rpm. Suitable devices known to EPA are identified in Table 2.

4.2 Extraction Vessels.

4.2.1 Zero-Headspace Extraction Vessel (ZHE). This device is for use only when the waste is being tested for the mobility of volatile analytes (i.e., those listed in Table 1). The ZHE (depicted in Figure 2) allows for liquid/solid separation within the device, and effectively precludes headspace. This type of vessel allows for initial liquid/solid separation, extraction, and final extract filtration without opening the vessel (see section 4.3.1). The vessels shall have an internal volume of 500-600 mL, and be equipped to accommodate a 90-110 mm

Environmental Protection Agency

filter. The devices contain VITON® which should be replaced frequently. Suitable ZHE devices known to EPA are listed in Table 3.

For the ZHE to be acceptable for use, the piston within the ZHE should be removed with approximately 15 psi (pounds per square inch) or less. If it takes more than 15 psi to move the piston, the device should be replaced. If not solve the problem, the ZHE is not suitable for TCLP analyses and the manufacturer should be contacted.

The ZHE should be checked after every extraction. If the device has a built-in pressure gauge, pressurize the device to 50 psi, allow it to stand undisturbed for 1 hour, and recheck the pressure. If the device does not have a built-in pressure gauge, pressurize the device to 50 psi, immerse it in water, and check for the presence of air bubbles escaping from the fittings. If pressure is lost, check and inspect and replace O-rings, if necessary. Retest the device. If leakage cannot be solved, the manufacturer should be contacted.

Some ZHEs use gas pressure to move the ZHE piston, while others use vacuum pressure (see Table 3). Whereas the latter procedures (see section 7.3) are measured in pounds per square inch (psi), for mechanically actuated piston, the pressure is measured in torque-inch. Refer to the manufacturer's instructions for the proper conversion.

4.2.2 Bottle Extraction Vessel. Waste is being evaluated using the bottle extraction, a jar with sufficient headspace to hold the sample and the extract is needed. Headspace is allowed in the vessel.

The extraction bottles may be constructed from various materials, depending on the analytes to be analyzed and the nature of the waste (see section 4.3.3). It is recommended that borosilicate glass be used instead of other types of glass bottles, other than polytetrafluoroethylene, shall not be used if organics are being investigated. Bottles are available from a number of laboratory suppliers. The type of extraction vessel is used, the device discussed in section 4.3.1 for initial liquid/solid separation and extract filtration.

4.3 Filtration Devices: It is recommended that all filtrations be performed in a Zero-Headspace Extractor (ZHE): When the waste is evaluated for volatile analytes, the zero-headspace extractor described in section 4.2.1 is used for

VITON® is a registered trademark of DuPont.

Is your RETURN ADDRESS completed on the reverse side?

SENDER: <ul style="list-style-type: none"> • Complete items 1 and/or 2 for additional services. • Complete items 3, and 4a & b. • Print your name and address on the reverse of this form so that we can return this card to you. • Attach this form to the front of the mailpiece, or on the back if space does not permit. • Write "Return Receipt Requested" on the mailpiece below the article number. • The Return Receipt will show to whom the article was delivered and the date delivered. 		I also wish to receive the following services (for an extra fee): 1. <input type="checkbox"/> Addressee's Address 2. <input type="checkbox"/> Restricted Delivery Consult postmaster for fee.	
3. Article Addressed to: <i>Jerome Guidry, PE Perizee Tech Services 6658 The Gardens Dr Orlando, FL 32812-3528</i>		4a. Article Number <i>P 062 921 975</i>	
4b. Service Type <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise		7. Date of Delivery <i>3-15-93</i>	
5. Signature (Addressee) <i>M. Guidry</i>		8. Addressee's Address (Only if requested and fee is paid)	
6. Signature (Agent)			

Thank you for using Return Receipt Service.

P 062 921 975



Receipt for Certified Mail
 No Insurance Coverage Provided
 Do not use for International Mail
 (See Reverse)

Sent to	
<i>Jerome Guidry</i>	
Street and No.	
<i>Perizee Tech</i>	
City, State and ZIP Code	
<i>Orlando, FL</i>	
Postage	
Certified Fee	\$
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date	<i>3-12-93</i>

PS Form 3800, June 1991

I N T E R O F F I C E M E M O R A N D U M

Date: 09-Mar-1993 11:56am ES
From: Bruce Mitchell TAL
 MITCHELL_B
Dept: Air Resources Manageme
Tel No: 904/488-1344
SUNCOM:

TO: Michael Redig TAL

(REDIG_M)

Subject: Jerome Guidry: Timber Energy Resources, Inc.-response to test
Michael:

Here is a draft of a response letter regarding the issues that we discussed this morning. Please critique, edit, etc. Many thanks for your assistance on this matter.

