June 4, 2010

RE: TIN, Inc. d/b/a Temple-Inland
Bogalusa Paperboard Mill
PER20080005, LA0007901, AI 38936

It has come to this Office's attention that the copy of the fact sheet for the major modification of LPDES permit LA0007901 (issued on January 29, 2010) scanned into EDMS did not contain all of the attachments for Appendix A. Specifically, Appendices A-1 and A-2 were missing from the scanned document. Mr. Alban Bush (facility personnel) was contacted to verify whether the missing pages were included in the original submittal. Mr. Bush confirmed that these documents were received and sent a copy of the fact sheet in its entirety as requested by Sonja Loyd (LDEQ).

Sonja Loyd

From: Jenniffer L. Sheppard
Sent: Thursday, June 03, 2010 1:38 PM
To: Sonja Loyd
Subject: RE: Temple Inland (PER20080005, LA0007901, AI 38936)

ok

Jenniffer Sheppard
Office of Environmental Services
LDEQ Industrial Water Permits
P.O. Box 4313
Baton Rouge, LA 70821-4313
Office #: 225-219-3072
Fax #: 225-219-3309

From: Sonja Loyd
Sent: Thursday, June 03, 2010 1:25 PM
To: Jenniffer L. Sheppard
Subject: FW: Temple Inland (PER20080005, LA0007901, AI 38936)

FYI

I received the remaining documents for the fact sheet. I'll send it to EDMS with a note as soon as possible.

From: Bush, Alban [mailto:AlbanBush@templeinland.com]
Sent: Thursday, June 03, 2010 1:13 PM
To: Sonja Loyd
Subject: RE: Temple Inland (PER20080005, LA0007901, AI 38936)

Ms. Loyd,
Attached is the additional requested information. If you have any questions, please call.
Regards,
ab

Alban Bush
Environmental Manager
Temple-Inland - Bogalusa Mill
(985) 732-8506

From: Sonja Loyd [mailto:Sonja.Loyd@LA.GOV]
Sent: Thursday, June 03, 2010 11:29 AM
To: Bush, Alban
Subject: FW: Temple Inland (PER20080005, LA0007901, AI 38936)

Hello Mr. Bush,

Thanks for the information. I was glad to see that you received all of the pages in question. If it is not a problem, I would like to request that you send an e-copy of the remaining pages of the fact sheet (specifically, Appendices B through C) so that a copy of this fact sheet can be scanned into EDMS. Thanks again for all of your help in regard to this matter.

Sonja

From: Bush, Alban [mailto:AlbanBush@templeinland.com]
Sent: Wednesday, June 02, 2010 3:17 PM
To: Sonja Loyd
Subject: RE: Temple Inland (PER20080005, LA0007901, AI 38936)

Ms. Loyd,

Please find attached, the requested material from our phone conversation earlier today. Should you have any questions, I can be reached at the number below.

ab

Alban Bush
Environmental Manager
Temple-Inland - Bogalusa Mill
(985) 732-8506

From: Sonja Loyd [mailto:Sonja.Loyd@LA.GOV]
Sent: Wednesday, June 02, 2010 2:56 PM
To: Bush, Alban
Subject: Temple Inland (PER20080005, LA0007901, AI 38936)

Mr. Bush,

During a review of the fact sheet in EDMS for the recently issued major mod permit, I noticed that a portion of Appendix A (specifically, Appendices A-1 and A-2) was missing. I'm contacting you to find out if you received these portions of the fact sheet which should have been included in the original draft major mod permit package. If you do have a copy of these documents, please scan a copy of the fact sheet in its entirety and send it via email to me. If you need to reach me, I can be contacted at (225) 219-3090.

Sonja Loyd
Water Permits Division

********** Confidentiality Notice **********
This electronic transmission and any attached documents or other writings are confidential and are for the sole use of the intended recipient(s) identified above. This message may contain information that is privileged, confidential or otherwise protected from disclosure under applicable law. If the receiver of this information is not the intended recipient, or the employee, or agent responsible for delivering the information to the intended recipient, you are hereby notified that any use, reading, dissemination, distribution, copying or storage of this information is strictly prohibited. If you have received this information in error, please notify the sender by return email and delete the electronic transmission, including all attachments from your system.

LPDES PERMIT NO. LA0007901, AI No. 38936

LPDES FACT SHEET and RATIONALE
FOR THE DRAFT MODIFIED LOUISIANA POLLUTANT DISCHARGE ELIMINATION SYSTEM (LPDES) PERMIT TO DISCHARGE TO WATERS OF LOUISIANA

I. **Company/Facility Name:** TIN, Inc. d/b/a Temple-Inland
Bogalusa Paperboard Mill
Post Office Box 1060
Bogalusa, Louisiana 70427-1060

II. **Issuing Office:** Louisiana Department of Environmental Quality (LDEQ)
Office of Environmental Services
Post Office Box 4313
Baton Rouge, Louisiana 70821-4313

III. **Prepared By:** Sonja Loyd
Industrial Permits Section
Water Permits Division
Phone #: (225) 219-3090
E-mail: sonja.loyd@la.gov

Date Prepared: July 27, 2009

IV. **Permit Action/Status:**

A. Reason For Permit Action:

Modification of an existing Louisiana Pollutant Discharge Elimination System (LPDES) permit following regulations promulgated at LAC 33:IX.3105/40 CFR 124.5. In accordance with LAC 33:IX.3105.B.2, only those permit limitations and conditions pertaining to the draft modifications are open for public comment.

LAC 33:IX Citations: Unless otherwise stated, citations to LAC 33:IX refer to promulgated regulations listed at Louisiana Administrative Code, Title 33, Part IX.

40 CFR Citations: Unless otherwise stated, citations to 40 CFR refer to promulgated regulations listed at Title 40, Code of Federal Regulations in accordance with the dates specified at LAC 33:IX.2301, 4901, and 4903.

B. LPDES permit: Individual LPDES permit
Effective date - July 1, 2006
Expiration date - June 30, 2011

LAR05M243 (MSGP - Re-authorization)
Effective date: May 1, 2006
Issuance date: May 23, 2006
Expiration date: April 30, 2011

C. Modification request received on September 8, 2008 and an addendum received on August 19, 2009.

V. **Facility Information:**

A. Location - Fourth Street in Bogalusa, Washington Parish (Latitude 30°46'30", Longitude 89°51'17")

B. Applicant Activity - According to the application, TIN, Inc. d/b/a Temple-Inland, Bogalusa Paperboard Mill, is an existing unbleached kraft paper mill, container plant, and dimethyl sulfide and dimethyl sulfoxide manufacturing plant. However, in 2010, the permittee anticipates shutting down and decommissioning the dimethyl sulfide and dimethyl sulfoxide manufacturing plant (Chemical Plant). The permittee is proposing to implement this change of operations in two phases. Phase I will include requirements based on the current conditions. Phase II will include requirements based on the removal of the Chemical Plant.

C. Fee Rate -
1. Fee Rating Facility Type: Major
2. Complexity Type: III
3. Wastewater Type: II
4. SIC code: 2611, 2621, 2631, 2653, and 2869

VI. **Receiving Waters**: Pearl River

A. TSS (15%), mg/L: 16
B. Average Hardness, mg/L $CaCO_3$: 16.1
C. Critical Flow, cfs: 1,253
D. Mixing Zone Fraction: 0.333
E. Harmonic Mean Flow, cfs: 3,821
F. River Basin: Pearl River, Subsegment No. 090101
G. Designated Uses:
The designated uses are primary contact recreation, secondary contact recreation, and propagation of fish and wildlife

Information based on the following: LAC 33:IX Chapter 11 and memorandum from Brian Baker to Sonja Loyd dated October 23, 2003.

VII. Nature of Permit Modification:

The permittee has requested that the LPDES permit be modified to reflect the following:

A. A revision of the monitoring frequency for pH at Outfall 001 from once per day to three times per week. A monitoring frequency of once per day in lieu of three times per week was initially requested by the United States Fish and Wildlife Service (FWS) to ensure that the limits and monitoring requirement for pH were protective of the Ringed Map Turtle, the Gulf Sturgeon, and their designated habitats and to verify if future discharges have the potential to impact these resources. However, based on information received via an email correspondence on September 5, 2007, the FWS has no objection to the monitoring frequency reduction and removal of the Part II Conditions (Part II.M) associated with it. In support of this decision, a No Objection letter (dated April 15, 2008) was sent to the permittee from the LDEQ which terminated the reporting requirements under Part II.M since the requirements had been satisfied.

B. A revision of the mass limits for the conventional, volatile, acid, and base/neutral parameters based on an updated flow rate for the Chemical Plant's contribution to the overall flow at Outfall 001. Specifically, the permittee indicated that the flow rate (0.65 MGD) used to calculate the Chemical Plant's contribution to the overall flow was incorrect. Therefore, the permittee requested that an updated and more representative maximum 30-Day average flow rate (1.9 MGD) be used for the discharges from the Chemical Plant in order to re-calculate the mass limits for the above mentioned parameters.

C. A revision to include an additional phase (Phase II) in the permit that establishes mass limits for the conventional parameters based on a reduction in flow rate which is anticipated to occur as a result of the shutdown and decommissioning of the Chemical Plant in 2010. Therefore, during Phase II, there will no longer be any discharges from the Chemical Plant which will result in the removal of the following requirements from the permit: (1) the wastestream description for process wastewater from the dimethyl sulfide and dimethyl sulfoxide manufacturing plant and (2) the allocations and/or limits and monitoring requirements for the Organic Chemical, Plastics, and Synthetic Fibers (OCPSF) parameters cited at 40 CFR 414, Subparts H and I.

D. The addition of a provision in the Part II Conditions that requires the permittee to notify the LDEQ within 30 days after the shutdown of the Chemical Plant. In addition, the permittee requested that a

provision be added that allows the permittee to transition to Phase II after completion of an OCPSF-parameter monitoring event which demonstrates compliance with the OCPSF mass limits at Outfall 001. This monitoring event will be initiated 60 days following the shutdown of the Chemical Plant and cessation of discharge of any OCPSF regulated wastewaters.

VIII. Proposed Changes:

A. The monitoring frequency for pH at Outfall 001 will be changed to reflect three times per week and Part II.M will be removed from the permit. See Part I, pages 2 and 6 of draft permit modification.

B. The mass limits for the conventional, volatile, acid, and base/neutral parameters will be changed based on the updated flow rate for the Chemical Plant's contribution to the overall flow at Outfall 001. These limits and requirements will be identified as Phase I in the draft permit modification. This update will also result in a revision to Appendices A (Calculation of Technology-Based Limits Spreadsheet) and B (Reasonable Potential Analysis). A footnote will be added to Part I, page 5 (Phase I) of the draft permit modification which requires the permittee to notify the LDEQ prior to discharging under the Phase II requirements. See Part I, pages 2 - 5, Part II.I and Appendices A (A-1 through A-2) and B (B-1 and B-3) of the draft permit modification.

C. An additional phase (Phase II) will be added in the permit that establishes mass limits for the conventional parameters based on a reduction in flow rate which is anticipated to occur as a result of the shutdown and decommissioning of the Chemical Plant in 2010. Therefore, during Phase II, there will no longer be any discharges from the Chemical Plant which will result in the removal of the following requirements from the permit: (1) the wastestream description for process wastewater from the dimethyl sulfide and dimethyl sulfoxide manufacturing plant and (2) the allocations and/or limits and monitoring requirements for the OCPSF parameters cited at 40 CFR 414, Subparts H and I. This update will also result in a revision to Appendices A (Calculation of Technology-Based Limits Spreadsheet) and B (Reasonable Potential Analysis). See Part I, pages 6 - 7, Part II.I and Appendices A (A-3) and B (B-2 and B-3) of the draft permit modification.

D. A provision will be added in the Part II Conditions of the permit that requires the permittee to notify the LDEQ within 30 days after the shutdown of the Chemical Plant. In addition, a second provision will be added that allows the permittee to discharge under the Phase II requirements after completing an OCPSF-parameter monitoring event which demonstrates compliance with the OCPSF mass limits under Phase

I. This monitoring event will be initiated 60 days following the shutdown of the Chemical Plant and cessation of discharge of any OCPSF regulated wastewaters. See Part I, page 5 and Part II.I of the draft permit modification.

E. Please be advised that the following changes have been made to the permit in addition to the changes requested by the permittee above:

1. The outfall description for Outfall 001 will be updated to include contaminated groundwater from a groundwater remediation project. In support of this decision, a No Objection letter (dated August 22, 2007) was sent to the permittee from the LDEQ which approved the discharges of this wastestream from this outfall. See Part I, pages 2 and 6 of the draft permit modification.

