Exhibit F

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE
DALLAS, TEXAS 75202-2733

DEC 0 7 2006

CERTIFIED MAIL: RETURN RECEIPT REQUESTED (P 7004 1160 0003 0352 0758)

REPLY TO: 6WQ-NP

San Jacinto River Authority
Donald R. Sarich, Division Manager
P.O. Box 7537
Woodlands, TX 77387

Re: Application to Discharge to Waters of the United States Permit No. TX0054186 San Jacinto River Authority, Woodlands POTW No. 1.

Dear Mr. Sarich:

Enclosed is a copy of a proposed National Pollutant Discharge Elimination System permit developed in accordance with the requirements of the Clean Water Act. Also enclosed is a fact sheet explaining the permit conditions and the public notice for this permit.

Any comments you wish to make may be submitted in writing by the due date stated in the public notice to Ms. Diane Smith at the above address. After all comments have been received, the Agency will make a final permit issuance decision. Subsequently, a copy of the final permit will be mailed to you. Should you have any questions regarding the final permit, please feel free to contact Laurence Giglio of the NPDES Permits & Technical Branch at the above address or Voice: (214) 665-6639, Fax: (214) 665-2191, or E-mail: giglio.larry@epa.gov.

Sincerely yours,

Claudia V. Hosch

Claudia V. Hosch
Branch Chief
NPDES Permits Branch

Enclosures

cc (with enclosures):

L'Oreal Stepney, Water Quality Director, TCEQ

U.S. Environmental Protection Agency
Public Notice of Draft NPDES Permit(s)

December 7, 2006

This is to give notice that the U.S. Environmental Protection Agency, Region 6, has formulated a Draft Permit for the following facility (facilities) under the National Pollutant Discharge Elimination System (NPDES). Development of the draft permit(s) was based on a preliminary staff review by EPA, Region 6, and consultation with the State of Texas. The Texas Commission on Environmental Quality (TCEQ) is currently reviewing the draft permit(s) under Section 401 of the Clean Water Act and in accordance with Title 31 Texas Administrative Code Section 279.1-279.13 to determine if the activities contemplated by this permit comply with State water quality standards.

The Texas Commission on Environmental Quality (TCEQ) certification is required. Concurrent with EPA processing of this application, the TCEQ is reviewing this application under Section 401 of the CWA and in accordance with Title 30, Texas Administrative Code Section 279.1-13 to determine if the work would comply with State water quality standards. This public notice is also issued for the purpose of advising all known interested persons that there is pending before the TCEQ a decision on water quality certification under such act. Any comments concerning this application may be submitted to the Texas Commission on Environmental Quality, 401 Coordinator, MSC-150, P.O. Box 13087, Austin, Texas 78711-3087. The public comment period extends 30 days from the date of publication of this notice. A copy of the public notice with a description of work is made available for review in the TCEQ's Austin office. The complete application may be reviewed in the EPA office listed in this public notice. The TCEQ may conduct a public meeting to consider all comments concerning water quality if requested in writing. A request for a public meeting must contain the following information: the name, mailing address, application number, or other recognizable reference to the application; a brief description of the interest of the requester, or of persons represented by the requester; and a brief description of how the application, if granted, would adversely affect such interest.

The permit(s) will become effective no sooner than 30 days after the close of the comment period unless:

A. The State of Texas denies certification, or requests an extension for certification prior to that date.

B. Comments received by January 8, 2007, in accordance with §124.20, warrant a public notice of EPA's final permit decision.

C. A public hearing is held requiring delay of the effective date.

EPA's contact person for submitting written comments, requesting information regarding

the draft permit, and/or obtaining copies of the permit and the Statement of Basis or Fact Sheet is:

Ms. Diane Smith
Planning and Analysis Branch (6WQ-NP)
U.S. Environmental Protection Agency
1445 Ross Avenue
Dallas, Texas 75202-2733
(214) 665-2145

EPA's comments and public hearing procedures may be found at 40 CFR 124.10 and 124.12 (48 Federal Register 14264, April 1, 1983, as amended at 49 Federal Register 38051, September 26, 1984). The comment period during which written comments on the draft permit may be submitted extends for 30 days from the date of this Notice. During the comment period, any interested person may request a Public Hearing by filing a written request which must state the issues to be raised. A public hearing will be held when EPA finds a significant degree of public interest.