Sincerely,

Bruce Mitchell
488-1344

March 10, 1993

Mr. Jerome J. Guidry, P.E.
Perigee-Technical Services, Inc.
6658 The Landings Drive
Orlando, Florida 32812-3528

Dear Mr. Guidry:

Re: Request to Conduct Tests While Burning a Residue from a Paper &
Pulp Process with a Permitted Wood Waste Fuel

The Department has reviewed your letter with enclosures received February 10, 1993, which requested permission to conduct tests for air pollutants while burning the above referenced waste stream along with the permitted fuel at Timber Energy Resources, Inc. Based on an evaluation of the data submitted, the request is considered insufficient to make a final Departmental decision. Therefore, please have the residue analyzed for the following parameters, in accordance with the citings, and submit the results:

- o Mobility of Both Organic and Inorganic Analytes Present in Liquid, Solid, and Multiphasic Wastes: 40 CFR 261, Appendix II-Method 1311 Toxicity Characteristic Leaching Procedure; and,
- o Characteristic of Corrosivity: 40 CFR 261.22.

If there are any questions, please call Mr. Bruce Mitchell at (904)488-1344 or write to me at the above address.

Sincerely,

Mr. C. H. Fancy, P.E.
Chief
Bureau of Air Regulation

CHF/BM/rbm

Enclosures

cc: E. Middleswart, NWD
M. Redig, BS&HW



Technical Services, Inc.

February 5, 1993

Mr. Clair Fancy
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Re: Timber Energy Resources, Inc.
Boiler
Permit Number: A039-205360

*Marty Costello
has CEMs
info submitted
with this
1/27/93
P. Adams*

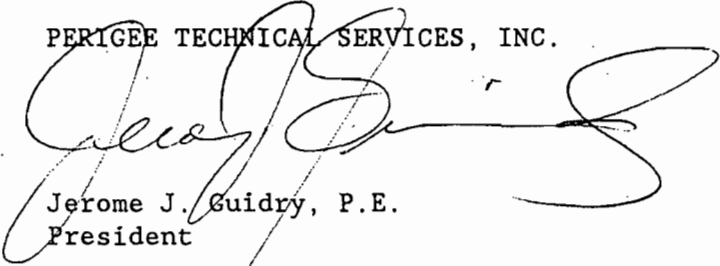
Dear Mr. Fancy:

Timber Energy Resources, Inc. wishes to obtain a temporary research and testing permit for the above referenced source to burn a residue from pulp and paper processing in conjunction with their permitted wood waste fuel for a period not to exceed 30 days. The purpose of this temporary permit will be to test airborne emissions from the combustion of these fuels. The results of the test will be used to conduct a toxics analysis of the emissions for the purpose of modifying the existing permit to allow the burning of the residue along with the wood waste on a routine basis. The test will be conducted under a single set of test conditions using the highest ratio of residue to wood waste which will requested in the future permit modification.

I have enclosed a chemical analysis of primary and secondary residue samples and a listing of the proposed test parameters and test methods along with a check in the amount of \$250 as the application fee. Please call me at (407) 859-7374 if you have any questions.

Very truly yours,

PERIGEE TECHNICAL SERVICES, INC.


Jerome J. Guidry, P.E.
President

JJG:emc

cc: Bruce Mitchell
Ed Middleswart
T. A. Herbert
J. B. Koogler

Enclosures

\\hreq.ltr/157.0

RECEIVED
FEB 10 1993
Division of Air
Resources Management

TEST PROTOCOL AND METHODS
WOOD WASTE/RESIDUE FUEL

Constituent	Test Method	Number of Test Runs	Duration of Each Test Run
Particulate Matter	EPA Method 5	3	1-hr
Hydrogen Chloride	EPA Method 26	3	1-hr
Metals ¹	EPA Method 29 (Multi-metals Train)	3	1-hr
Dioxins/Furans	EPA Method 23	3	2-hrs
Semi Volatiles ³	EPA Method 23	3	2-hrs
Volatile Organics ⁵	VOST (SW846-0030)	3	20-mins
Sulfur Dioxide	EPA Method 6C	See Note 2	
Nitrogen Oxides	EPA Method 7E	See Note 2	
Carbon Monoxide	EPA Method 10	See Note 2	
Total Hydrocarbons	EPA Method 25A	See Note 2	
Stack Gas Flow	EPA Method 2	See Note 4	
Stack Gas Moisture	EPA Method 4	See Note 4	
O ₂ /CO ₂ /CO	EPA Method 3	See Note 4	

¹Metals to be run will be those from the EPA priority list: Sb, As, Be, Cd, Cr, Cu, Pb, Hg, Ni, Se, Ag, Tl, Zn

²Instrument methods will be run continuously.

³See attached list for semi-volatile organics

⁴Stack gas parameters will be run during the PM, HCl, Metals, PCDD/PCDF and semi-volatile runs.