2. The footnotes for the biomonitoring requirements in Part I of the permit will be changed to correspond to the appropriate paragraph in accordance with Item 3 below. See Part I, pages 5 and 7 of the draft permit modification.

3. All of the pages under the Part II Conditions will be renumbered due to changes that resulted from the inclusion or removal of language in this section of the permit. See Part II, pages 1 - 22 of the draft permit modification.

4. The language in Part II.K will be updated to reflect the facility's coverage under the current Multi-Sector General Permit.

5. The standard DMR language in Part II.L will be changed to incorporate wording that allows the submittal of electronic DMRs. In the addition, the provision in this section that required submittal of DMRs to the Southeast Regional Office will be removed from the permit since all DMRs sent to the Office of Environmental Compliance - Permit Compliance Unit are now scanned into EDMS which is accessible to all LDEQ personnel. See Part II.L of the draft permit modification.

6. The biomonitoring requirements in Part II.M (previously Part II.N) will be updated in accordance with current U.S. Environmental Protection Agency, Region 6 (USEPA) policy and biomonitoring protocol. In addition, this section will be updated to remove the requirement to report biomonitoring data on a DMR as TX1. Biomonitoring data shall be reported on a DMR as Outfall 001. This section will also include the dilution series that correspond to the Phase I and II

requirements. See Appendix C for the updated Biomonitoring Recommendation.

7. The Water Quality Spreadsheet (Appendix B-1) was updated to reflect the correct sample values and/or input variables for Total Phenols, Total Copper, and Total Zinc based on the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards. These values will also be included in Appendix B-2, as well.

IX. Compliance History/DMR Review:

A. LDEQ records were reviewed for the period from June 2007 through June 2009. No water enforcement actions were issued during this time period.

B. A DMR review of the monitoring reports for the period of June 2007 through June 2009 revealed the following effluent violation:

DATE	PARAMETER	OUTFALL	REPORTED VALUE	PERMIT LIMITS
02/09	pH	001	9.2 s.u.	9.0 s.u.

C. The most recent inspection was performed on September 17, 2007. No areas of concern were found during the course of the inspection.

D. There are no open enforcement actions for this facility under any media.

X. Endangered Species:

The receiving waterbody, Subsegment No. 090101 of the Pearl River Basin, has been identified by the U.S. Fish and Wildlife Service (FWS) as habitat for the Ringed Map Turtle and Gulf Sturgeon, which are listed as threatened species. This draft permit modification has been submitted to the FWS for review in accordance with a letter dated November 17, 2008 from Rieck (FWS) to Nolan (LDEQ). As set forth in the Memorandum of Understanding between the LDEQ and the FWS, and after consultation with FWS, LDEQ has determined that the issuance of the LPDES permit modification is not likely to have an adverse effect upon the Ringed Map Turtle and Gulf Sturgeon. The effluent limitations established in the permit ensure protection of aquatic life and maintenance of the receiving water as aquatic habitat. Therefore, the issuance of the LPDES permit is not likely to have an adverse effect on any endangered or candidate species or the critical habitat.

XI. Historic Sites:

The discharge is from an existing facility location, which does not include an expansion on undisturbed soils. Therefore, there should be no potential effect to sites or properties on or eligible for listing on the National Register of Historic Places, and in accordance with the "Memorandum of Understanding for the Protection of Historic Properties in Louisiana Regarding LPDES Permits" no consultation with the Louisiana State Historic Preservation Officer is required.

XII. Tentative Determination:

On the basis of preliminary staff review, the Department of Environmental Quality has made a tentative determination to modify the permit for the discharge described in the application.

XIII. Variances:

No requests for variances have been received by this Office.

XIV. Public Notices:

Upon publication of the public notice, a public comment period shall begin on the date of publication and last for at least 30 days thereafter. During this period, any interested persons may submit written comments on the draft permit modification and may request a public hearing to clarify issues involved in the permit decision at this Office's address on the first page of the fact sheet. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing.

Public notice published in:

Local newspapers of general circulation

Office of Environmental Services Public Notice Mailing List

Appendix A

Appendix A-1
TIN, Inc. d/b/a Temple-Inland
Bogalusa Paperboard Mill
LA0007901, AI No. 39936

Technology-Based Limits for Outfall 001 (Phase I)

Production By Subpart (1000 lbs/day) (*1)

Subpart C - Unbleached Kraft 40 CFR 430.33 BCT	4,600
Subpart J - Secondary Fiber Non-deink 40 CFR 430.103 BCT	1,728

	Production-Based Factor Monthly Average (lb/1000 lbs)	Production-Based Factor Daily Maximum (lb/1000 lbs)	Allocation Monthly Average (lbs/day)	Allocation Daily Maximum (lbs/day)
Subpart C - BPT (*2)				
BOD5	2.8	5.6	12,880	25,760
TSS	6.0	12.0	27,600	55,200
Subpart J - BPT (*2)				
BOD5	2.8	5.7	4,838	9,850
TSS	4.6	9.2	7,949	15,898

	BAT Limitations Monthly Average (mg/L)	BAT Limitations Daily Maximum (mg/L)	Allocation Monthly Average (lbs/day)	Allocation Daily Maximum (lbs/day)
Subpart H - BPT (*3) Specialty Organic Chemicals 40 CFR 414.81				
BOD5	45	120	713	1902
TSS	57	183	903	2900

Proposed Effluent Limits

	Mass Limit (lbs/day) Monthly Average	Mass Limit (lbs/day) Daily Maximum
BOD5	18,431	37,512
TSS	36,452	73,998

Oil and Grease Limit (*4)

	Mass Limit (lbs/day) Monthly Average	Mass Limit (lbs/day) Daily Maximum
	N/A	2,802

(*1) Production allocations were provided in a supplemental application addendum dated September 1, 2004.
(*2) Allocations (lbs/day) = Guideline Production-Based Factor (lb/1000 lbs) * Production Allocation (1000 lbs/day)
(*3) Allocations (lbs/day) = BPT/BAT Limitation (mg/L) * 8.34 (lb/MG)/(mg/L) * 1.9 MGD
(*4) Limit derived from: lbs/day = 15 mg/L * 8.34 (lb/MG)/(mg/L) * 22.4 MGD

Revised 03/27/02 LA0007901, AI No. 39836 Appendix A-2

11/14/2009 Calculation of Technology Based Limits for TIN, Inc. d/b/a Temple-Inland

TABLE 1

(*1)

Permittee:	TIN, Inc. d/b/a Temple-Inland	
Permit Number:	LA0007901, AI No. 39836	
Appendix	Appendix A-2	
[] Flow Basis 1=proc, 0=all	0	
Concentration flow, (MGD)	---	
GL vs Old, 0=n, 1=y, 2=GL+Old	1	
Outfall number	Out. 001	
Deepwell fract., 40 CFR 122.50		

(*2)

OCPSF Subpart I=1, J=2	1	
OCPSF PROCESS FLOW CALCULATION:	MGD	gpm
Chemical Plant	1.9	
TOTAL PROCESS FLOW:	1.9	---
BOD5/TSS BPJ ALLOCATION FLOWS:	MGD	gpm
SANITARY WW:		
MISCELLANEOUS:	MGD	gpm
TOTAL MISCELLANEOUS FLOWS:	---	---
UTILITY WASTEWATER:	MGD	gpm
TOTAL UTILITY WW FLOWS:	---	---
TOTAL OCPSF+BPJ FLOW:	1.9	---

(*3)

	Fraction of OCPSF Conc. or BPJ []			
Fract =0, []=1 0	BOD,avg	BOD,max	TSS,avg	TSS,max
Miscellaneous WW	0.5	0.5	0.5	0.5
Misc. WW, mg/L	5	10	10	20
Utility WW	0.25	0.25	0.25	0.25
Utility WW, mg/L	5	10	10	20
Sanitary, mg/L	30	45	30	45

Conversion Factors:

Conv mg/L-->lbs/da	8.34
Conv ug/L-->mg/L:	0.0001
Conv gpm-->MGD:	0.00144

(*4)

Metal+CN Flows:	MGD	gpm
Total Chromium		
Total Copper		
Total Lead		
Total Nickel		
Total Zinc		
Total Cyanide		

(*8)

OCPSF Alternate Flows:	MGD
Conventionals:	
Organic Toxics:	---
Process Waste Water	
Process Stormwater	

(*5)

OCPSF Guideline Subpart:	Prod. 1000 lbs per day	Prod. Fraction of Total
B, Rayon Fibers		---
C, Other Fibers		---
D, Thermoplastic Resins		---
E, Thermosetting Resins		---
F, Commodity Organics		---
G, Bulk Organics		---
H, Specialty Organics		1
Total:	---	1

(*9)

Page and Table Numbering	1=y, 0=n
1st Input Page	1
2nd Input Page	0
OCPSF	1
SS Metals	0
Inorganic	0
Fertilizer	0
Pesticides	0
COD/TOC/O&G Tbl	0
BOD/TSS Tbl	1
Table Designation Sequence	
Pesticides &OCPSF	0
PestMetal 1=y,0=n	0

(*6)

COD & TOC Ratios:	Average	Maximum
COD/BOD5 ratio		
TOC/BOD5 ratio		
COD,TOC, O&G []:	Average	Maximum
COD, mg/L		
TOC, mg/L		
O&G, mg/L		

(*10)

Flow MGD	COD and TOC limits, precalc	
---	COD,Avg (lbs/day)	0
---	COD,Max (lbs/day)	0
---	TOC,Avg (lbs/day)	0
	TOC,Max (lbs/day)	0

(*7)

INORGANIC GUIDELINES:

				OCPSF BOD5	
New Source 1=y 0=n	0 Prod.				
O Fraction=0, []=1	0 1000 lbs	Flow	Flow	OCPSF Fraction	
40 CFR 415	per day	MGD	gpm	Avg	Max
40 CFR 415.63 Mercury				1	1
40 CFR 415.63 Diaphragm				1	1
				1	1
				1	1

OCPSF+Inorganic	1.9

LA0007901, AI No. 39836 Appendix A-2

Calculation of Technology Based Limits for TIN, Inc. d/b/a Temple-Inland

Out. 001

Conventional pollutant loading calculations, BOD5 and TSS

TABLE 2

Calculation of BOD5, and TSS limits:

(*1) OCPSF GL 40 CFR 414 Subpart:	(*2) BOD5 Avg mg/L	(*3) BOD5 Max mg/L	(*4) TSS Avg mg/L	(*5) TSS Max mg/L	(*6) Prod. 1000 lbs per day	(*7) Prod. Fraction of Total	(*8) Process Flow (MGD)	(*9) Conv. Factor	(*10) BOD5 Avg lbs/day	(*11) BOD5 Max lbs/day	(*12) TSS Avg lbs/day	(*13) TSS Max lbs/day
B, Rayon Fibers							---	8.34	---	---	---	---
C, Other Fibers							---	8.34	---	---	---	---
D, Thermoplastic Resins							---	8.34	---	---	---	---
E, Thermosetting Resins							---	8.34	---	---	---	---
F, Commodity Organics							---	8.34	---	---	---	---
G, Bulk Organics							---	8.34	---	---	---	---
H, Specialty Organics	45	120	57	183		1	1.9	8.34	713.07	1901.52	903.222	2899.818
Total/Weighted[]	45	120	57	183		1	1.9	8.34	713.07	1901.52	903.222	2899.818

BPJ Sources/Guidelines BPJ Sources:	BOD5 Avg mg/L	BOD5 Max mg/L	TSS Avg mg/L	TSS Max mg/L	Flow (MGD)	Conv. Factor	BOD5 Avg lbs/day	BOD5 Max lbs/day	TSS Avg lbs/day	TSS Max lbs/day
Sanitary WW:					---	8.34	---	---	---	---
Miscellaneous:					---	8.34	---	---	---	---
Utility Wastewater:					---	8.34	---	---	---	---
					---	8.34	---	---	---	---
					---	8.34	---	---	---	---
					---	8.34	---	---	---	---
BPJ Source Total:					---		---	---	---	---

Other Guidelines: Inorganic 40 CFR 415	BOD5 Avg mg/L	BOD5 Max mg/L	TSS Avg lbs/1000	TSS Max lbs/1000	Prod. 1000 lbs per day	Flow to Tmt. Plt. Fraction	Flow (MGD)	Conv. Factor	BOD5 Avg lbs/day	BOD5 Max lbs/day	TSS Avg lbs/day	TSS Max lbs/day
					---	---	---	8.34	---	---	---	---
					---	---	---	8.34	---	---	---	---
					---	---	---	8.34	---	---	---	---
					---	---	---	8.34	---	---	---	---