EPA will notify the applicant and each person who has submitted comments or requested notice of the final permit decision. A final permit decision means a final decision to issue, deny, modify, revoke or reissue, or terminate a permit. Any person may request an Evidentiary Hearing on the Agency's final permit decision. However, the request must be submitted within 30 days of the date of the final permit decision and be in accordance with the requirements of 40 CFR 124.74. If a hearing is granted for any condition(s) contested in a request for an evidentiary hearing on a New Source, New Discharger, or Recommencing Discharger, the applicant may be without a permit.

Further information including the administrative record may be viewed at the above address between 8 a.m. and 4:30 p.m., Monday through Friday. It is recommended that you write or call to the contact above for an appointment, so the record(s) will be available at your convenience.

NPDES authorization to discharge to waters of the United States, Permit No. TX0054186

The applicant's mailing address is:

San Jacinto River Authority (SJRA)
Woodlands Wastewater Treatment Plant No. 1
2436 Sawdust Road
The Woodlands, TX 77380

The facility is authorized to discharge from a facility located at 2436 Sawdust Road, The Woodlands, Montgomery County, Texas, from Outfall 001 to Panther Branch, thence Spring Creek and/or Outfall 002 to Lake "B", the upper portion o0f Harrison Lake, thence to a tributary of Panther Branch, thence to Panther Branch, thence Spring Creek, both in Segment 1008 of the San Jacinto River Basin.

Under the standard industrial classification (SIC) code 4952, the applicant currently operates a publicly owned treatment works, serving a population of 37,333.

Changes from the previous permit issued September 1, 1989, with an effective date of October 2, 1989 and expiration date of October 1, 1994 are:

A. New limitations for E. coli have been added, with a three-month compliance schedule.
B. "Report" requirements have been added for nitrate-nitrogen, dibromochloromethane and copper.
C. Whole effluent toxicity limits have been added and a compliance schedule of December 31, 2009, has been granted to achieve compliance.
D. Dissolved oxygen limits have been made more restrictive from 4 mg/l to 6 mg/l, with a three-month compliance schedule.
E. The design flow has been increased from 6 MGD to 7.8 MGD.

A fact sheet describing permit condition development is available.

NPDES PERMIT NO. TX0054186
FACT SHEET

FOR THE DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE TO WATERS OF THE UNITED STATES

I. APPLICANT

San Jacinto River Authority (SJRA)
Woodlands Wastewater Treatment Plant No. 1
2436 Sawdust Road
The Woodlands, TX 77380

II. ISSUING OFFICE

U.S. Environmental Protection Agency
Region 6
1445 Ross Avenue
Dallas, TX 75202-2733

III. PREPARED BY

Laurence E. Giglio
Environmental Engineer
NPDES Permits & Technical Branch (6WQ-PP)
Water Quality Protection Division
VOICE: 214-665-6639
FAX: 214-665-2191
EMAIL: giglio.larry@epa.gov

IV. DATE PREPARED

October 26, 2006

V. PERMIT ACTION

Proposed reissuance of the current National Pollutant Discharge Elimination System (NPDES) permit issued September 1, 1989, with an effective date of October 2, 1989 and expiration date of October 1, 1994.

Unless otherwise stated, citations to 40 CFR refer to promulgated regulations listed in Title 40, Code of Federal Regulations, revised as of September 19, 2006.

VI. CHANGES FROM THE PREVIOUS PERMIT

Changes from the previous permit issued September 1, 1989, with an effective date of October 2, 1989 and expiration date of October 1, 1994.

A. New limitations for E. coli have been added, with a three-month compliance schedule.
B. Report requirements have been added for nitrate-nitrogen, dibromochloromethane and copper.
C. Whole effluent toxicity limits have been added and a three-year compliance schedule has been granted to achieve compliance.
D. Dissolved oxygen limits have been made more restrictive from 4 mg/l to 6 mg/l, with a three-month compliance schedule.
E. The design flow has been increased from 6 MGD to 7.8 MGD.

VII. DISCHARGE LOCATION

As described in the application, the plant site is located at 2436 Sawdust Road, The Woodlands, Montgomery County, Texas. The discharge from the facility is through existing Outfall 001 and a built, but not yet used Outfall 002. Outfall 001 is located at Latitude 30° 08' 06" North, Longitude 95° 28' 38" West. Outfall 002 is located at Latitude 30° 08' 31.5" North, Longitude 95° 28' 14.9" West.

VIII. APPLICANT ACTIVITY

Under the Standard Industrial Classification (SIC) Code 4952, the applicant operates a publicly owned treatment works (POTW), serving a population of 37,333.