⁵See attached list for volatile organics

Semi-volatile Organic Target Compounds

BN Extractables - Method 8270

Acenaphthene	Acenaphthylene
Acetophenone	4-Aminobiphenyl
Aniline	Anthracene
Benzidine	Benzo(a)anthracene
Benzo(a)pyrene	Benzo(b)fluoranthene
Benzo(g,h,i)perylene	Benzo(k)fluoranthene
Benzyl alcohol	Bis(2-chloroethoxy)methane
Bis(2-chloroethyl) ether	Bis(2-chloroisopropyl) ether
bis(2-ethylhexyl)phthalate	4-bromophenyl phenyl ether
Butyl benzyl phthalate	4-chloroaniline
1-chloronaphthalene	2-chloronaphthalene
4-chlorophenyl phenyl ether	Chrysene
Dibenz(a,h)anthracene	Dibenz(a,j)acridine
Dibenzofuran	1,2-dichlorobenzene
1,3-dichlorobenzene	1,4-dichlorobenzene
3,3'-dichlorobenzidine	Diethylphthalate
p-dimethylaminoazobenzene	7,12-dimethylbenz(a)anthracene
a-,a-dimethylphenethylamine	Dimethylphthalate
Di-n-butylphthalate	2,4-dinitrotoluene
2,6-dinitrotoluene	Di-n-octylphthalate
Diphenylamine	1,2-diphenylhydrazine
Fluoranthene	Fluorene
Hexachlorobenzene	Hexachlorobutadiene
Hexachlorocyclopentadiene	Hexachloroethane
Indeno(1,2,3-cd)pyrene	Isophorone
3-methylcholanthrene	2-Methylnaphthalene
Naphthalene	1-Naphthylamine
2-Naphthylamine	2-nitroaniline
3-nitroaniline	4-nitroaniline
Nitrobenzene	N-nitrosodimethylamine
N-nitroso-di-n-butylamine	n-nitrosodiphenylamine
n-nitrosodipropylamine	n-nitrosopiperidine
Pentachlorobenzene	Pentachloronitrobenzene
Phenacetin	Phenanthrene
2-picoline	Pronamide
Pyrene	1,2,4,5-Tetrachlorobenzene
1,2,4-trichlorobenzene	

Semi-volatile Organic Target Compounds
(continued)

Acid Extractables - Method 8270

Benzoic acid	4-chloro-3-methylphenol
2-chlorophenol	2,4-dichlorophenol
2,6-dichlorophenol	2,4-dimethylphenol
4,6-dinitro-2-methylphenol	2,4-dinitrophenol
2-methylphenol	4-methylphenol
2-nitrophenol	4-nitrophenol
Pentachlorophenol	Phenol
2,3,4,6-tetrachlorophenol	2,4,5-trichlorophenol
2,4,6-trichlorophenol	

Target Volatile Organic Compounds

Chloromethane	Vinyl chloride
Bromomethane	Chloroethane
1,1-Dichloroethene	Acetone
Carbon Disulfide	Methylene Chloride
1,2-dichloroethene	1,1-dichloroethane
2-butanone	Chloroform
1,2-dichloroethane	1,1,1-trichloroethane
Carbon tetrachloride	Vinyl acetate
Benzene	Trichloroethene
1,2-dichloropropane	Bromodichloromethane
cis-1,3-dichloropropene	trans-1,3-dichloropropene
1,1,2-trichloroethane	Dibromochloromethane
Bromoform	4-methyl-2-pentanone
Toluene	2-hexanone
Tetrachloroethene	Chlorobenzene
Ethylbenzene	Xylene (total)
Styrene	1,1,2,2-tetrachloroethane

Samples sent off for lead application study
Tom Fox - SEPER

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

5102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S2-43496

Received: 22 JUL 92

Mr. Milt Shirley
ITT Rayonier, Inc.
P.O. Box 728
Fernandina Beach, Florida 32034

Purchase Order: 00031285

Requisition: 47301

Project: Sludge Analysis
Sampled By: Client

REPORT OF RESULTS

Page 1

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED	
43496-1	Secondary Sludge (ASB) ENV 13903	07-14-92	
43496-2	Primary Pressed Sludge ENV 13904	07-20-92	
PARAMETER		43496-1	43496-2
Volatile Organic Compounds			
Acrolein, ug/kg dw		<3600*F65	<5900*F65
Acrylonitrile, ug/kg dw		<1800	<2900
Benzene, ug/kg dw		<18	<29
Bromoform, ug/kg dw		<89	<150
Carbon Tetrachloride, ug/kg dw		<18	<29
Chlorobenzene, ug/kg dw		<18	<29
Dibromochloromethane, ug/kg dw		<18	<29
Chloroethane, ug/kg dw		<18	<29
2-Chloroethylvinyl Ether, ug/kg dw		<180	<29
Chloroform, ug/kg dw		<18	430
Dichlorobromomethane, ug/kg dw		<18	<29
1,1-Dichloroethane, ug/kg dw		<18	<29
1,2-Dichloroethane, ug/kg dw		<18	<29
1,1-Dichloroethene, ug/kg dw		<18	<29
1,2-Dichloropropane, ug/kg dw		<18	<29
1,3-Dichloropropylene, ug/kg dw		<18	<29
Ethylbenzene, ug/kg dw		<18	<29
Bromomethane, ug/kg dw		<18	<29
Chloromethane, ug/kg dw		<18	<29
Methylene Chloride, ug/kg dw		<18	<29
1,1,2,2-Tetrachloroethane, ug/kg dw		<18	<29
Tetrachloroethene, ug/kg dw		<18	<29