	BOD5 Avg lbs/1000	BOD5 Max lbs/1000	TSS Avg lbs/1000	TSS Max lbs/1000	Prod. 1000 lbs per day	Flow to Tmt. Plt. Fraction	Flow (MGD)		BOD5 Avg lbs/day	BOD5 Max lbs/day	TSS Avg lbs/day	TSS Max lbs/day
					---	---	---		---	---	---	---
					---	---			---	---	---	---
					---	---			---	---	---	---
Other Guideline Total (lbs/day)							---		---	---	---	---
BOD5/TSS Grand Total (lbs/day)							1.9		713.07	1901.52	903.222	2899.818

LA0007901, AI No. 39836 Appendix A-2

Calculation of Technology Based Limits for TIN, Inc. d/b/a Temple-Inland

Out. 001

TABLE 3

Calculation Summary of Conventional and Non-Conventional Limits

(*1) Parameter	(*2) G/L-BPJ Avg. mg/L	(*3) G/L-BPJ Max mg/L	(*4) Process Flow (MGD)	(*5) G/L-BPJ Avg lbs/day	(*6) G/L-BPJ Max lbs/day	(*7) Tech Avg lbs/day	(*8) Old Tech Max lbs/day	(*9) Old Anti-Back 0=no scr. 1=OldvsGL 2=Old+GL	(*10) Out. 001 Avg lbs/day	(*11) Out. 001 Max lbs/day	(*12) Out. 001 Avg mg/L	(*13) Out. 001 Max mg/L
CONVENTIONAL												
BOD5				713.07	1901.52			---	713	1902	---	---
TSS				903.222	2899.818			---	903	2900	---	---
Oil and Grease				---	---			---	---	---	---	---
NON-CONVENTIONAL												
COD				---	---			---	---	---	---	---
TOC				---	---			---	---	---	---	---
TRC				---	---			---	---	---	---	---
Ammonia Nitrogen				---	---			---	---	---	---	---
Organic Nitrogen				---	---			---	---	---	---	---
Nitrate Nitrogen				---	---			---	---	---	---	---

Calculation Summary of Metal and Cyanide Toxic Limits

(*1)	(*2) G/L-BPJ Avg. mg/L	(*3) G/L-BPJ Max mg/L	(*4) Process Flow (MGD)	(*5) G/L-BPJ Avg lbs/day	(*6) G/L-BPJ Max lbs/day	(*7) Tech Avg lbs/day	(*8) Old Tech Max lbs/day	(*9) Old Anti-Back 0=no scr. 1=OldvsGL 2=Old+GL	(*10) Out. 001 Avg lbs/day	(*11) Out. 001 Max lbs/day	(*12) Out. 001 Avg mg/L	(*13) Out. 001 Max mg/L
METALS AND CYANIDE												
Total Chromium				---	---			---	---	---	---	---
Total Copper				---	---			---	---	---	---	---
Total Lead				---	---			---	---	---	---	---
Total Nickel				---	---			---	---	---	---	---
Total Zinc				---	---			---	---	---	---	---
Total Mercury				---	---			---	---	---	---	---
Total Cyanide				---	---			---	---	---	---	---
Amenable Cyanide				---	---			---	---	---	---	---
				---	---			---	---	---	---	---
				---	---			---	---	---	---	---

LA0007901, AI No. 39836 Appendix A-2

Calculation of Technology Based Limits for TIN, Inc. d/b/a Temple-Inland

Out. 001

Calculation of Toxic Limits, OCPSF Subpart I

TABLE 4

(*1) OCPSF Parameter Subpart I	(*2) G/L Val Avg. mg/L	(*3) G/L Val Max mg/L	(*4) Process Flow (MGD)	(*5) G/L Val Avg lbs/day	(*6) G/L Val Max lbs/day	(*7) Tech Avg lbs/day	(*8) Old Max0=no scr. lbs/day1=OldvsGL 2=Old+GL	(*9) Old G/L-BPJ	(*10) Out. 001 Avg lbs/day	(*11) Out. 001 Max lbs/day	(*12) Out. 001 Avg mg/L	(*13) Out. 001 Max mg/L
VOLATILE COMPOUNDS												
Acrylonitrile	0.095	0.242	1.9	1.521216	3.834732			---	1.52	3.83	---	---
Benzene	0.037	0.136	1.9	0.586302	2.155056			---	0.59	2.16	---	---
Carbon Tetrachloride	0.018	0.038	1.9	0.285228	0.602148			---	0.29	0.60	---	---
Chlorobenzene	0.015	0.028	1.9	0.23769	0.443688			---	0.24	0.44	---	---
Chloroethane	0.104	0.268	1.9	1.647984	4.246728			---	1.65	4.25	---	---
Chloroform	0.021	0.046	1.9	0.332766	0.728916			---	0.33	0.73	---	---
1,1-Dichloroethane	0.022	0.059	1.9	0.348612	0.934914			---	0.35	0.93	---	---
1,2-Dichloroethane	0.068	0.211	1.9	1.077528	3.343506			---	1.08	3.34	---	---
1,1-Dichloroethylene	0.016	0.025	1.9	0.253536	0.39615			---	0.25	0.40	---	---
1,2-trans-Dichloro-ethylene	0.021	0.054	1.9	0.332766	0.855684			---	0.33	0.86	---	---
1,2-Dichloropropane	0.153	0.23	1.9	2.424438	3.64458			---	2.42	3.64	---	---
1,3-Dichloropropylyene	0.029	0.044	1.9	0.459534	0.697224			---	0.46	0.70	---	---
Ethylbenzene	0.032	0.108	1.9	0.507072	1.711368			---	0.51	1.71	---	---
Methyl Chloride	0.086	0.19	1.9	1.362756	3.01074			---	1.36	3.01	---	---
Methylene Chloride	0.04	0.089	1.9	0.63384	1.410294			---	0.63	1.41	---	---
Tetrachloroethylene	0.022	0.056	1.9	0.348612	0.887376			---	0.35	0.89	---	---
Toluene	0.026	0.08	1.9	0.411996	1.26768			---	0.41	1.27	---	---
1,1,1-Trichloroethane	0.021	0.054	1.9	0.332766	0.855684			---	0.33	0.86	---	---
1,1,2-Trichloroethane	0.021	0.054	1.9	0.332766	0.855684			---	0.33	0.86	---	---
Trichloroethylene	0.021	0.054	1.9	0.332766	0.855684			---	0.33	0.86	---	---
Vinyl Chloride	0.104	0.268	1.9	1.647984	4.246728			---	1.65	4.25	---	---
ACID COMPOUNDS												
2-Chlorophenol	0.031	0.098	1.9	0.491226	1.552908			---	0.49	1.55	---	---
2,4-Dichlorophenol	0.039	0.112	1.9	0.617994	1.774752			---	0.62	1.77	---	---
2,4-Dimethylphenol	0.018	0.036	1.9	0.285228	0.570456			---	0.29	0.57	---	---
4,6-Dinitro-o-cresol	0.078	0.277	1.9	1.235988	4.389342			---	1.24	4.39	---	---
2,4-Dinitrophenol	0.071	0.123	1.9	1.125066	1.949058			---	1.13	1.95	---	---
2-Nitrophenol	0.041	0.069	1.9	0.649686	1.093374			---	0.65	1.09	---	---
4-Nitrophenol	0.072	0.124	1.9	1.140912	1.964904			---	1.14	1.96	---	---
Phenol	0.015	0.026	1.9	0.23769	0.411996			---	0.24	0.41	---	---

LA0007901, AI No. 39836 Appendix A-2

Calculation of Technology Based Limits for TIN, Inc. d/b/a Temple-Inland

Out. 001

Calculation of Toxic Limits, OCPSF Subpart I

TABLE 4

(*1) OCPSF Parameter Subpart I	(*2) G/L Val Avg. mg/L	(*3) G/L Val Max mg/L	(*4) Process Flow (MGD)	(*5) G/L Val Avg lbs/day	(*6) G/L Val Max lbs/day	(*7) Tech Old Avg lbs/day	(*8) Tech Old Max lbs/day	(*9) Anti-Back 0=no scr. 1=OldvsGL 2=Old+GL	(*10) Out. 001 Avg lbs/day	(*11) Out. 001 Max lbs/day	(*12) Out. 001 Avg mg/L	(*13) Out. 001 Max mg/L
BASE/NEUTRAL COMPOUNDS												
Acenaphthene	0.022	0.059	1.9	0.348612	0.934914			---	0.35	0.93	---	---
Acenaphthylene	0.022	0.059	1.9	0.348612	0.934914			---	0.35	0.93	---	---
Anthracene	0.022	0.059	1.9	0.348612	0.934914			---	0.35	0.93	---	---
Benzo(a)anthracene	0.022	0.059	1.9	0.348612	0.934914			---	0.35	0.93	---	---
Benzo(a)pyrene	0.023	0.061	1.9	0.364458	0.966606			---	0.36	0.97	---	---
3,4-Benzofluoranthene	0.023	0.061	1.9	0.364458	0.966606			---	0.36	0.97	---	---
Benzo(k)fluoranthene	0.022	0.059	1.9	0.348612	0.934914			---	0.35	0.93	---	---
Bis(2-ethylhexyl)-phthalate	0.103	0.279	1.9	1.632138	4.421034			---	1.63	4.42	---	---
Chrysene	0.022	0.059	1.9	0.348612	0.934914			---	0.35	0.93	---	---
1,2-Dichlorobenzene	0.077	0.163	1.9	1.220142	2.582898			---	1.22	2.58	---	---
1,3-Dichlorobenzene	0.031	0.044	1.9	0.491226	0.697224			---	0.49	0.70	---	---
1,4-Dichlorobenzene	0.015	0.028	1.9	0.23769	0.443688			---	0.24	0.44	---	---
Diethyl phthalate	0.081	0.203	1.9	1.283526	3.216738			---	1.28	3.22	---	---
Dimethyl phthalate	0.019	0.047	1.9	0.301074	0.744762			---	0.30	0.74	---	---
Di-n-butyl phthalate	0.027	0.057	1.9	0.427842	0.903222			---	0.43	0.90	---	---
2,4-Dinitrotoluene	0.113	0.285	1.9	1.790598	4.51611			---	1.79	4.52	---	---
2,6-Dinitrotoluene	0.255	0.641	1.9	4.04073	10.15729			---	4.04	10.16	---	---
Fluoranthene	0.025	0.068	1.9	0.39615	1.077528			---	0.40	1.08	---	---
Fluorene	0.022	0.059	1.9	0.348612	0.934914			---	0.35	0.93	---	---
Hexachlorobenzene	0.015	0.028	1.9	0.23769	0.443688			---	0.24	0.44	---	---
Hexachlorobutadiene	0.02	0.049	1.9	0.31692	0.776454			---	0.32	0.78	---	---
Hexachloroethane	0.021	0.054	1.9	0.332766	0.855684			---	0.33	0.86	---	---
Naphthalene	0.022	0.059	1.9	0.348612	0.934914			---	0.35	0.93	---	---
Nitrobenzene	0.027	0.068	1.9	0.427842	1.077528			---	0.43	1.08	---	---
Phenanthrene	0.022	0.059	1.9	0.348612	0.934914			---	0.35	0.93	---	---
Pyrene	0.025	0.067	1.9	0.39615	1.061682			---	0.40	1.06	---	---
1,2,4-Trichlorobenzene	0.068	0.14	1.9	1.077528	2.21844			---	1.08	2.22	---	---

Appendix A-3
TIN, Inc. d/b/a Temple-Inland
Bogalusa Paperboard Mill
LA0007901, AI No. 38936

Technology-Based Limits for Outfall 001 (Phase II)

Production By Subpart (1000 lbs/day) (*1)

Subpart C - Unbleached Kraft	
40 CFR 430.33 BCT	4,600
Subpart J - Secondary Fiber Non-deink	
40 CFR 430.103 BCT	1,728

	Production-Based Factor Monthly Average (lb/1000 lbs)	Production-Based Factor Daily Maximum (lb/1000 lbs)	Allocation Monthly Average (lbs/day)	Allocation Daily Maximum (lbs/day)
Subpart C - BPT (*2)				
BOD5	2.8	5.6	12,880	25,760
TSS	6.0	12.0	27,600	55,200
Subpart J - BPT (*2)				
BOD5	2.8	5.7	4,838	9,850
TSS	4.6	9.2	7,949	15,898