The treatment provided at the facility includes bar screens, a degritter, aeration basins, secondary clarifiers, tertiary filters to enhance sediment control, followed by chlorine contact chambers, aeration, dechlorination then metering and discharge through the outfall. The design flow for the plant is 7.8 MGD.

Sludge is treated by aerobic digesters, gravity thickening and lastly a belt press. Sludge is disposed by land application as Class B biosolids. The facility has a sludge management and disposal plan on file.

IX. RECEIVING STREAM STANDARDS

The general criteria and numerical criteria which make up the stream standards are provided in the Texas Administrative Code (TAC), 30 TAC Sections 307.1 - §307.10, effective August 17, 2000.

Outfall 001 discharges to Panther Branch, thence to Spring Creek in Segment 1008 of the San Jacinto River Basin. Outfall 002, built but not used, would discharge to Lake "B", the upper portion of Harrison Lake, thence to a tributary of Panther Branch, thence to Panther Branch, thence to Spring Creek in Segment 1008 of the San Jacinto River Basin. This waterbody, Spring Creek in Waterbody Segment Code No. 1008, is designated for contact recreation, high quality aquatic life and public water supply under the Texas Water Quality Standards (TWQS).

X. EFFLUENT CHARACTERISTICS

A quantitative description of the discharge(s) described in the EPA Permit Application Form 2A dated June 1, 2006, and other salient data detected at concentrations above minimum analytical levels (MAL) are presented below:

TABLE I

Parameter	avg (mg/l unless noted)	max
Flow, million gallons/day (MGD)	3.632	4.790
pH, minimum, standard units (SU)	7.38	---
pH, maximum, standard units (SU)	---	7.41
Biochemical Oxygen Demand, 5-day (BOD_5)	3.7	4.7
Carbonaceous Biochemical Oxygen Demand ($CBOD_5$)	2.6	2.9
Ammonia (as N)	<0.1	0.1
Dissolved Oxygen (DO)	7.83	8.09
Nitrate + Nitrite	15.4	16.8
Oil & Grease (O&G)	<5	<5
Phosphorus (as P)	4.6	5
Fecal Coliform Bacteria (FCB) (Colony forming units (CFU)/100 ml)	15	32
Total Suspended Solids (TSS)	2.7	3.4
Total Dissolved Solids (TDS)	579	584
Hardness ($CaCO_3$)	57	62
Copper, total	10 ug/l	12.6 ug/l
Zinc, total	42.3 ug/l	53 ug/l
Chloroform	19.8 ug/l	21.0 ug/l
Dichlorobromomethane	17.8 ug/l	18.8 ug/l
Dibromochloromethane	7.85 ug/l	12.4 ug/l

XI. DRAFT PERMIT RATIONALE AND PROPOSED PERMIT CONDITIONS

The proposed effluent limitations for those pollutants proposed to be limited are based on regulations promulgated at 40 CFR 122.44. The draft permit limits are based on either technology-based effluent limits pursuant to 40 CFR 122.44(a), on best professional judgment (BPJ) in the absence of guidelines, and/or requirements pursuant to 40 CFR 122.44(d), whichever are more stringent.

A. REASON FOR PERMIT ISSUANCE

It is proposed that the permit be issued for a 5-year term following regulations promulgated at 40 CFR 122.46(a).

On January 6, 2006, EPA Region 6 submitted a specific objection to the NPDES permit proposed by the Texas Commission on Environmental Quality (TCEQ) for SJRA. In accordance with EPA regulations found at §123.44(h)(1), "[i]f no public hearing is held under paragraph (e) of this section and the State does not resubmit a permit revised to meet the Regional Administrator's objection within 90 days of receipt of the objection, the Regional Administrator may issue the permit..." No public hearing was requested and TCEQ did not resubmit a permit revised to meet the Regional Administrators objections by April 6, 2006, the 90-day regulatory deadline. Consistent with §123.44(h)(3), on April 6, 2006, ninety days from the receipt of the objection, exclusive authority to issue SJRA's permit passed to EPA.

On April 13, 2006, EPA sent a Section 308 Clean Water Act Information Request for a Permit Application to SJRA. The permit application was received from SJRA on June 7, 2006.

B. OPERATION AND REPORTING

The permittee must submit Discharge Monitoring Report's (DMR's) monthly, beginning on the effective date of the permit, to report on all limitations and monitoring requirements in the permit.