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

5102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S2-43496

Received: 22 JUL 92

Mr. Milt Shirley
ITT Rayonier, Inc.
P.O. Box 728
Fernandina Beach, Florida 32034

Purchase Order: 00031285

Requisition: 47301

Project: Sludge Analysis
Sampled By: Client

REPORT OF RESULTS

Page 2

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED	
43496-1	Secondary Sludge (ASB) ENV 13903	07-14-92	
43496-2	Primary Pressed Sludge ENV 13904	07-20-92	
PARAMETER		43496-1	43496-2
Toluene, ug/kg dw		<18	<29
Cis/Trans-1,2-Dichloroethene, ug/kg dw		<18	<29
1,1,1-Trichloroethane, ug/kg dw		<18	<29
1,1,2-Trichloroethane, ug/kg dw		<18	<29
Trichloroethene, ug/kg dw		<18	<29
Vinyl Chloride, ug/kg dw		<18	<29
Acid Extractable Organics			
2-Chlorophenol, ug/kg dw		<13000*F65	<39000*F65
2,4-Dichlorophenol, ug/kg dw		<13000	<39000
2,4-Dimethylphenol, ug/kg dw		<13000	<39000
4,6-Dinitro-2-methylphenol, ug/kg dw		<65000	<200000
2,4-Dinitrophenol, ug/kg dw		<65000	<200000
2-Nitrophenol, ug/kg dw		<13000	<39000
4-Nitrophenol, ug/kg dw		<65000	<200000
p-Chloro-m-cresol, ug/kg dw		<13000	<39000
Pentachlorophenol, ug/kg dw		<65000	<200000
Phenol, ug/kg dw		<13000	<39000
2,4,6-Trichlorophenol, ug/kg dw		<13000	<39000

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

5102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S2-43496

Received: 22 JUL 92

Mr. Milt Shirley
ITT Rayonier, Inc.
P.O. Box 728
Fernandina Beach, Florida 32034

Purchase Order: 00021285

Requisition: 47301

Project: Sludge Analysis
Sampled By: Client

REPORT OF RESULTS

Page 3

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
43496-1	Secondary Sludge (ASB) ENV 13903	07-14-92
43496-2	Primary Pressed Sludge ENV 13904	07-20-92
PARAMETER	43496-1	43496-2
Base Neutral Compounds		
Acenaphthene, ug/kg dw	<13000*F65	<39000*F65
Acenaphthylene, ug/kg dw	<13000	<39000
Anthracene, ug/kg dw	<13000	<39000
Benzidine, ug/kg dw	<100000	<310000
Benzo(a)Anthracene, ug/kg dw	<13000	<39000
Benzo(a)pyrene, ug/kg dw	<13000	<39000
3,4-Benzofluoranthene, ug/kg dw	<13000	<39000
Benzo(g,h,i)perylene, ug/kg dw	<13000	<39000
Benzo(k)Fluoranthene, ug/kg dw	<13000	<39000
bis(2-Chloroethoxy)methane, ug/kg dw	<13000	<39000
bis(2-Chloroethyl)ether, ug/kg dw	<13000	<39000
Bis(2-chloroisopropyl)ether, ug/kg dw	<13000	<39000
bis(2-Ethylhexyl)phthalate, ug/kg dw	<13000	<39000
4-Bromophenyl-phenyl-ether, ug/kg dw	<13000	<39000
Butylbenzylphthalate, ug/kg dw	<13000	<39000
2-Chloronaphthalene, ug/kg dw	<13000	<39000
4-Chlorophenyl-phenyl ether, ug/kg dw	<13000	<39000
Chrysene, ug/kg dw	<13000	<39000
Dibenz(a,h)anthracene, ug/kg dw	<13000	<39000
1,2-Dichlorobenzene, ug/kg dw	<13000	<39000
1,3-Dichlorobenzene, ug/kg dw	<13000	<39000
1,4-Dichlorobenzene, ug/kg dw	<13000	<39000