Proposed Effluent Limits

	Mass Limit (lbs/day) Monthly Average	Mass Limit (lbs/day) Daily Maximum
BOD5	17,718	35,610
TSS	35,549	71,098

Oil and Grease Limit (*3)

Mass Limit (lbs/day) Monthly Average	Mass Limit (lbs/day) Daily Maximum
N/A	2,565

(*1) Production allocations were provided in a supplemental application addendum dated September 1, 2004.
(*2) Allocations (lbs/day) = Guideline Production-Based Factor (lb/1000 lbs) * Production Allocation (1000 lbs/day)
(*3) Limit derived from: lbs/day = 15 mg/L * 8.34 (lb/MG)/(mg/L) * 20.5 MGD

Appendix B

wqsmodn.wk4 Date: 11/14 Appendix B-1
Developer: Bruce Fielding Time: 12:12 PM
Software: Lotus 4.0 LA0007901, AI 38936
Revision date: 12/13/02

Water Quality Screen for TIN, Inc. d/b/a Temple-Inland (Phase I)

Input variables:

Receiving Water Characteristics:

Receiving Water Name=	Pearl River
Critical flow (Qr) cfs=	1253
Harm. mean/avg tidal cfs=	3821
Drinking Water=1 HHNPCR=2	
Marine, 1=y, 0=n	
Rec. Water Hardness=	16.1
Rec. Water TSS=	16
Fisch/Specific=1,Stream=0	
Diffuser Ratio=	

Effluent Characteristics:

Permittee=	TIN, Inc. d/b/a Temple-Inland (Phase I)
Permit Number=	LA0007901, AI 38936
Facility flow (Qef),MGD=	22.4
Outfall Number =	001
Eff. data, 2=lbs/day	2
MQL, 2=lbs/day	1
Effluent Hardness=(*a)	152.3
Effluent TSS=	N/A
WQBL ind. 0=y, 1=n	
Acute/Chr. ratio 0=n, 1=y	0
Aquatic,acute only1=y,0=n	

Page Numbering/Labeling

Appendix	Appendix B-1
Page Numbers 1=y, 0=n	1
Input Page # 1=y, 0=n	1

Fischer/Site Specific inputs:

Pipe=1,Canal=2,Specific=3
Pipe width, feet
ZID plume dist., feet
MZ plume dist., feet
HHnc plume dist., feet
HHc plume dist., feet

Fischer/site specific dilutions:

F/specific ZID Dilution =	---
F/specific MZ Dilution =	---
F/specific HHnc Dilution=	---
F/specific HHc Dilution=	---

Dilution:

ZID Fs =	0.033333
MZ Fs =	0.333333
Critical Qr (MGD)=	809.8139
Harm. Mean (MGD)=	2469.512
ZID Dilution =	0.453498
MZ Dilution =	0.076624
HHnc Dilution=	0.026916
HHc Dilution=	0.008989
ZID Upstream =	1.20508
MZ Upstream =	12.0508
MZhhnc Upstream=	36.15241
MZhhc Upstream=	110.2461
ZID Hardness=	77.86646
MZ Hardness=	26.53614
ZID TSS=	---
MZ TSS=	---

Multipliers:

WLAa --> LTAa	0.32
WLAc --> LTAc	0.53
LTA a,c-->WQBL avg	1.31
LTA a,c-->WQBL max	3.11
LTA h --> WQBL max	2.38
WQBL-limit/report	2.13
WLA Fraction	1
WQBL Fraction	1

Conversions:

ug/L-->lbs/day Qef	0.186816
ug/L-->lbs/day Qeo	0
ug/L-->lbs/day Qr	10.45002
lbs/day-->ug/L Qeo	5.352861
lbs/day-->ug/L Qef	5.352861
diss-->tot 1=y0=n	1
Cu diss->tot1=y0=n	1
cfs-->MGD	0.6463

Receiving Stream:

Default Hardness=	25
Default TSS=	10
99 Crit., 1=y, 0=n	1

Toxicity Dilution Series:

Biomonitoring dilution:	0.076624
Dilution Series Factor:	0.75

	Percent Effluent
Dilution No. 1	10.216%
Dilution No. 2	7.6624%
Dilution No. 3	5.7468%
Dilution No. 4	4.3101%
Dilution No. 5	3.2326%

Partition Coefficients; Dissolved-->Total

METALS	FW
Total Arsenic	2.014737
Total Cadmium	3.789487
Chromium III	5.079695
Chromium VI	1
Total Copper (*b)	28.27936
Total Lead	5.875083
Total Mercury	2.967076
Total Nickel	2.614238
Total Zinc (*b)	37.82453

Aquatic Life, Dissolved
Metal Criteria, ug/L

METALS	ACUTE	CHRONIC
Arsenic	339.8	150
Cadmium	24.2504	0.386024
Chromium III	447.0758	60.05584
Chromium VI	15.712	10.582
Copper	14.55675	3.953743
Lead	49.13189	0.486334
Mercury	1.734	0.012
Nickel	1145.417	51.16793
Zinc	92.58637	33.9599

Site Specific Multiplier Values:

CV =	---
N =	---
WLAa --> LTAa	---
WLAc --> LTAc	---
LTA a,c-->WQBL avg	---
LTA a,c-->WQBL max	---
LTA h --> WQBL max	---

(*a) Total Hardness Concentration in mg/L as CaCO3, based on Table 1 in a letter dated 2/10/98 from Schurtz (C-K Associates) to Aydell (LDEQ).

(*b) Based on equation of lines in Figs 1 & 2 in a letter dated 2/10/98 from Schurtz (C-K Associates) to Aydell (DEQ) for Cu &

Appendix B-1
TIN, Inc. d/b/a Temple-Inland (Phase I)
LA0007901, AI 38936

(*1) Toxic Parameters	(*2) Instream Conc. ug/L	(*3) CuEffluent /Tech (Avg) lbs/day	(*4) Effluent /Tech (Max) lbs/day	(*5) MQLEffluent ug/L	(*6) 1=No 95% 0=95 %	(*7) 95th % estimate Non-Tech lbs/day	(*8) Numerical Criteria Acute FW ug/L	(*9) Chronic FW ug/L	(*10) HHNDW ug/L	(*11) HH Carcinogen Indicator "C"
NONCONVENTIONAL										
Total Phenols (4AAP)		14		5	0	29.82	700	350	50	
3-Chlorophenol				10						
4-Chlorophenol				10			383	192		
2,3-Dichlorophenol				10						
2,5-Dichlorophenol				10						
2,6-Dichlorophenol				10						
3,4-Dichlorophenol				10						
2,4-Dichlorophenocy-acetic acid (2,4-D)				---						
2-(2,4,5-Trichlorophen-oxy) propionic acid (2,4,5-TP, Silvex)				---						
METALS AND CYANIDE										
Total Arsenic				10			684.6077	302.2106		
Total Cadmium				1			91.8966	1.462834		
Chromium III				10			2271.008	305.0653		
Chromium VI				10			15.712	10.582		
Total Copper	1.83	4.33		10	0	9.2229	411.6555	12.40873		
Total Lead				5			288.654	2.85725		
Total Mercury				0.2			5.14491	0.035605		
Total Nickel				40			2994.393	133.7652		
Total Zinc	5.28	23.6		20	0	50.268	3502.036	131.4841		
Total Cyanide				20			45.9	5.2	12844	
DIOXIN										
2,3,7,8 TCDD; dioxin				1.0E-005					7.2E-007	C
VOLATILE COMPOUNDS										
Benzene		0.586302	2.155056	10	1		2249	1125	12.5	C
Bromoform				10			2930	1465	34.7	C
Bromodichloromethane				10					3.3	C
Carbon Tetrachloride		0.285228	0.602148	10	1		2730	1365	1.2	C
Chloroform		0.332766	0.729916	10	1		2890	1445	70	C
Dibromochloromethane				10					5.08	C
1,2-Dichloroethane		1.077528	3.343506	10	1		11800	5900	6.8	C
1,1-Dichloroethylene		0.253536	0.39615	10	1		1160	580	0.58	C
1,3-Dichloropropylene		0.459534	0.697224	10	1		606	303	162.79	
Ethylbenzene		0.507072	1.711368	10	1		3200	1600	8100	
Methyl Chloride		1.362756	3.01074	50	1		55000	27500		
Methylene Chloride		0.63384	1.410294	20	1		19300	9650	87	C
1,1,2,2-Tetrachloro-ethane				10			932	466	1.8	C

Appendix B-1
TIN, Inc. d/b/a Temple-Inland (Phase I)
IA0007901, AI 38936

(*1) Toxic Parameters	(*12) WLAa Acute	(*13) WLAc Chronic	(*14) WLAh HHNDW	(*15) LTAa Acute	(*16) LTAc Chronic	(*17) LTAh HHNDW	(*18) Limiting A,C,HH	(*19) WQBL Avg 001	(*20) WQBL Max 001	(*21) WQBL Avg 001	(*22) WQBL MaxWQBL	(*23) Need WQBL?
	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	lbs/day	lbs/day	
NONCONVENTIONAL												
Total Phenols (4AAP)	1543.556	4567.781	1857.62	493.938	2420.924	1857.62	493.938	647.0587	1536.147	120.8809	286.9769	no
3-Chlorophenol	---	---	---	---	---	---	---	---	---	---	---	no
4-Chlorophenol	844.5457	2505.754	---	270.2546	1328.05	---	270.2546	354.0336	840.4919	66.13913	157.0173	no
2,3-Dichlorophenol	---	---	---	---	---	---	---	---	---	---	---	no
2,5-Dichlorophenol	---	---	---	---	---	---	---	---	---	---	---	no
2,6-Dichlorophenol	---	---	---	---	---	---	---	---	---	---	---	no
3,4-Dichlorophenol	---	---	---	---	---	---	---	---	---	---	---	no
2,4-Dichlorophenocy-acetic acid (2,4-D)	---	---	---	---	---	---	---	---	---	---	---	no
2-(2,4,5-Trichlorophen-oxy) propionic acid (2,4,5-TP, Silvex)	---	---	---	---	---	---	---	---	---	---	---	no
METALS AND CYANIDE												
Total Arsenic	1509.615	3944.091	---	483.0768	2090.368	---	483.0768	632.8306	1502.369	118.2229	280.6665	no
Total Cadmium	202.6394	19.09115	---	64.8446	10.11831	---	10.11831	13.25499	31.46795	2.476244	5.878716	no
Chromium III	5007.756	3981.347	---	1602.482	2110.114	---	1602.482	2099.251	4983.719	392.1737	931.0384	no
Chromium VI	34.64622	138.1036	---	11.08679	73.1949	---	11.08679	14.5237	34.47992	2.713259	6.4414	no
Total Copper	900.8122	92.73116	---	288.2599	49.14752	---	49.14752	64.38325	152.8488	12.02782	28.5546	no
Total Lead	636.5051	37.28941	---	203.6816	19.76339	---	19.76339	25.89004	61.46413	4.836673	11.48248	no
Total Mercury	11.34494	0.464673	---	3.630381	0.246277	---	0.246277	0.322622	0.76592	0.060271	0.143086	no
Total Nickel	6602.877	1745.743	---	2112.921	925.2436	---	925.2436	1212.069	2877.508	226.4339	537.5645	no
Total Zinc	7697.635	1469.621	---	2463.243	778.8991	---	778.8991	1020.358	2422.376	190.6192	452.5386	no
Total Cyanide	101.2132	67.86417	477185.5	32.38822	35.96801	477185.5	32.38822	42.42857	100.7274	7.926335	18.81748	no
DIOXIN												
2,3,7,8 TCDD; dioxin	---	---	0.00008	---	---	0.00008	0.00008	0.00008	0.000191	0.000015	0.000036	no
VOLATILE COMPOUNDS												
Benzene	4959.225	14682.15	1390.576	1586.952	7781.541	1390.576	1390.576	1390.576	3309.571	259.7819	618.2808	no
Bromoform	6460.885	19119.43	3860.239	2067.483	10133.3	3860.239	2067.483	2708.403	6429.873	505.973	1201.203	no
Bromodichloromethane	---	---	367.1121	---	---	367.1121	367.1121	367.1121	873.7268	68.58241	163.2261	no
Carbon Tetrachloride	6019.869	17814.34	133.4953	1926.358	9441.603	133.4953	133.4953	133.4953	317.7188	24.93906	59.35496	no
Chloroform	6372.682	18858.41	7787.226	2039.258	9994.957	7787.226	2039.258	2671.428	6342.093	499.0655	1184.804	no
Dibromochloromethane	---	---	565.1301	---	---	565.1301	565.1301	565.1301	1345.01	105.5753	251.2693	no
1,2-Dichloroethane	26019.95	76999.73	756.4734	8326.383	40809.86	756.4734	756.4734	756.4734	1800.407	141.3213	336.3448	no
1,1-Dichloroethylene	2557.893	7569.465	64.52273	818.5258	4011.817	64.52273	64.52273	64.52273	153.5641	12.05388	28.68823	no
1,3-Dichloropropylene	1336.279	3954.393	6048.04	427.6092	2095.828	6048.04	427.6092	560.168	1329.864	104.6483	248.44	no
Ethylbenzene	7056.257	20881.28	300934.5	2258.002	11067.08	300934.5	2258.002	2957.983	7022.387	552.5985	1311.894	no
Methyl Chloride	121279.4	358897.1	---	38809.41	190215.4	---	38809.41	50840.33	120697.3	9497.787	22548.18	no
Methylene Chloride	42558.05	125940.2	9678.409	13618.58	66748.33	9678.409	9678.409	9678.409	23034.61	1808.082	4303.235	no
1,1,2,2-Tetrachloro-ethane	2055.135	6081.674	200.243	657.6431	3223.287	200.243	200.243	200.243	476.5782	37.40859	89.03244	no