C. SEWAGE SLUDGE REQUIREMENTS

Sludge generated at the facility is land applied as Class B biosolids. The permittee shall use only those sewage sludge disposal or reuse practices complying with the federal regulations established in 40 CFR Part 503, "Standards for the use or Disposal of Sewage Sludge". Part IV of the permit has conditions that apply to sludge generated at this facility. The permittee shall submit an Annual Sludge Status report in accordance with NPDES Permit TX0054186, Parts I and Parts IV.

D. PRETREATMENT REQUIREMENTS

The facility has one categorical and two non-categorical industrial users discharging to the facility. The Pretreatment language used in this permit is the standard Pretreatment language that applies to any publicly owned treatment works (POTW). This language was chosen to be used so not to confuse the situation in which the San Jacinto River Authority (SJRA) has been required to develop a full Pretreatment Program for their three wastewater treatment plants by the Texas Commission on Environmental Quality (TCEQ) through one of their other TPDES permits. The regulatory requirement to develop the Pretreatment Program that would cover all three plants is found at 40 CFR 403.8(a). Through TPDES permit no. 12597-001 (NPDES

Permit No. TX0091715) TCEQ required the SJRA to develop a complete and approvable Pretreatment Program and the Pretreatment language in that permit required the submittal of 7 activities, with activity 7 being the complete and approvable Pretreatment Program. To date SJRA has submitted to TCEQ the first 6 activities and those remain under review.

E. TECHNOLOGY BASED EFFLUENT LIMITATIONS/CONDITIONS

Regulations promulgated at 40 CFR 122.44(a) require that technology-based effluent limitations to be placed in NPDES permits based on effluent limitations guidelines (ELG's) where applicable, on BPJ in the absence of guidelines, or on a combination of the two.

Secondary treatment, established at 40 CFR 133.102(a) and 40 CFR 133.102(b) are 30 mg/l for the 30-day average and 45 mg/l for the 7-day average for BOD_5. The previous NPDES permit with an expiration date of October 1, 1994, had a design flow of 6 MGD. The facility has increased its design flow to 7.8 MGD. This increase has been reflected in the current State Water Quality Management Plan, and will be used to establish loading limits for this permit.

Outfall 001 and/or 002: Final Effluent Limits 7.8 MGD design flow

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS			
	lbs/day		mg/l	
	30 Day Avg	7-Day Avg	30 Day Avg	7-Day Avg
Flow	N/A	N/A	Report MGD	Report MGD
BOD_5	1953	2929	30	45
TSS	1953	2929	30	45
Ph	6-9 su			

30-Day TSS loading (lbs/day) = 30 mg/l * 8.345 lbs/gal * 7.8 MGD = 1953 lbs/day
7-Day TSS loading (lbs/day) = 45 mg/l * 8.345 lbs/gal * 7.8 MGD = 2929 lbs/day

F. WATER QUALITY SCREENING

1. General Comments

Following regulations promulgated at 40 CFR 122.44, the draft permit limits are based on either technology-based effluent limits pursuant to 40 CFR 122.44(a) or on State WQS and requirements pursuant to 40 CFR 122.44(d), whichever are more stringent.

The Clean Water Act in Section 301 (b) requires that effluent limitations for point sources include any limitations necessary to meet water quality standards. Federal regulations found at 40 CFR 122.44(d) state that if a discharge poses the reasonable potential to cause an in-stream excursion above a water quality criterion, the permit must contain an effluent limit for that pollutant. If the discharge has the reasonable potential to cause an in-stream violation of narrative standards, the permit must contain prohibitions to protect that standard. Additionally,

the TWQS found at 30 TAC Chapter 307 states that "surface waters will not be toxic to man from ingestion of water, consumption of aquatic organisms, or contact with the skin, or to terrestrial or aquatic life." The methodology outlined in the "Implementation of the Texas Commission on Environmental Quality Standards via Permitting" (ITWQS) is designed to insure compliance with 30 TAC Chapter 307. Specifically, the methodology is designed to insure that no source will be allowed to discharge any wastewater which: (1) results in instream aquatic toxicity; (2) causes a violation of an applicable narrative or numerical state water quality standard; (3) results in the endangerment of a drinking water supply; or (4) results in aquatic bioaccumulation which threatens human health.