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

5102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S2-43496

Received: 22 JUL 92

Mr. Milt Shirley
ITT Rayonier, Inc.
P.O. Box 728
Fernandina Beach, Florida 32034

Purchase Order: 00031285

Requisition: 47301

Project: Sludge Analysis
Sampled By: Client

REPORT OF RESULTS

Page 4

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED	
43496-1	Secondary Sludge (ASB) ENV 13903	07-14-92	
43496-2	Primary Pressed Sludge ENV 13904	07-20-92	
PARAMETER		43496-1	43496-2
3,3'-Dichlorobenzidine, ug/kg dw		<26000	<78000
Diethylphthalate, ug/kg dw		<13000	<39000
Dimethylphthalate, ug/kg dw		<13000	<39000
Di-n-butylphthalate, ug/kg dw		<13000	<39000
2,4-Dinitrotoluene, ug/kg dw		<13000	<39000
2,6-Dinitrotoluene, ug/kg dw		<13000	<39000
Di-n-octylphthalate, ug/kg dw		<13000	<39000
1,2-Diphenylhydrazine, ug/kg dw		<13000	<39000
Fluoranthene, ug/kg dw		<13000	<39000
Fluorene, ug/kg dw		<13000	<39000
Hexachlorobenzene, ug/kg dw		<13000	<39000
Hexachlorobutadiene, ug/kg dw		<13000	<39000
Hexachlorocyclopentadiene, ug/kg dw		<13000	<39000
Hexachloroethane, ug/kg dw		<13000	<39000
Indeno(1,2,3-cd)pyrene, ug/kg dw		<13000	<39000
Isophorone, ug/kg dw		<13000	<39000
Naphthalene, ug/kg dw		15000	<39000
Nitrobenzene, ug/kg dw		<13000	<39000
N-Nitrosodimethylamine, ug/kg dw		<13000	<39000
N-Nitrosodi-N-Propylamine, ug/kg dw		<13000	<39000
N-Nitrosodiphenylamine/Diphenylamine, ug/kg dw		<13000	<39000
Phenanthrene, ug/kg dw		<13000	<39000
Pyrene, ug/kg dw		<13000	<39000
1,2,4-Trichlorobenzene, ug/kg dw		<13000	<39000

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

5102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: 52-43496

Received: 22 JUL 92

Mr. Milt Shirley
ITT Rayonier, Inc.
P.O. Box 728
Fernandina Beach, Florida 32034

Purchase Order: 00031285

Requisition: 47301

Project: Sludge Analysis
Sampled By: Client

REPORT OF RESULTS

Page 5

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED	
43496-1	Secondary Sludge (ASB) ENV 13903	07-14-92	
43496-2	Primary Pressed Sludge ENV 13904	07-20-92	
PARAMETER		43496-1	43496-2
Pesticides/PCB's			
Aldrin, ug/kg dw		<200*F65	<60*F65
alpha-BHC, ug/kg dw		<200	<60
beta-BHC, ug/kg dw		<200	<60
gamma-BHC, ug/kg dw		<200	<60
delta-BHC, ug/kg dw		<200	<60
Chlordane, ug/kg dw		<2000	<600
4,4'-DDT, ug/kg dw		<380	<120
4,4'-DDE, ug/kg dw		<380	<120
4,4'-DDD, ug/kg dw		<380	<120
Dieldrin, ug/kg dw		<380	<120
Alpha-Endosulfan, ug/kg dw		<200	<60
Beta-Endosulfan, ug/kg dw		<380	<120
Endosulfan sulfate, ug/kg dw		<380	<120
Endrin, ug/kg dw		<380	<120
Endrin Aldehyde, ug/kg dw		<380	<120
Heptachlor, ug/kg dw		<200	<60
Heptachlor epoxide, ug/kg dw		<200	<60
Aroclor-1242, ug/kg dw		<3800	<1200
Aroclor-1254, ug/kg dw		<3800	<1200
Aroclor-1221, ug/kg dw		<7700	<2400
Aroclor-1232, ug/kg dw		<3800	<1200
Aroclor-1248, ug/kg dw		<3800	<1200
Aroclor-1260, ug/kg dw		<3800	<1200
Aroclor-1016, ug/kg dw		<3800	<1200
Toxaphene, ug/kg dw		<20000	<6000