Appendix B-1
TIN, Inc. d/b/a Temple-Inland (Phase I)
LA0007901, AI 38936

(*1) Toxic Parameters	(*2) Instream Conc. ug/L	(*3) CuEffluent /Tech (Avg) lbs/day	(*4) Effluent /Tech (Max) lbs/day	(*5) MQL ug/L	(*6) Effluent 95th % 1=No 95% 0=95 %	(*7) estimate Non-Tech lbs/day	(*8) Numerical Criteria Acute FW ug/L	(*9) Chronic FW ug/L	(*10) HHNDW ug/L	(*11) HH Carcinogen Indicator "C"
VOLATILE COMPOUNDS (cont'd)										
Tetrachloroethylene		0.348612	0.887376	10	1		1290	645	2.5	C
Toluene		0.411996	1.26768	10	1		1270	635	46200	
1,1,1-Trichloroethane		0.332766	0.855684	10	1		5280	2640		
1,1,2-Trichloroethane		0.332766	0.855684	10	1		1800	900	6.9	C
Trichloroethylene		0.332766	0.855684	10	1		3900	1950	21	C
Vinyl Chloride		1.647984	4.246728	10	1				35.8	C
ACID COMPOUNDS										
2-Chlorophenol		0.491226	1.552908	10	1		258	129	126.4	
2,4-Dichlorophenol		0.617994	1.774752	10	1		202	101	232.6	
BASE NEUTRAL COMPOUNDS										
Benzidine				50			250	125	0.00017	C
Hexachlorobenzene		0.23769	0.443688	10	1				0.00025	C
Hexachlorobutadiene		0.31692	0.776454	10	1		5.1	1.02	0.11	C
PESTICIDES										
Aldrin				0.05			3		0.0004	C
Hexachlorocyclohexane (gamma BHC, Lindane)				0.05			5.3	0.21	0.2	C
Chlordane				0.2			2.4	0.0043	0.00019	C
4,4'-DDT				0.1			1.1	0.001	0.00019	C
4,4'-DDE				0.1			52.5	10.5	0.00019	C
4,4'-DDD				0.1			0.03	0.006	0.00027	C
Dieldrin				0.1			0.2374	0.0557	0.00005	C
Endosulfan				0.1			0.22	0.056	0.64	
Endrin				0.1			0.0864	0.0375	0.26	
Heptachlor				0.05			0.52	0.0038	0.00007	C
Toxaphene				5			0.73	0.0002	0.00024	C
Other Parameters:										
Fecal Col.(col/100ml)		50			0	106.5				
Chlorine							19	11		
Ammonia		237			0	504.81		4000		
Chlorides										
Sulfates		92,907			0	197891.9		15000	15000	
TDS										

Appendix B-1
TIN, Inc. d/b/a Temple-Inland (Phase 1)
LA0007901, AI 38936

(*1) Toxic Parameters	(*12) WLAa Acute	(*13) WLAc Chronic	(*14) WLAh HHNDW	(*15) LTAa Acute	(*16) LTAc Chronic	(*17) LTAh HHNDW	(*18) Limiting A,C,HH	(*19) WQBL Avg 001	(*20) WQBL Max 001	(*21) WQBL Avg 001	(*22) WQBL MaxWQBL? 001	(*23) Need
	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	lbs/day	lbs/day	
Tetrachloroethylene	2844.553	8417.767	278.1152	910.2571	4461.417	278.1152	278.1152	278.1152	661.9142	51.95637	123.6562	no
Toluene	2800.452	8287.259	1716441	896.1446	4392.247	1716441	896.1446	1173.949	2787.01	219.3125	520.658	no
1,1,1-Trichloroethane	11642.82	34454.12	---	3725.704	18260.68	---	3725.704	4880.672	11586.94	911.7875	2164.625	no
1,1,2-Trichloroethane	3969.144	11745.72	767.598	1270.126	6225.233	767.598	767.598	767.598	1826.883	143.3996	341.291	no
Trichloroethylene	8599.813	25449.06	2336.168	2751.94	13488	2336.168	2336.168	2336.168	5560.079	436.4335	1038.712	no
Vinyl Chloride	---	---	3982.61	---	---	3982.61	3982.61	3982.61	9478.611	744.0152	1770.756	no
ACID COMPOUNDS												
2-Chlorophenol	568.9107	1683.553	4696.064	182.0514	892.2833	4696.064	182.0514	238.4874	566.1799	44.55326	105.7715	no
2,4-Dichlorophenol	445.4262	1318.131	8641.65	143.5364	698.6094	8641.65	142.5364	186.7227	443.2882	34.88278	82.81332	no
BASE NEUTRAL COMPOUNDS												
Benzidine	551.2701	1631.35	0.018912	176.4064	864.6156	0.018912	0.018912	0.018912	0.04501	0.003533	0.008409	no
Hexachlorobenzene	---	---	0.027812	---	---	0.027812	0.027812	0.027812	0.066191	0.005196	0.012366	yes
Hexachlorabutadiene	11.24591	13.31182	12.23707	3.598691	7.055264	12.23707	3.598691	4.714285	11.19193	0.880704	2.090831	no
PESTICIDES												
Aldrin	6.615241	---	0.044498	2.116877	---	0.044498	0.044498	0.044498	0.105906	0.008313	0.019785	no
Hexachlorocyclohexane (gamma BHC, Lindane)	11.68693	2.740668	22.24922	3.739816	1.452554	22.24922	1.452554	1.902846	4.517444	0.355482	0.843931	no
Chlordane	5.292193	0.056118	0.021137	1.693502	0.029743	0.021137	0.021137	0.021137	0.050305	0.003949	0.009398	no
4,4'-DDT	2.425588	0.013051	0.021137	0.776188	0.006917	0.021137	0.006917	0.009061	0.021512	0.001693	0.004019	no
4,4'-DDE	115.7667	137.0334	0.021137	37.04535	72.62771	0.021137	0.021137	0.021137	0.050305	0.003949	0.009398	no
4,4'-DDD	0.066152	0.078305	0.030036	0.021169	0.041502	0.030036	0.021169	0.027731	0.065835	0.005181	0.012299	no
Dieldrin	0.523486	0.72693	0.005562	0.167516	0.385273	0.005562	0.005562	0.005562	0.013238	0.001039	0.002473	no
Endosulfan	0.485118	0.730845	23.77754	0.155238	0.387348	23.77754	0.155238	0.203361	0.482789	0.037991	0.090193	no
Endrin	0.190519	0.489405	9.659626	0.060966	0.259385	9.659626	0.060966	0.079866	0.189604	0.01492	0.035421	no
Heptachlor	1.146642	0.049593	0.007787	0.366925	0.026284	0.007787	0.007787	0.007787	0.018534	0.001455	0.003462	no
Toxaphene	1.609709	0.00261	0.026699	0.515107	0.001383	0.026699	0.001383	0.001812	0.004302	0.000339	0.000804	no
Other Parameters:												
Fecal Col.(col/100ml)	---	---	---	---	---	---	---	---	---	---	---	no
Chlorine	41.89652	143.5588	---	13.40689	76.08618	---	13.40689	17.56302	41.69542	3.281054	7.789372	no
Ammonia	---	52203.21	---	---	27667.7	---	27667.7	36244.69	86046.55	6771.088	16074.87	no
Chlorides	---	---	---	---	---	---	---	---	---	---	---	no
Sulfates	---	1668691	1668691	---	884406.4	1668691	884406.4	1158572	2750504	216439.9	513838.1	no
TDS	---	---	---	---	---	---	---	---	---	---	---	no
	---	---	---	---	---	---	---	---	---	---	---	no
	---	---	---	---	---	---	---	---	---	---	---	no

wqsmodn.wk4 Date: 11/14 Appendix B-2
Developer: Bruce Fielding Time: 12:12 PM
Software: Lotus 4.0 LA0007901, AI 38936
Revision date: 12/13/02

Water Quality Screen for TIN, Inc. d/b/a Temple-Inland (Phase II)

Input variables:

Receiving Water Characteristics:

Receiving Water Name=	Pearl River
Critical flow (Qr) cfs=	1253
Harm. mean/avg tidal cfs=	3821
Drinking Water=1 HHNPCR=2	
Marine, 1=y, 0=n	
Rec. Water Hardness=	16.1
Rec. Water TSS=	16
Pisch/Specific=1,Stream=0	
Diffuser Ratio=	

Effluent Characteristics:

Permittee=	TIN, Inc. d/b/a Temple-Inland (Phase II)
Permit Number=	LA0007901, AI 38936
Facility flow (Qef),MGD=	20.5
Outfall Number =	001
Eff. data, 2=lbs/day	2
MQL, 2=lbs/day	1
Effluent Hardness=(*a)	152.3
Effluent TSS=	N/A
WQBL ind. 0=y, 1=n	
Acute/Chr. ratio 0=n, 1=y	0
Aquatic,acute only1=y,0=n	

Page Numbering/Labeling

Appendix	Appendix B-2
Page Numbers 1=y, 0=n	1
Input Page # 1=y, 0=n	1

Fischer/Site Specific inputs:

Pipe=1,Canal=2,Specific=3	
Pipe width, feet	
ZID plume dist., feet	
MZ plume dist., feet	
HHnc plume dist., feet	
HHc plume dist., feet	

Fischer/site specific dilutions:

F/specific ZID Dilution =	---
F/specific MZ Dilution =	---
F/specific HHnc Dilution=	---
F/specific HHc Dilution=	---

Dilution:

ZID Fs =	0.033333
MZ Fs =	0.333333
Critical Qr (MGD)=	809.8139
Harm. Mean (MGD)=	2469.512
ZID Dilution =	0.431635
MZ Dilution =	0.070583
HHnc Dilution=	0.024689
HHc Dilution=	0.008233
ZID Upstream =	1.316771
MZ Upstream =	13.16771
MZhhnc Upstream=	39.50312
MZhhc Upstream=	120.464
ZID Hardness=	74.88873
MZ Hardness=	25.71341
ZID TSS=	---
MZ TSS=	---

Multipliers:

WLAa --> LTAa	0.32
WLAc --> LTAc	0.53
LTA a,c-->WQBL avg	1.31
LTA a,c-->WQBL max	3.11
LTA h --> WQBL max	2.38
WQBL-limit/report	2.13
WLA Fraction	1
WQBL Fraction	1

Conversions:

ug/L-->lbs/day Qef	0.17097
ug/L-->lbs/day Qeo	0
ug/L-->lbs/day Qr	10.45002
lbs/day-->ug/L Qeo	5.848979
lbs/day-->ug/L Qef	5.848979
diss-->tot 1=y0=n	1
Cu diss->totl=y0=n	1
cfs-->MGD	0.6463

Receiving Stream:

Default Hardness=	25
Default TSS=	10
99 Crit., 1=y, 0=n	1

Toxicity Dilution Series:

Biomonitoring dilution:	0.070583
Dilution Series Factor:	0.75

	Percent Effluent
Dilution No. 1	9.411%
Dilution No. 2	7.0583%
Dilution No. 3	5.2937%
Dilution No. 4	3.9703%
Dilution No. 5	2.9777%

Partition Coefficients; Dissolved-->Total

METALS	FW
Total Arsenic	2.014737
Total Cadmium	3.789487
Chromium III	5.079695
Chromium VI	1
Total Copper (*b)	26.93654
Total Lead	5.875083
Total Mercury	2.967076
Total Nickel	2.614238
Total Zinc (*b)	36.20755

Aquatic Life, Dissolved
Metal Criteria, ug/L

METALS	ACUTE	CHRONIC
Arsenic	339.8	150
Cadmium	23.24658	0.377109
Chromium III	433.0243	58.52655
Chromium VI	15.712	10.582
Copper	14.03166	3.848758
Lead	47.07171	0.470429
Mercury	1.734	0.012
Nickel	1108.249	49.82258
Zinc	89.57749	33.06565

Site Specific Multiplier Values:

CV =	---
N =	---
WLAa --> LTAa	---
WLAc --> LTAc	---
LTA a,c-->WQBL avg	---
LTA a,c-->WQBL max	---
LTA h --> WQBL max	---

(*a) Total Hardness Concentration in mg/L as CaCO3, based on Table 1 in a letter dated 2/10/98 from Schurtz (C-K Associates) to Aydell (LDEQ).