2. Reasonable Potential - Procedures

Methods for the determination of permit requirements; limits, no limits or reporting requirements, are contained in the ITWQS. Wasteload allocations (WLA's) are calculated using estimated effluent dilutions, criteria outlined in the TWQS, and partitioning coefficients for metals (when appropriate and designated in the implementation procedures). The WLA is the end-of-pipe effluent concentrations that can be discharged and still meet instream criteria after mixing with the receiving stream. From the WLA, a long-term average (LTA) is calculated, for both chronic and acute toxicity, using a log-normal probability distribution, a given coefficient of variation (0.6), and either a 90th or a 99th percentile confidence level. The 90th percentile confidence level is for discharges to rivers, freshwater streams and narrow tidal rivers with upstream flow data, and the 99th percentile confidence level is for the remainder of cases. For facilities that discharge into receiving streams that have human health standards, a separate LTA will be calculated. The implementation procedures for determining the human health LTA use a 99th percentile confidence level, along with a given coefficient of variation (0.6). The lowest of the calculated LTA's; acute, chronic and/or human health, is used to calculate the daily average and daily maximum permit limits.

Procedures found in the ITWQS for determining significant potential are to compare the reported analytical data either from the DMR history and/or the application information, against percentages of the calculated daily average water quality-based effluent limitation. The more stringent of the calculated water quality based effluent limitations are compared against analytical data included with the permit application. Permit limitations are required when analytical data reported in the application exceeds 85% of the calculated daily average water quality-based effluent limitation. Monitoring and reporting is required when analytical data reported in the application exceeds 70%, but is less than the 85% used to determine permit limits, of the calculated daily average water quality-based effluent limitation.

3. Reasonable Potential - Calculations

a. TOXICS

The permittee provided effluent data for toxics. Data that was greater than the MAL is shown in Table 1 above. The applicant has requested that both outfalls be included in the permit, although according to the applicant, discharges from Outfall 002 have not occurred in recent history. The TCEQ Water Quality Assessment Section (WQAS) has provided critical conditions to be used for the permit. Table 5 of the TWQS presents segment specific values for TSS, pH, hardness, TDS, chlorides and sulfates. For Segment Number 1008, TSS is 13 mg/l, pH is 6.7 su, hardness is 30 mg/l equivalent $CaCO_3$, TDS is 239 mg/l, chloride is 53 mg/l and sulfate is 10 mg/l.

For Outfall 001, the WQAS required the use of TEXTOX Menu 3 with a 7Q2 low flow of 2.2 cfs and a harmonic mean flow of 4.17 cfs. Based on the parameters that the WQAS provided, the TEXTOX Menu 3 shows a zone of initial dilution (ZID) of 95.64%, a mixing zone (MZ) dilution of 84.58% and a human health (HH) dilution of 74.32%. For Outfall 002, the WQAS required the use of TEXTOX Menu 4 with an 8% HH, 15% MZ and a 60% ZID. The permit will not establish separate outfall limits and will instead establish limits based on the more stringent of the two outfalls; Outfall 001. The screening for toxics shall be based on the TEXTOX Menu 3 for discharges to streams. The attached TEXTOX Menu 3, listed as Appendix A, shows that nitrate-nitrogen exceeds the 70% daily average effluent limitations, and requires "Report" requirements. Additionally, based on BPJ, the permit engineer will require "Report" monitoring for the parameters copper and dibromochloromethane. The "Report" requirements for these two parameters is based on data sets that have at least a single value greater than the 70% daily average value.

b. pH

Spring Creek in Waterbody Segment Code No. 1008 has pH requirements of 6.5-9.0 su's. These are instream standards. The dilution afforded the discharge by the low-flow is sufficient enough that the technology-based limitations for pH of 6-9 su's will be protective of applicable segment specific WQS.

c. Bacteria

Waterbody Segment Code No. 1008 has established standards for E. coli bacteria. (Also see Section F. 4. g.) The 30-day geometric mean is 126 cfu/100 ml, and no single sample shall be greater than 394 cfu/100 ml. The 394 cfu/100 ml is a daily maximum, and not a 7-day average. These will be proposed in the draft permit. The facility is rated as a major municipal facility and has in the past been required to provide for bacteria control. A three (3) month compliance schedule is appropriate for this activity and will be provided to meet these limits.

d. Narrative Limitations

State WQS contain narrative protection for aesthetic provisions. The following narrative limitations in the proposed permit represent protection of water quality.

"The effluent shall contain no visible film of oil or globules of grease on the surface or coat the banks or bottoms of the watercourse."
"Surface water shall be essentially free of floating debris and suspended solids that are conducive to producing adverse responses in aquatic organisms or putrescible sludge deposits or sediment layers which adversely affect benthic biota or any lawful uses."