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

5102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S2-43496

Received: 22 JUL 92

Mr. Milt Shirley
ITT Rayonier, Inc.
P.O. Box 728
Fernandina Beach, Florida 32034

Purchase Order: 00031285

Requisition: 47301

Project: Sludge Analysis
Sampled By: Client

REPORT OF RESULTS

Page 6

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED	
43496-1	Secondary Sludge (ASB) ENV 13903	07-14-92	
43496-2	Primary Pressed Sludge ENV 13904	07-20-92	
PARAMETER		43496-1	43496-2
Antimony, mg/kg dw		<26	<17
Arsenic, mg/kg dw		<5.6	<3.4
Beryllium, mg/kg dw		<2.6	<1.7
Cadmium, mg/kg dw		<2.6	<1.7
Chromium, mg/kg dw		85	11
Copper, mg/kg dw		47	18
Lead, mg/kg dw		31	5.8
Mercury, mg/kg dw		0.13	0.070
Nickel, mg/kg dw		42	24
Selenium, mg/kg dw		<5.6	<3.4
Silver, mg/kg dw		<5.3	<3.3
Thallium, mg/kg dw		<5.6	<3.4
Zinc, mg/kg dw		310	89
Phenolics, Total Recoverable, mg/kg dw		<5.8	<1.4
Cyanide, Total, mg/kg dw		<5.9	<3.6
Moisture (% Loss on drying @ 105 C), %		83	72
Density, g/cc		0.844	1.10
Specific Conductance, umhos/cm		460	690
Sulfate as SO ₄ (375.2), mg/kg dw		28000	3400
Nitrate-N (353.2), mg/kg dw		<18	<29
Chloride (325.2), mg/kg dw		1100	710
pH (150.1), units		7.3	7.5
Total Organic Carbon, mg/kg dw		290000	620000
Total Kjeldahl Nitrogen-N, mg/kg dw		28000	14000
Total Phosphorus (365.1), mg/kg dw		2000	1100

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

5102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S2-43496

Received: 22 JUL 92

Mr. Milt Shirley
 ITT Rayonier, Inc.
 P.O. Box 728
 Fernandina Beach, Florida 32034

Purchase Order: 00031285

Requisition: 47301

Project: Sludge Analysis
 Sampled By: Client

REPORT OF RESULTS

Page 7

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED	
43496-1	Secondary Sludge (ASB) ENV 13903	07-14-92	
43496-2	Primary Pressed Sludge ENV 13904	07-20-92	
PARAMETER		43496-1	43496-2
Aluminum, mg/kg dw		3300	2200
Iron, mg/kg dw		3100	2100
Potassium, mg/kg dw		<530	740
Calcium, mg/kg dw		14000	44000
Magnesium, mg/kg dw		940	850
Manganese, mg/kg dw		99	72
Barium, mg/kg dw		29	24
Percent Solids, %		28	17
Sodium , mg/kg dw		4600	2600

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

5102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S2-43496

Received: 22 JUL 92

Mr. Milt Shirley
ITT Rayonier, Inc.
P.O. Box 728
Fernandina Beach, Florida 32034

Purchase Order: 00031285

Requisition: 47301

Project: Sludge Analysis
Sampled By: Client

REPORT OF RESULTS

Page 8

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES

43496-3 Method Blank
43496-4 Accuracy (mean % recovery)
43496-5 Precision (% RPD)

PARAMETER	43496-3	43496-4	43496-5
Volatile Organic Compounds			
Acrolein, ug/kg dw	<1000	---	---
Acrylonitrile, ug/kg dw	<500	---	---
Benzene, ug/kg dw	<5.0	104 %	2.9 %
Bromoform, ug/kg dw	<25	---	---
Carbon Tetrachloride, ug/kg dw	<5.0	---	---
Chlorobenzene, ug/kg dw	<5.0	105 %	.95 %
Dibromochloromethane, ug/kg dw	<5.0	---	---
Chloroethane, ug/kg dw	<5.0	---	---
2-Chloroethylvinyl Ether, ug/kg dw	<50	---	---
Chloroform, ug/kg dw	<5.0	---	---
Dichlorobromomethane, ug/kg dw	<5.0	---	---
1,1-Dichloroethane, ug/kg dw	<5.0	---	---
1,2-Dichloroethane, ug/kg dw	<5.0	---	---
1,1-Dichloroethene, ug/kg dw	<5.0	90 %	7.8 %
1,2-Dichloropropane, ug/kg dw	<5.0	---	---
1,3-Dichloropropylene, ug/kg dw	<5.0	---	---
Ethylbenzene, ug/kg dw	<5.0	---	---
Bromomethane, ug/kg dw	<5.0	---	---
Chloromethane, ug/kg dw	<5.0	---	---
Methylene Chloride, ug/kg dw	<5.0	---	---
1,1,2,2-Tetrachloroethane, ug/kg dw	<5.0	---	---

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

5102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S2-43496

Received: 22 JUL 92

Mr. Milt Shirley
ITT Rayonier, Inc.
P.O. Box 728
Fernandina Beach, Florida 32034

Purchase Order: 00031285

Requisition: 47301

Project: Sludge Analysis
Sampled By: Client

REPORT OF RESULTS

Page 9

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES

43496-3 Method Blank
43496-4 Accuracy (mean & recovery)
43496-5 Precision (% RPD)