(*b) Based on equation of lines in Figs 1 & 2 in a letter dated 2/10/98 from Schurtz (C-K Assoc.) to Aydell (DEQ) for Cu & Zn.

Appendix B-2
TIN, Inc. d/b/a Temple-Inland (Phase II)
LA0007901, AI 28936

(*1) Toxic Parameters	(*2) Instream Conc. ug/L	(*3) CuEffluent /Tech (Avg) lbs/day	(*4) Effluent /Tech (Max) lbs/day	(*5) MQLEffluent 95th % 1=No 95% estimate 0=95 % ug/L	(*6)	(*7) Non-Tech lbs/day	(*8) Numerical Criteria Acute FW ug/L	(*9) Chronic FW ug/L	(*10) HHNDW ug/L	(*11) HH Carcinogen Indicator "C"
NONCONVENTIONAL										
Total Phenols (4AAP)		14		.5	0	29.82	700	350	50	
3-Chlorophenol				10						
4-Chlorophenol				10			383	192		
2,3-Dichlorophenol				10						
2,5-Dichlorophenol				10						
2,6-Dichlorophenol				10						
3,4-Dichlorophenol				10						
2,4-Dichlorophenocy-acetic acid (2,4-D)				---						
2-(2,4,5-Trichlorophen-oxy) propionic acid (2,4,5-TP, Silvex)				---						
METALS AND CYANIDE										
Total Arsenic				10			684.6077	302.2106		
Total Cadmium				1			88.09263	1.429052		
Chromium III				10			2199.631	297.297		
Chromium VI				10			15.712	10.582		
Total Copper	1.83	4.33		10	0	9.2229	377.9645	12.07924		
Total Lead				5			276.5619	2.763809		
Total Mercury				0.2			5.14491	0.035605		
Total Nickel				40			2897.228	130.2481		
Total Zinc	5.28	23.6		20	0	50.268	3243.381	128.0218		
Total Cyanide				20			45.9	5.2	12844	
DIOXIN										
2,3,7,8 TCDD; dioxin				1.0E-005					7.2E-007	C
VOLATILE COMPOUNDS										
Benzene				10			2249	1125	12.5	C
Bromoform				10			2930	1465	34.7	C
Bromodichloromethane				10					3.3	C
Carbon Tetrachloride				10			2730	1365	1.2	C
Chloroform				10			2890	1445	70	C
Dibromochloromethane				10					5.08	C
1,2-Dichloroethane				10			11800	5900	6.8	C
1,1-Dichloroethylene				10			1160	580	0.58	C
1,3-Dichloropropylene				10			606	303	182.79	
Ethylbenzene				10			3200	1600	8100	
Methyl Chloride				50			55000	27500	.	
Methylene Chloride				20			19300	9650	87	C
1,1,2,2-Tetrachloro-ethane				10			932	466	1.8	C

Appendix B-2
TIN, Inc. d/b/a Temple-Inland (Phase II)
LA0007901, AI 38936

(*1) Toxic Parameters	(*12) WLAa Acute	(*13) WLAc Chronic	(*14) WLAh HHNDW	(*15) LTAa Acute	(*16) LTAc Chronic	(*17) LTAh HHNDW	(*18) Limiting A,C,HH	(*19) WQBL Avg 001	(*20) WQBL Max 001	(*21) WQBL Avg 001	(*22) WQBL Max 001	(*23) Need WQBL?
	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	lbs/day	lbs/day	
NONCONVENTIONAL												
Total Phenols (4AAP)	1621.739	4958.697	2025.156	518.9566	2628.109	2025.156	518.9566	679.8332	1613.955	116.2311	275.9379	no
3-Chlorophenol	---	---	---	---	---	---	---	---	---	---	---	no
4-Chlorophenol	887.3231	2720.199	---	283.9434	1441.706	---	283.9434	371.9659	883.064	63.595	150.9774	no
2,3-Dichlorophenol	---	---	---	---	---	---	---	---	---	---	---	no
2,5-Dichlorophenol	---	---	---	---	---	---	---	---	---	---	---	no
2,6-Dichlorophenol	---	---	---	---	---	---	---	---	---	---	---	no
3,4-Dichlorophenol	---	---	---	---	---	---	---	---	---	---	---	no
2,4-Dichlorophenocy-acetic acid (2,4-D)	---	---	---	---	---	---	---	---	---	---	---	no
2-(2,4,5-Trichlorophen-oxy) propionic acid (2,4,5-TP, Silvex)	---	---	---	---	---	---	---	---	---	---	---	no
METALS AND CYANIDE												
Total Arsenic	1586.079	4281.631	---	507.5453	2269.264	---	507.5453	664.8843	1578.466	113.6753	269.8703	no
Total Cadmium	204.0904	20.24638	---	65.30893	10.73058	---	10.73058	14.05706	33.37211	2.403336	5.70563	no
Chromium III	5096.04	4212.017	---	1630.733	2232.369	---	1630.733	2136.26	5071.579	365.2364	867.0879	no
Chromium VI	36.4011	149.9227	---	11.64835	79.45901	---	11.64835	15.25934	36.22637	2.608889	6.193623	no
Total Copper	868.0942	95.5075	---	277.7901	50.61897	---	50.61897	66.31086	157.425	11.33717	26.91495	no
Total Lead	640.7305	39.15683	---	205.0338	20.75312	---	20.75312	27.18659	64.5422	4.64809	11.03478	no
Total Mercury	11.91958	0.50444	---	3.814265	0.267353	---	0.267353	0.350233	0.831468	0.059879	0.142156	no
Total Nickel	6712.213	1845.317	---	2147.908	978.0179	---	978.0179	1281.203	3041.636	219.0473	520.0284	no
Total Zinc	7487.252	1544.59	---	2395.921	818.6327	---	818.6327	1072.409	2545.948	183.3497	435.2807	no
Total Cyanide	106.3398	73.67207	520222	34.02873	39.0462	520222	34.02873	44.57763	105.8293	7.621438	18.09364	no
DIOXIN												
2,3,7,8 TCDD; dioxin	---	---	0.000087	---	---	0.000087	0.000087	0.000087	0.000208	0.000015	0.000036	no
VOLATILE COMPOUNDS												
Benzene	5210.417	15938.67	1518.3	1667.333	8447.495	1518.3	1518.3	1518.3	3613.554	259.5838	617.8094	no
Bromoform	6788.138	20755.69	4214.801	2172.204	11000.52	4214.801	2172.204	2845.587	6755.555	486.5101	1154.997	no
Bromodichloromethane	---	---	400.8312	---	---	400.8312	400.8312	400.8312	953.9784	68.53012	163.1017	no
Carbon Tetrachloride	6324.784	19338.92	145.7568	2023.931	10249.63	145.7568	145.7568	145.7568	346.9012	24.92004	59.3097	no
Chloroform	6695.467	20472.33	8502.481	2142.549	10850.34	8502.481	2142.549	2806.74	6663.329	479.8683	1139.229	no
Dibromochloromethane	---	---	617.0372	---	---	617.0372	617.0372	617.0372	1468.549	105.4948	251.0777	no
1,2-Dichloroethane	27337.89	83589.46	825.9553	8748.126	44302.42	825.9553	825.9553	825.9553	1965.774	141.2136	336.0883	no
1,1-Dichloroethylene	2687.454	8217.269	70.44913	859.9852	4355.153	70.44913	70.44913	70.44913	167.6689	12.04469	28.66636	no
1,3-Dichloropropylene	1403.963	4292.815	6593.502	449.2681	2275.192	6593.502	449.2681	588.5413	1397.224	100.6229	238.8834	no
Ethylbenzene	7413.666	22668.33	328075.2	2372.373	12014.21	328075.2	2372.373	3107.809	7378.08	531.3421	1261.43	no
Methyl Chloride	127422.4	389611.9	---	40775.16	206494.3	---	40775.16	53415.46	126810.8	9132.442	21680.83	no
Methylene Chloride	44713.67	136718.4	10567.37	14308.38	72460.73	10567.37	10567.37	10567.37	25150.34	1806.703	4299.953	no
1,1,2,2-Tetrachloro-ethane	2159.23	6602.151	218.6352	690.9537	3499.14	218.6352	218.6352	218.6352	520.3518	37.38006	88.96455	no

Appendix B-2
TIN, Inc. d/b/a Temple-Inland (Phase II)
LA0007901, AI 38936

(*1) Toxic Parameters	(*2) Instream Conc. ug/L	(*3) CuEffluent /Tech (Avg) lbs/day	(*4) Effluent /Tech (Max) lbs/day	(*5) MQLEffluent 95th % 1=No 95% 0=95 % ug/L	(*6) estimate Non-Tech lbs/day	(*7)	(*8) Numerical Criteria Acute FW ug/L	(*9) Chronic FW ug/L	(*10) HHNDW ug/L	(*11) HH Carcinogen Indicator "C"
VOLATILE COMPOUNDS (cont'd)										
Tetrachloroethylene				10			1290	645	2.5	C
Toluene				10			1270	635	46200	
1,1,1-Trichloroethane				10			5280	2640		
1,1,2-Trichloroethane				10			1800	900	6.9	C
Trichloroethylene				10			3900	1950	21	C
Vinyl Chloride				10					35.8	C
ACID COMPOUNDS										
2-Chlorophenol				10			258	129	126.4	
2,4-Dichlorophenol				10			202	101	232.6	
BASE NEUTRAL COMPOUNDS										
Benzidine				50			250	125	0.00017	C
Hexachlorobenzene				10					0.00025	C
Hexachlorabutadiene				10			5.1	1.02	0.11	C
PESTICIDES										
Aldrin				0.05			3		0.0004	C
Hexachlorocyclohexane (gamma BHC, Lindane)				0.05			5.3	0.21	0.2	C
Chlordane				0.2			2.4	0.0043	0.00019	C
4,4'-DDT				0.1			1.1	0.001	0.00019	C
4,4'-DDE				0.1			52.5	10.5	0.00019	C
4,4'-DDD				0.1			0.03	0.006	0.00027	C
Dieldrin				0.1			0.2374	0.0557	0.00005	C
Endosulfan				0.1			0.22	0.056	0.64	
Endrin				0.1			0.0864	0.0375	0.26	
Heptachlor				0.05			0.52	0.0038	0.00007	C
Toxaphene				5			0.73	0.0002	0.00024	C
Other Parameters:										
Fecal Col.(col/100ml)										
Chlorine							19	11		
Ammonia								4000		
Chlorides										
Sulfates								15000	15000	
TDS										