"Surface waters shall be essentially free of settleable solids conducive to changes in flow characteristics of stream channels or the untimely filling of surface water in the state."

"Waste discharges shall not cause substantial and persistent changes from ambient conditions of turbidity or color."

"There shall be no foaming or frothing of a persistent nature."

e. Dissolved Oxygen Modeling

In a letter from the TCEQ WQAS to the Municipal Permits Section October 5, 2000, effluent recommendations were made based on desk top DO models. The models presented limitations for each of the two outfalls. The most stringent set of DO models will be used for the discharge from the facility. For Outfall 001, a recommended set of 10 mg/l $CBOD_5$, 3 mg/l NH_3-N, 6 mg/l DO is predicted to maintain the 5.0 mg/l (±0.2) mg/l dissolved oxygen criteria set for Panther Branch. For Outfall 002, the recommended set of 10 mg/l $CBOD_5$, 3 mg/l NH_3-N, 5 mg/l DO is predicted to maintain the 5.0 mg/l (±0.2) mg/l dissolved oxygen criteria set for Harrison Lake (Lake "B"). Based on these two recommendations the effluent set for discharge to Panther Branch shall be established in the permit for the discharge from the facility at all times. The above recommendation limits are 30-day averages. $CBOD_5$ shall replace the BOD_5 limits presented above in the technology-based section, consistent with the previous NPDES permit.

The 7-day average $CBOD_5$ shall be established at 15 mg/l, also consistent with the previous permit. The 30-day average ammonia-nitrogen limit, 3 mg/l, is the same as the previous NPDES permit. The 7-day average ammonia-nitrogen limit, 6 mg/l, contained in the previous NPDES permit will be continued in the draft permit. The DO limit, 6 mg/l, has been made more stringent from 4.0 mg/l contained in the current NPDES permit. The data SJRA submitted in its NPDES application package demonstrates that it can meet this more stringent DO limit now. A three (3) month compliance schedule is therefore appropriate and will be proposed in the draft permit to come into compliance with this more stringent water quality-based limit. The mass loading limits for the proposed $CBOD_5$ and ammonia-nitrogen concentration limits are:

30-Day $CBOD_5$ loading (lbs/day) = 10 mg/l * 8.345 lbs/gal * 7.8 MGD = 651 lbs/day
7-Day $CBOD_5$ loading (lbs/day) = 15 mg/l * 8.345 lbs/gal * 7.8 MGD = 976 lbs/day
30-Day ammonia-nitrogen loading (lbs/day) = 3 mg/l * 8.345 lbs/gal * 7.8 MGD = 195 lbs/day
7-Day ammonia-nitrogen loading (lbs/day) = 6 mg/l * 8.345 lbs/gal * 7.8 MGD = 391 lbs/day

f. TRC

TRC shall be limited in the draft permit to not exceed a maximum of 0.1 mg/l, consistent with the previous NPDES permit. TRC shall be sampled using an instantaneous grab sample, which according to 40 CFR 136.3 Table II requires that the sample be analyzed immediately, which is defined as being within 15-minutes.

g. 303(d) List - Total Maximum Daily Load (TMDL)

Spring Creek, Waterbody Segment Code No. 1008, is on the "2004 Texas 303(d) List" approved by EPA May 8, 2006. The stream is listed for depressed DO and also for bacteria. The permit has proposed limitations for both bacteria and DO that are protective of the WQS. If a TMDL is conducted for the segment, the standard reopener clause would allow the permit to be revised and additional pollutants and/or limits added.

G. TECHNOLOGY BASED VERSUS WATER QUALITY STANDARDS BASED EFFLUENT LIMITATIONS AND CONDITIONS

Following regulations promulgated at 40 CFR 122.44(l)(2)(ii), 122.44(d), and 130.32(b)(6), the draft permit limits are based on either technology-based effluent limits pursuant to 40 CFR 122.44(a), on the results of State Water Quality Management Plans, on State Water Quality Standards and requirements pursuant to 40 CFR 122.44(d), the previous NPDES permit, or on the results of an established and EPA approved Total Maximum Daily Load (TMDL), whichever are more stringent.