PARAMETER	43496-3	43496-4	43496-5
Tetrachloroethene, ug/kg dw	<5.0	---	---
Toluene, ug/kg dw	<5.0	105 %	5.7 %
Trans-1,2-Dichloroethene, ug/kg dw	<5.0	---	---
1,1,1-Trichloroethane, ug/kg dw	<5.0	---	---
1,1,2-Trichloroethane, ug/kg dw	<5.0	---	---
Trichloroethene, ug/kg dw	<5.0	81 %	12.3 %
Vinyl Chloride, ug/kg dw	<5.0	---	---
Acid Extractable Organics			
2-Chlorophenol, ug/kg dw	<330	68 %	16 %
2,4-Dichlorophenol, ug/kg dw	<330	---	---
2,4-Dimethylphenol, ug/kg dw	<330	---	---
4,6-Dinitro-2-methylphenol, ug/kg dw	<1700	---	---
2,4-Dinitrophenol, ug/kg dw	<1700	---	---
2-Nitrophenol, ug/kg dw	<330	---	---
4-Nitrophenol, ug/kg dw	<1700	89 %	11 %
p-Chloro-m-cresol, ug/kg dw	<330	81 %	9.9 %
Pentachlorophenol, ug/kg dw	<1700	55 %	15 %
Phenol, ug/kg dw	<330	67 %	18 %
2,4,6-Trichlorophenol, ug/kg dw	<330	---	---

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

5102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S2-43496

Received: 22 JUL 92

Mr. Milt Shirley
ITT Rayonier, Inc.
P.O. Box 728
Fernandina Beach, Florida 32034

Purchase Order: 00031285

Requisition: 47301

Project: Sludge Analysis
Sampled By: Client

REPORT OF RESULTS

Page 10

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES

43496-3 Method Blank
43496-4 Accuracy (mean & recovery)
43496-5 Precision (% RPD)

PARAMETER	43496-3	43496-4	43496-5
Base Neutral Compounds			
Acenaphthene, ug/kg dw	<330	91 %	13 %
Acenaphthylene, ug/kg dw	<330	---	---
Anthracene, ug/kg dw	<330	---	---
Benzidine, ug/kg dw	<2600	---	---
Benzo(a)Anthracene, ug/kg dw	<330	---	---
Benzo(a)pyrene, ug/kg dw	<330	---	---
3,4-Benzofluoranthene, ug/kg dw	<330	---	---
Benzo(g,h,i)perylene, ug/kg dw	<330	---	---
Benzo(k)Fluoranthene, ug/kg dw	<330	---	---
bis(2-Chloroethoxy)methane, ug/kg dw	<330	---	---
bis(2-Chloroethyl)ether, ug/kg dw	<330	---	---
Bis(2-chloroisopropyl)ether, ug/kg dw	<330	---	---
bis(2-Ethylhexyl)phthalate, ug/kg dw	<330	---	---
4-Bromophenyl-phenyl-ether, ug/kg dw	<330	---	---
Butylbenzylphthalate, ug/kg dw	<330	---	---
2-Chloronaphthalene, ug/kg dw	<330	---	---
4-Chlorophenyl-phenyl ether, ug/kg dw	<330	---	---
Chrysene, ug/kg dw	<330	---	---
Dibenz(a,h)anthracene, ug/kg dw	<330	---	---
1,2-Dichlorobenzene, ug/kg dw	<330	---	---
1,3-Dichlorobenzene, ug/kg dw	<330	---	---

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

5102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S2-43496

Received: 22 JUL 92

Mr. Milt Shirley
ITT Rayonier, Inc.
P.O. Box 728
Fernandina Beach, Florida 32034

Purchase Order: 00031285

Requisition: 47301

Project: Sludge Analysis
Sampled By: Client

REPORT OF RESULTS

Page 11

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES

43496-3 Method Blank
43496-4 Accuracy (mean % recovery)
43496-5 Precision (% RPD)

PARAMETER	43496-3	43496-4	43496-5
1,4-Dichlorobenzene, ug/kg dw	<330	89 %	15 %
3,3'-Dichlorobenzidine, ug/kg dw	<660	---	---
Diethylphthalate, ug/kg dw	<330	---	---
Dimethylphthalate, ug/kg dw	<330	---	---
Di-n-butylphthalate, ug/kg dw	<330	---	---
2,4-Dinitrotoluene, ug/kg dw	<330	87 %	5.8 %
2,6-Dinitrotoluene, ug/kg dw	<330	---	---
Di-n-octylphthalate, ug/kg dw	<330	---	---
1,2-Diphenylhydrazine, ug/kg dw	<330	---	---
Fluoranthene, ug/kg dw	<330	---	---
Fluorene, ug/kg dw	<330	---	---
Hexachlorobenzene, ug/kg dw	<330	---	---
Hexachlorobutadiene, ug/kg dw	<330	---	---
Hexachlorocyclopentadiene, ug/kg dw	<330	---	---
Hexachloroethane, ug/kg dw	<330	---	---
Indeno(1,2,3-cd)pyrene, ug/kg dw	<330	---	---
Isophorona, ug/kg dw	<330	---	---
Naphthalene, ug/kg dw	<330	---	---
Nitrobenzene, ug/kg dw	<330	---	---
N-Nitrosodimethylamine, ug/kg dw	<330	---	---
N-Nitrosodi-N-Propylamine, ug/kg dw	<330	71 %	11 %
N-Nitrosodiphenylamine/Diphenylamine, ug/kg dw	<330	---	---
Phenanthrene, ug/kg dw	<330	---	---
Pyrene, ug/kg dw	<330	74 %	5.4 %
1,2,4-Trichlorobenzene, ug/kg dw	<330	92 %	15 %