Appendix B-2
TIN, Inc. d/b/a Temple-Inland (Phase II)
LA0007901, AI 38936

(*1) Toxic Parameters	(*12) WLAa Acute ug/L	(*13) WLAc Chronic ug/L	(*14) WLAh HHNDW ug/L	(*15) LTAa Acute ug/L	(*16) LTAc Chronic ug/L	(*17) LTAh HHNDW ug/L	(*18) Limiting A,C,HH ug/L	(*19) WQBL Avg 001 ug/L	(*20) WQBL Max 001 ug/L	(*21) WQBL Avg 001 lbs/day	(*22) WQBL Max 001 lbs/day	(*23) Need WQBL?
Tetrachloroethylene	2988.634	9138.17	303.66	956.3629	4843.23	303.66	303.66	303.66	722.7109	51.91676	123.5619	no
Toluene	2942.299	8996.493	1871244	941.5356	4768.141	1871244	941.5356	1233.412	2928.176	210.8764	500.6302	no
1,1,1-Trichloroethane	12232.55	37402.74	---	3914.416	19823.45	---	3914.416	5127.884	12173.83	876.7144	2081.36	no
1,1,2-Trichloroethane	4170.187	12750.94	838.1017	1334.46	6757.996	838.1017	838.1017	838.1017	1994.682	143.2902	341.0308	no
Trichloroethylene	9035.405	27627.03	2550.744	2891.33	14642.32	2550.744	2550.744	2550.744	6070.771	436.1008	1037.92	no
Vinyl Chloride	---	---	4348.412	---	---	4348.412	4348.412	4348.412	10349.22	743.448	1769.406	no
ACID COMPOUNDS												
2-Chlorophenol	597.7268	1827.634	5119.594	191.2726	968.646	5119.594	191.2726	250.5671	594.8577	42.83945	101.7028	no
2,4-Dichlorophenol	467.9877	1430.938	9421.025	149.756	758.3973	9421.025	149.756	196.1804	465.7413	33.54097	79.62779	no
BASE NEUTRAL COMPOUNDS												
Benzidine	579.1926	1770.963	0.020649	185.3416	938.6105	0.020649	0.020649	0.020649	0.049144	0.00353	0.008402	no
Hexachlorobenzene	---	---	0.030366	---	---	0.030366	0.030366	0.030366	0.072271	0.005192	0.012356	no
Hexachlorabutadiene	11.81553	14.45106	13.36104	3.78097	7.659062	13.36104	3.78097	4.95307	11.75882	0.846826	2.010405	no
PESTICIDES												
Aldrin	6.950312	---	0.048586	2.2241	---	0.048586	0.048586	0.048586	0.115634	0.008307	0.01977	no
Hexachlorocyclohexane (gamma BHC, Lindane)	12.27888	2.975218	24.2928	3.929243	1.576866	24.2928	1.576866	2.065694	4.904052	0.353172	0.838446	no
Chlordane	5.560249	0.060921	0.023078	1.77928	0.032288	0.023078	0.023078	0.023078	0.054926	0.003946	0.009391	no
4,4'-DDT	2.548448	0.014168	0.023078	0.815503	0.007509	0.023078	0.007509	0.009837	0.023353	0.001682	0.003993	no
4,4'-DDE	121.6305	148.7609	0.023078	38.92175	78.84328	0.023078	0.023078	0.023078	0.054926	0.003946	0.009391	no
4,4'-DDD	0.069503	0.085006	0.032795	0.022241	0.045053	0.032795	0.022241	0.029136	0.06917	0.004981	0.011826	no
Dieldrin	0.550001	0.789141	0.006073	0.176	0.418245	0.006073	0.006073	0.006073	0.014454	0.001038	0.002471	no
Endosulfan	0.50969	0.793392	25.92199	0.163101	0.420498	25.92199	0.163101	0.213662	0.507243	0.03653	0.086723	no
Endrin	0.200169	0.531289	10.53081	0.064054	0.281583	10.53081	0.064054	0.083911	0.199208	0.014346	0.034059	no
Heptachlor	1.204721	0.053837	0.008502	0.385511	0.028534	0.008502	0.008502	0.008502	0.020236	0.001454	0.00346	no
Toxaphene	1.691243	0.002834	0.029151	0.541198	0.001502	0.029151	0.001502	0.001967	0.004671	0.000336	0.000799	no
Other Parameters:												
Fecal Col.(col/100ml)	---	---	---	---	---	---	---	---	---	---	---	no
Chlorine	44.01864	155.8448	---	14.08597	82.59772	---	14.08597	18.45261	43.80735	3.154843	7.489743	no
Ammonia	---	56670.82	---	---	30035.54	---	30035.54	39346.55	93410.52	6727.08	15970.4	no
Chlorides	---	---	---	---	---	---	---	---	---	---	---	no
Sulfates	---	1821960	1821960	---	965638.9	1821960	965638.9	1264987	3003137	216274.8	513446.3	no
TDS	---	---	---	---	---	---	---	---	---	---	---	no
	---	---	---	---	---	---	---	---	---	---	---	no
	---	---	---	---	---	---	---	---	---	---	---	no

APPENDIX B-3 LA0007901, AI No. 38936

Documentation and Explanation of Water Quality Screen
and Associated Lotus Spreadsheet

Each reference column is marked by a set of parentheses enclosing a number and asterisk, for example (*1) or (*19). These columns represent inputs, existing data sets, calculation points, and results for determining Water Quality Based Limits for an effluent of concern. The following represents a summary of information used in calculating the water quality screen:

Receiving Water Characteristics:

Receiving Water: Pearl River
Critical Flow, Qrc (cfs): 1,253
Harmonic Mean Flow, Qrh (cfs): 3,821
Segment No.: 090101
Receiving Stream Hardness (mg/L): 16.1 [Site-specific hardness at the edge of the Zone of Initial Dilution and Mixing Zone was considered utilizing both effluent hardness (from data supplied by permittee by letter from Schurtz, C-K Associates to Aydell, LDEQ on 2/10/98) and receiving water hardness (from Engineering Memo) for all hardness dependent metals.]
Receiving Stream TSS (mg/L): 16
MZ Stream Factor, Fs: 0.333
Plume distance, Pf: N/A

Effluent Characteristics:

Company: TIN Inc. d/b/a Temple Inland, Bogalusa Paperboard Mill
Facility flow, Qe (MGD): 22.4, Max 30-Day (Phase I) and 20.5, Max 30-Day (Phase II)
Effluent Hardness: 152.3 [Site-specific hardness at the edge of the Zone of Initial Dilution and Mixing Zone was considered utilizing both effluent hardness (from data supplied by permittee by letter from Schurtz, C-K Associates to Aydell, LDEQ on 2/10/98) and receiving water hardness (from Engineering Memo) for all hardness dependent metals.]
Effluent TSS: N/A
Pipe/canal width, Pw: N/A
Permit Number: LA0007901

Variable Definition:
Qrc, critical flow of receiving stream, cfs
Qrh, harmonic mean flow of the receiving stream, cfs
Pf = Allowable plume distance in feet, specified in LAC 33:IX.1115.D
Pw = Pipe width or canal width in feet
Qe, total facility flow , MGD
Fs, stream factor from LAC 33:IX Chapter 11 (1 for harmonic mean flow)
Cu, ambient concentration, ug/L
Cr, numerical criteria from LAC 33:IX.1113, Table 1
WLA, wasteload allocation
LTA, long term average calculations
WQBL, effluent water quality based limit
ZID, Zone of Initial Dilution in % effluent
MZ, Mixing Zone in % effluent

Formulas used in aquatic life water quality screen (dilution type WLA):

Streams:

$$\text{Dilution Factor} = \frac{Qe}{(Qrc \times 0.6463 \times Fs + Qe)}$$

$$\text{WLA a,c,h} = \frac{Cr}{\text{Dilution Factor}} - \frac{(Fs \times Qrc \times 0.6463 \times Cu)}{Qe}$$

Static water bodies (in the absence of a site specific dilution):

Discharge from a pipe:

$$\text{Critical Dilution} = \frac{(2.8)\ Pw\ n^{1/2}}{Pf}$$

$$WLA = \frac{(Cr-Cu)\ Pf}{(2.8)\ Pw\ n^{1/2}}$$

Discharge from a canal:

$$\text{Critical Dilution} = \frac{(2.38)(Pw^{1/2})}{(Pf)^{1/2}}$$

$$WLA = \frac{(Cr-Cu)\ Pf^{1/2}}{2.38\ Pw^{1/2}}$$

Formulas used in human health water quality screen, human health non-carcinogens (dilution type WLA):

Streams:

$$\text{Dilution Factor} = \frac{Qe}{(Qrc \times 0.6463 + Qe)}$$

$$\text{WLA a,c,h} = \frac{Cr}{\text{Dilution Factor}} - \frac{(Qrc \times 0.6463 \times Cu)}{Qe}$$

Formulas used in human health water quality screen, human health carcinogens (dilution type WLA):

$$\text{Dilution Factor} = \frac{Qe}{(Qrh \times 0.6463 + Qe)}$$

$$\text{WLA a,c,h} = \frac{Cr}{\text{Dilution Factor}} - \frac{(Qrh \times 0.6463 \times Cu)}{Qe}$$

Static water bodies in the absence of a site specific dilution (human health carcinogens and human health non-carcinogens):

Discharge from a pipe:

$$\text{Critical Dilution} = \frac{(2.8)\ Pw\ n^{1/2}}{Pf}$$

Discharge from a canal:

$$\text{Critical Dilution} = \frac{(2.38)(Pw^{1/2})}{(Pf)^{1/2}}$$

$$WLA = \frac{(Cr-Cu)\ Pf^{*}}{(2.8)\ Pw\ n^{1/2}} \qquad WLA = \frac{(Cr-Cu)\ Pf^{1/2*}}{2.38\ Pw^{1/2}}$$

* Pf is set equal to the mixing zone distance specified in LAC 33:IX.1115 for the static water body type, i.e., lake, estuary, Gulf of Mexico, etc.

If a site specific dilution is used, WLA are calculated by subtracting Cu from Cr and dividing by the site specific dilution for human health and aquatic life criteria.

$$WLA = \frac{(Cr-Cu)}{\text{site specific dilution}}$$

Long Term Average Calculations:
LTAa = WLAa X 0.32
LTAc = WLAc X 0.53
LTAh = WLAh

WQBL Calculations:
Select most limiting LTA to calculate daily max and monthly avg WQBL

If aquatic life LTA is more limiting:
Daily Maximum = Min(LTAa, LTAc) X 3.11
Monthly Average = Min(LTAc, LTAc) X 1.31

If human health LTA is more limiting:
Daily Maximum = LTAh X 2.38
Monthly Average = LTAh

Mass Balance Formulas:

mass (lbs/day): (ug/L) X 1/1000 X (flow, MGD) X 8.34 = lbs/day

$$\text{concentration(ug/L)}: \frac{\text{lbs/day}}{(\text{flow, MGD}) \times 8.34 \times 1/1000} = \text{ug/L}$$

The following is an explanation of the references in the spreadsheet.

(*1) Parameter being screened.
(*2) Instream concentration for the parameter being screened in ug/L. In the absence of accurate supporting data, the instream concentration is assumed to be zero (0).
(*3) Monthly average effluent or technology value in concentration units of ug/L or mass units of lbs/day. Units determined on a case-by-case basis as appropriate to the particular situation.
(*4) Daily maximum technology value in concentration units of ug/L or mass units of lbs/day. Units determined on a case-by-case basis as appropriate to the particular situation.
(*5) Minimum analytical Quantification Levels (MQLs). Established in a letter dated January 27, 1994 from Wren Stenger of EPA Region 6 to

Kilren Vidrine of LDEQ and from the "Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards". The applicant must test for the parameter at a level at least as sensitive as the specified MQL. If this is not done, the MQL becomes the application value for screening purposes if the pollutant is suspected to be present on-site and/or in the waste stream. Units are in ug/l or lbs/day depending on the units of the effluent data.

(*6) States whether effluent data is based on 95th percentile estimation. A "1" indicates that a 95th percentile approximation is being used, a "0" indicates that no 95th percentile approximation is being used.

(*7) 95th percentile approximation multiplier (2.13). The constant, 2.13, was established in memorandum of understanding dated October 8, 1991 from Jack Ferguson of Region 6 to Jesse Chang of LDEQ and included in the "Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards". This value is screened against effluent Water Quality Based Limits established in columns (*18) - (*21). Units are in ug/l or lbs/day depending on the units of the measured effluent data.

(*8) LAC 33.IX.1113.C.6, Table 1, Numerical Criteria for Specific Toxic Substances, freshwater (FW) or marine water (MW) (whichever is applicable) aquatic life protection, acute criteria. Units are specified. Some metals are hardness dependent. The hardness of the receiving stream shall generally be used, however a flow weighted hardness may be determined in site-specific situations. Dissolved metals are converted to Total metals using partition coefficients in accordance with the "Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards". Similar to hardness, the TSS of the receiving stream shall generally be used, however, a flow weighted TSS may be determined in site-specific situations.