Numerical technology-based limitations have been placed in the permit for pH. The previous permit established permit limits for 30-day average TSS of 15 mg/l and 7-day average limits of 25 mg/l. These limits are more stringent than the technology-based limitations proposed above, and they will be continued in the draft permit. Based on the 7.8 MGD design flow, the applicable loading limits for TSS are:

30-Day TSS loading (lbs/day) = 15 mg/l * 8.345 lbs/gal * 7.8 MGD = 976 lbs/day
7-Day TSS loading (lbs/day) = 25 mg/l * 8.345 lbs/gal * 7.8 MGD = 1627 lbs/day

Water quality-based limits have been placed in the permit for DO, E. coli bacteria, ammonia-nitrogen, $CBOD_5$, TRC and narrative limitations. Compliance schedules have been granted for E. coli bacteria and DO.

H. WHOLE EFFLUENT TOXICITY EVALUATION

Relevant Texas Water Quality Standards

The Texas water quality standards specifically define chronic toxicity as "Toxicity which continues for a long-term period after exposure to toxic substances. "*Chronic exposure produces sub-lethal effects, such as growth impairment and reduced reproductive success, but it may also produce lethality.* The duration of exposure applicable to the most common chronic toxicity test is seven days or more."

The Texas water quality standards specifically provide protect against chronic toxicity at all stream flows above the stream low-flow:

30 TAC Part I §307.6(b)(2) "*Water in the state with designated or existing aquatic life uses shall not be chronically toxic to aquatic life, in accordance with §307.8 of this title.*"

30 TAC Part I §307.6(e)(1) Total (whole-effluent) toxicity of permitted discharges, as determined from biomonitoring of effluent samples at appropriate dilutions, will be sufficiently controlled to preclude acute total toxicity in all water in the state with the exception of small zones of initial dilution (ZIDs) at discharge points and at extremely low stream flow conditions (one-fourth of critical low-flow conditions) in accordance with §307.8 of this title. Acute total toxicity levels may be exceeded in a ZID, but there shall be no lethality to aquatic organisms which move through a ZID, and the sizes of ZIDs are limited in accordance with §307.8 of this title. *Chronic total toxicity, as determined from biomonitoring of effluent samples, will be precluded in all water in the state with existing or designated aquatic life uses except in mixing zones and at flows less than critical low-flows, in accordance with §307.8 of this title.*

30 TAC 307.8(b)(4) Water quality standards do not apply to treated effluents at the immediate point of discharge--prior to any contact with either ambient waters or a dry streambed. *However, effluent total toxicity requirements may be specified to preclude acute lethality near discharge points, or to preclude acute and chronic instream toxicity.*

Previous WET Test Evaluation

The Clean Water Act in Section 301 (b) requires that effluent limitations for point sources include any limitations necessary to meet water quality standards. Federal regulations found at [40 CFR 122.44 (d)] state that if a discharge poses the reasonable potential to cause an in-stream excursion above a water quality criterion; the permit must contain an effluent limit for that pollutant. Information submitted by the permittee to the EPA Permit Compliance System reported numerous test failures for sub-lethal effects in the *Ceriodaphnia dubia* 7-day chronic toxicity test. A test failure is indicated where EPA's standard statistical evaluation of raw data indicates a significant difference between survival or reproduction in a non-toxic control and effluent samples diluted with lab water to the effluent critical low-flow dilution (and four other

effluent dilutions). The test results submitted by the permittee were analyzed using EPA's "Technical Support Document for Water Quality-based Toxics Control" (EPA/505/2-90/001, second printing) and EPA Region 6's "WET Permitting Strategy" (May, 2005), which establish procedures for assessing an effluent's reasonable potential (RP) for both lethal and sub-lethal toxic effects in a receiving stream. The test data and reasonable potential analysis are provided on the attached spreadsheet Appéndix B.

WET Limits

All WET test data submitted was reviewed and the majority of data was found to be acceptable. Significant sub-lethal effects have been demonstrated on numerous occasions over the past five years, with toxicity demonstrated at all effluent dilutions tested (from 86% effluent down to <22% effluent. The duration and magnitude of the effluent's toxic effects has been significant. Based on the data analysis, reasonable potential exists for discharges from this facility to cause or contribute to an exceedance of the Texas water quality standard and narrative criterion established to protect aquatic life. The facility has not identified the specific pollutant(s) responsible for the toxicity demonstrated, therefore, based on federal regulations at 40 CFR 122.44(d)(1)(v) and the Texas water quality standards, WET limits are required in order to ensure compliance with the State's narrative criterion for the protection of aquatic life. WET Limits, where required, are expressed simply as toxicity limits, and the narrative criterion is mathematically interpreted as the effluent low-flow dilution (7Q2) as presented elsewhere in this fact sheet. The WET limits in this permit are based primarily on sub-lethal effects demonstrated to the Ceriodaphnia dubia tests species.