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

5102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S2-43496

Received: 22 JUL 92

Mr. Milt Shirley
ITT Rayonier, Inc.
P.O. Box 728
Fernandina Beach, Florida 32034

Purchase Order: 00031285

Requisition: 47301

Project: Sludge Analysis
Sampled By: Client

REPORT OF RESULTS

Page 12

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES

43496-3 Method Blank
43496-4 Accuracy (mean % recovery)
43496-5 Precision (% RPD)

PARAMETER	43496-3	43496-4	43496-5
Pesticides/PCB's			
Aldrin, ug/kg dw	<1.7	76 %	2.7 %
alpha-BHC, ug/kg dw	<1.7	---	---
beta-BHC, ug/kg dw	<1.7	---	---
gamma-BHC, ug/kg dw	<1.7	68 %	4.4 %
delta-BHC, ug/kg dw	<1.7	---	---
Chlordane, ug/kg dw	<17	---	---
4,4'-DDT, ug/kg dw	<3.3	102 %	2.9 %
4,4'-DDE, ug/kg dw	<3.3	---	---
4,4'-DDD, ug/kg dw	<3.3	---	---
Dieldrin, ug/kg dw	<3.3	81 %	4.9 %
Alpha-Endosulfan, ug/kg dw	<1.7	---	---
Beta-Endosulfan, ug/kg dw	<3.3	---	---
Endosulfan sulfate, ug/kg dw	<3.3	---	---
Endrin, ug/kg dw	<3.3	100 %	5.0 %
Endrin Aldehyde, ug/kg dw	<3.3	---	---
Heptachlor, ug/kg dw	<1.7	80 %	3.8 %
Heptachlor epoxide, ug/kg dw	<1.7	---	---
Aroclor-1242, ug/kg dw	<33	---	---
Aroclor-1254, ug/kg dw	<33	---	---
Aroclor-1221, ug/kg dw	<67	---	---
Aroclor-1232, ug/kg dw	<33	---	---
Aroclor-1248, ug/kg dw	<33	---	---
Aroclor-1260, ug/kg dw	<33	---	---
Aroclor-1016, ug/kg dw	<33	---	---
Toxaphene, ug/kg dw	<170	---	---

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

5102 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S2-43496

Received: 22 JUL 92

Mr. Milt Shirley
ITT Rayonier, Inc.
P.O. Box 728
Fernandina Beach, Florida 32034

Purchase Order: 00031285

Requisition: 47301

Project: Sludge Analysis
Sampled By: Client

REPORT OF RESULTS

Page 13

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES			
43496-3	Method Blank			
43496-4	Accuracy (mean % recovery)			
43496-5	Precision (% RPD)			
PARAMETER		43496-3	43496-4	43496-5
Antimony, mg/kg dw		<5.0	92 %	6.5 %
Arsenic, mg/kg dw		<1.0	106 %	1.9 %
Beryllium, mg/kg dw		<0.50	97 %	6.2 %
Cadmium, mg/kg dw		<0.50	89 %	6.7 %
Chromium, mg/kg dw		<1.0	99 %	6.1 %
Copper, mg/kg dw		<2.5	96 %	5.2 %
Lead, mg/kg dw		<0.50	101 %	11 %
Mercury, mg/kg dw		<0.010	86 %	8.1 %
Nickel, mg/kg dw		<4.0	97 %	5.2 %
Selenium, mg/kg dw		<1.0	97 %	11 %
Silver, mg/kg dw		<1.0	92 %	6.5 %
Thallium, mg/kg dw		<1.0	101 %	8.9 %
Zinc, mg/kg dw		<3.0	90 %	8.9 %
Phenolics, Total Recoverable, mg/kg dw		<0.40	98 %	1.0 %
Cyanide, Total, mg/kg dw		<1.0	108 %	4.7 %
Moisture (% Loss on drying @ 105 C), %		---	---	---
Density, g/cc		---	---	---
Specific Conductance, umhos/cm		<1.0	97 %	1.0 %
Sulfate as SO4 (375.2), mg/kg dw		<100	112 %	6.3 %
Nitrate-N (353.2), mg/kg dw		<5.0	90 %	2.2 %
Chloride (325.2), mg/kg dw		<20	97 %	0 %
pH (150.1), units		---	100 %	0 %
Total Organic Carbon, mg/kg dw		<50	133 %	1.5 %
Total Kjeldahl Nitrogen-N, mg/kg dw		<20	103 %	0 %

Method 1311

~~11~~ change TCLP

40 CFR 261.

Appendix 2

also 261.22

~~261~~