Hardness Dependent Criteria:

Metal	Formula
Cadmium	$e^{(1.1280[\ln(hardness)] - 1.6774)}$
Chromium III	$e^{(0.8190[\ln(hardness)] + 3.6880)}$
Copper	$e^{(0.9422[\ln(hardness)] - 1.3884)}$
Lead	$e^{(1.2730[\ln(hardness)] - 1.4600)}$
Nickel	$e^{(0.8460[\ln(hardness)] + 3.3612)}$
Zinc	$e^{(0.8473[\ln(hardness)] + 0.8604)}$

Dissolved to Total Metal Multipliers for Freshwater Streams (TSS dependent):

Metal	Multiplier
Arsenic	$1 + 0.48 \times TSS^{-0.73} \times TSS$
Cadmium	$1 + 4.00 \times TSS^{-1.13} \times TSS$
Chromium III	$1 + 3.36 \times TSS^{-0.93} \times TSS$
Copper	$1 + 1.04 \times TSS^{-0.74} \times TSS$
Lead	$1 + 2.80 \times TSS^{-0.80} \times TSS$
Mercury	$1 + 2.90 \times TSS^{-1.14} \times TSS$
Nickel	$1 + 0.49 \times TSS^{-0.57} \times TSS$
Zinc	$1 + 1.25 \times TSS^{-0.70} \times TSS$

Dissolved to Total Metal Multipliers for Marine Environments (TSS dependent):

Metal	Multiplier
Copper	$1 + (10^{4.86} \times TSS^{-0.72} \times TSS) \times 10^{-6}$
Lead	$1 + (10^{6.06} \times TSS^{-0.85} \times TSS) \times 10^{-6}$
Zinc	$1 + (10^{5.36} \times TSS^{-0.52} \times TSS) \times 10^{-6}$

If a metal does not have multiplier listed above, then the dissolved to total metal multiplier shall be 1.

(*9) LAC 33.IX.1113.C.6, Table 1, Numerical Criteria for Specific Toxic Substances, freshwater (FW) or marine water (MW) (whichever is applicable) aquatic life protection, chronic criteria. Units are specified. Some metals are hardness dependent. The hardness of the receiving stream shall generally be used, however a flow weighted hardness may be determined in site-specific situations. Dissolved metals are converted to Total metals using partition coefficients in accordance with the "Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards". Similar to hardness, the TSS of the receiving stream shall generally be used, however, a flow weighted TSS may be determined in site-specific situations.

Hardness dependent criteria:

Metal	Formula
Cadmium	$e^{(0.7852[\ln(hardness)] - 3.4900)}$
Chromium III	$e^{(0.8473[\ln(hardness)] + 0.7614)}$

Copper	$e^{(0.8545[\ln(hardness)] - 1.3860)}$
Lead	$e^{(1.2730[\ln(hardness)] - 4.7050)}$
Nickel	$e^{(0.8460[\ln(hardness)] + 1.1645)}$
Zinc	$e^{(0.8473[\ln(hardness)] + 0.7614)}$

Dissolved to total metal multiplier formulas are the same as (*8), acute numerical criteria for aquatic life protection.

(*10) LAC 33.IX.1113.C.6, Table 1, Numerical Criteria for Specific Toxic Substances, human health protection, drinking water supply (HHDW), non-drinking water supply criteria (HHNDW), or human health non-primary contact recreation (HHNPCR) (whichever is applicable). A DEQ and EPA approved Use Attainability Analysis is required before HHNPCR is used, e.g., Monte Sano Bayou. Units are specified.

(*11) C if screened and carcinogenic. If a parameter is being screened and is carcinogenic a "C" will appear in this column.

(*12) Wasteload Allocation for acute aquatic criteria (WLAa). Dilution type WLAa is calculated in accordance with the "Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards". Negative values indicate that the receiving water is not meeting the acute aquatic numerical criteria for that parameter. Units are in ug/L.
Dilution WLAa formulas for streams:

$$WLAa = (Cr/Dilution\ Factor) - \frac{(Fs \times Qrc \times 0.6463 \times Cu)}{Qe}$$

Dilution WLAa formulas for static water bodies:
WLAa = (Cr-Cu)/Dilution Factor)
Cr represents aquatic acute numerical criteria from column (*8).
If Cu data is unavailable or inadequate, assume Cu=0.

If water quality standards are being applied at end-of-pipe, such as in the case of certain TMDLs, then a blank shall appear in this column.

(*13) Wasteload Allocation for chronic aquatic criteria (WLAc). Dilution type WLAc is calculated in accordance with the "Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards". Negative values indicate that the receiving water is not meeting the chronic aquatic numerical criteria for that parameter. Units are in ug/L.
Dilution WLAc formula:

$$WLAc = (Cr/Dilution\ Factor) - \frac{(Fs \times Qrc \times 0.6463 \times Cu)}{Qe}$$

Dilution WLAc formulas for static water bodies:
WLAc = (Cr-Cu)/Dilution Factor)
Cr represents aquatic chronic numerical criteria from column (*9).
If Cu data is unavailable or inadequate, assume Cu=0.
If water quality standards are being applied at end-of-pipe, such as in the case of certain TMDLs, then a blank shall appear in this column.

(*14) Wasteload Allocation for human health criteria (WLAh). Dilution type WLAh is calculated in accordance with the "Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards". Negative values indicate that the receiving water is not meeting the human health numerical criteria for that parameter. Units are in ug/L. Dilution WLAh formula:

$$WLAh = (Cr/\text{Dilution Factor}) - \frac{(Fs \times Qrc, Qrh \times 0.6463 \times Cu)}{Qe}$$

Dilution WLAh formulas for static water bodies:
WLAh = (Cr-Cu)/Dilution Factor)
Cr represents human health numerical criteria from column (*10).
If Cu data is unavailable or inadequate, assume Cu=0.
If water quality standards are being applied at end-of-pipe, such as in the case of certain TMDLs, then a blank shall appear in this column.

(*15) Long Term Average for aquatic numerical criteria (LTAa). WLAa numbers are multiplied by a multiplier specified in the "Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards" which is 0.32. WLAa X 0.32 = LTAa.
If water quality standards are being applied at end-of-pipe, such as in the case of certain TMDLs, then a blank shall appear in this column.

(*16) Long Term Average for chronic numerical criteria (LTAc). WLAc numbers are multiplied by a multiplier specified in the "Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards" which is 0.53. WLAc X 0.53 = LTAc.
If water quality standards are being applied at end-of-pipe, such as in the case of certain TMDLs, then a blank shall appear in this column.

(*17) Long Term Average for human health numerical criteria (LTAh). WLAh numbers are multiplied by a multiplier specified in the "Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards" which is 1. WLAc X 1 = LTAh.
If water quality standards are being applied at end-of-pipe, such as in the case of certain TMDLs, then a blank shall appear in this column.

(*18) Limiting Acute, Chronic or Human Health LTA's. The most limiting LTA is placed in this column. Units are consistent with the WLA calculation. If standards are being applied at end-of-pipe, such as in the case of certain TMDLs, then the type of limit, Aquatic or Human Health (HH), is indicated.

(*19) End of pipe Water Quality Based Limit (WQBL) monthly average in terms of concentration, ug/L. If aquatic life criteria was the most limiting LTA then the limiting LTA is multiplied by 1.31 to determine the average WQBL ($LTA_{limiting\ aquatic} \times 1.31 = WQBL_{monthly\ average}$). If human health criteria was the most limiting criteria then $LTAh = WQBL_{monthly\ average}$. If water quality standards are being applied at end-of-pipe, such as in the case of certain TMDLs, then either the human health criteria or the chronic aquatic life criteria shall appear in this column depending on which is more limiting.

(*20) End of pipe Water Quality Based Limit (WQBL) daily maximum in terms of concentration, ug/L. If aquatic life criteria was the most limiting LTA then the limiting LTA is multiplied by 3.11 to determine the daily maximum WQBL ($LTA_{limiting\ aquatic} \times 3.11 = WQBL_{daily\ max}$). If human health criteria was the most limiting criteria then LTAh is multiplied by 2.38 to determine the daily maximum WQBL ($LTA_{limiting\ aquatic} \times 2.38 = WQBL_{daily\ max}$). If water quality standards are being applied at end-of-pipe, such as in the case of certain TMDLs, then either the human health criteria or the acute aquatic life criteria shall appear in this column depending on which is more limiting.

(*21) End of pipe Water Quality Based Limit (WQBL) monthly average in terms of mass, lbs/day. The mass limit is determined by using the mass balance equations above. Monthly average WQBL, ug/l/1000 X facility flow, MGD X 8.34 = monthly average WQBL, lbs/day.

(*22) End of pipe Water Quality Based Limit (WQBL) monthly average in terms of mass, lbs/day. Mass limit is determined by using the mass balance equations above. Daily maximum WQBL, ug/l/1000 X facility flow, MGD X 8.34 = daily maximum WQBL, lbs/day.

(*23) Indicates whether the screened effluent value(s) need water quality based limits for the parameter of concern. A "yes" indicates that a water quality based limit is needed in the permit; a "no" indicates the reverse.

Appendix C

BIOMONITORING FREQUENCY RECOMMENDATION AND RATIONALE FOR ADDITIONAL REQUIREMENTS

Permit Number: **LA0007901**
Facility Name: **TIN, Inc. d/b/a Temple-Inland**
Previous Critical Biomonitoring Dilution: **8%**
Proposed Critical Biomonitoring Dilution:
Phase I: **8%**
Phase II: **7%**
Date of Review: **9/04/09**
Name of Reviewer: **Laura Thompson**

Recommended Frequency by Species:

***Pimephales promelas* (Fathead minnow): Once/Quarter[1]**
***Ceriodaphnia dubia* (water flea): Once/Quarter[1]**

Recommended Dilution Series:
Phase I: **3%, 4%, 6%, 8%, and 10%**
Phase II: **3%, 4%, 5%, 7%, and 9%**

Number of Tests Performed during previous 5 years by Species:

***Pimephales promelas* (Fathead minnow): 13**
***Daphnia pulex* (water flea): N/A – Testing of species was not required**
***Ceriodaphnia dubia* (water flea): 13**

Number of Failed Tests during previous 5 years by Species:

***Pimephales promelas* (Fathead minnow): 2 sub-lethal**
***Daphnia pulex* (water flea): N/A – Testing of species was not required**
***Ceriodaphnia dubia* (water flea): No failures on file during the past five years**

Failed Test Dates during previous 5 years by Species:

***Pimephales promelas* (Fathead minnow): Monitoring periods of: 1/1/08-3/31/08; 4/1/08-6/30/08**
***Daphnia pulex* (water flea): N/A – Testing of species was not required**
***Ceriodaphnia dubia* (water flea): No failures on file during the past five years**

Previous TRE Activities: **N/A – No previous TRE Activities**

[1] This facility shall have an established biomonitoring testing frequency of once per quarter for the term of the permit

Additional Requirements (including WET Limits) Rationale / Comments Concerning Permitting:

TIN, Inc. d/b/a Temple-Inland is an unbleached kraft paper mill, container plant, and dimethyl sulfide and dimethyl sulfoxide manufacturing plant in Bogalusa, Washington Parish, Louisiana. LPDES Permit LA0007901, effective July 1, 2006, contained freshwater chronic biomonitoring as an effluent characteristic of Outfall 001 for *Ceriodaphnia dubia* and *Pimephales promelas*. The effluent series consisted of 3%, 4%, 6%, 8%, and 10% concentrations, with 8% being defined as the critical biomonitoring dilution. The testing was to be performed once per quarter for *Ceriodaphnia dubia* and *Pimephales promelas*. Data on file indicate that the permittee has experienced 2 sub-lethal failures to the *Pimephales promelas* during the past five years.

The calculation spreadsheet indicates that reasonable potential for future toxicity may exist for TIN, Inc. d/b/a Temple-Inland. According to data on file with LDEQ, this facility has experienced two sub-lethal biomonitoring failures to the *Pimephales promelas* during the past five years. However, this permit has not yet been effective for a complete five year term. The permittee has requested a modification to the existing permit. A complete biomonitoring history review will be conducted upon reissuance and a new recommendation will be made at that time. Based on analysis of the available information during the current permit term, LDEQ has determined that a WET limit is not warranted at this time. In order to generate a complete compliance record, the frequency reduction option will not be available under this modification.

It is recommended that freshwater chronic biomonitoring continue to be an effluent characteristic of Outfall 001 during both Phase I (discharge of 22.4 mg) and Phase II (discharge of 20.5 mgd) of operation in LA0007901. The effluent dilution series shall be:

Phase I:	**3%, 4%, 6%, 8%, and 10% concentrations, with 8% being the defined critical biomonitoring dilution**
Phase II:	**3%, 4%, 5%, 7%, and 9% concentrations, with 7% being the defined critical biomonitoring dilution**

In accordance with the Environmental Protection Agency (Region 6) WET testing frequency acceleration(s), the biomonitoring frequency shall be once per quarter for *Ceriodaphnia dubia* and *Pimephales promelas* during both phases of operation.

This recommendation is in accordance with the LDEQ/OES Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, Water Quality Management Plan Volume 3. Version 6 (April 16, 2008), and the Best Professional Judgment (BPJ) of the reviewer.