WET Testing Frequency

Because the permit includes WET limits to ensure compliance with the narrative criterion to protect aquatic life, the WET monitoring frequency for the *Ceriodaphnia dubia* test species is being reduced from once per month to once per quarter. However, if the WET limit is violated, the testing frequency will automatically increase to once per month until the effluent demonstrates no significant toxic effects for three consecutive months. The testing frequency for the fathead minnow (*Pimephales promelas*) shall be once per quarter for the first year, with allowance to reduce the testing frequency based on performance.

Compliance Schedule

A compliance schedule ending December 31, 2009, is being provided to allow the permittee further opportunity to identify and correct its toxicity prior to the effective date of the WET limit. Should the specific toxicant be identified and controlled prior to the effective date of the WET limit, the permittee may request the permit be modified to substitute a chemical-specific limit in lieu of the WET limit. Specific proof and confirmation of the identified toxicant, and demonstration that the control works (twelve monthly tests with no significant lethal or sub-lethal effects demonstrated after toxicant confirmation), will be required.

I. FINAL EFFLUENT LIMITATIONS

See the draft permit for limitations.

J. MONITORING FREQUENCY

Regulations require permits to establish monitoring requirements to yield data representative of the monitored activity 40 CFR 122.48(b) and to assure compliance with permit limitations 40 CFR 122.44(i)(1). The monitoring frequencies are based on BPJ, taking into account the nature of the facility and the previous permit. The draft permit will propose that flow, $CBOD_5$, TSS, ammonia-nitrogen, DO, and pH be sampled and monitored at five per week, consistent with the current NPDES permit. TRC and the new parameter E. coli bacteria shall be sampled and monitored daily. Report requirements for nitrate-nitrogen, copper and dibromochloromethane are established at twice per month, with samples to be taken at least 10-days apart. WET monitoring frequencies were previously established above.

XII. ENDANGERED SPECIES CONSIDERATIONS

According to the most recent county listing available at US Fish and Wildlife Service (USFWS), Southwest Region 2 website, http://ifw2es.fws.gov/EndangeredSpecies/lists/, two species in Montgomery County are listed as endangered or threatened. None are aquatic species. The two species are the American bald eagle, *(Haliaeetus leucocephalus)*, listed as threatened and the endangered red-cockaded woodpecker *(Picoides borealis)*. Based on the following, it is EPA's belief that the reissuance of this permit will have *no effect* on either the species or their habitat.

Along with habitat destruction, organochlorines have been indicated as a cause of population decreases in the bald eagle. EPA's belief is that issuance of the permit will have *no effect* on this species.

The Red-cockaded Woodpecker makes its home in mature pine forests; more specifically, those with long-leaf pines averaging 80 to 120 years old and loblolly pines averaging 70 to 100 years old. While other woodpeckers bore out cavities in dead trees where the wood is rotten and soft, the Red-cockaded Woodpecker is the only one which excavates cavities exclusively in living pine trees. The older pines favored by the Red-cockaded Woodpecker often suffer from a fungus called red heart disease which attacks the center of the trunk, causing the inner wood to become soft. Cavities generally take 1 to 3 years to excavate. The Red-cockaded Woodpecker primarily eats arthropods found on or under the bark and borers found in the trees wood, and does not have a diet that consists of aquatic organisms. Cutting of old stands of loblolly and eliminating natural fires that helped reduce smaller trees in stands are the reasons for the species decline. Most of the forested pine areas old and large enough to provide adequate habitat for the Red-cockaded Woodpecker are on federal lands. EPA's belief is that issuance of the permit will have no effect on this species.

XIII. CERTIFICATION

The permit is in the process of certification by TCEQ following regulations promulgated at 40 CFR 124.53. A draft permit and draft public notice will be sent to the District Engineer, Corps of Engineers; to the Regional Director of the U.S. Fish and Wildlife Service and to the National Marine Fisheries Service prior to the publication of that notice.

XIV. FINAL DETERMINATION

The public notice describes the procedures for the formulation of final determinations.

XV. ADMINISTRATIVE RECORD

The following information was used to develop the proposed permit:

A. APPLICATION(S)

EPA Application received June 8, 2006.

B. 40 CFR CITATIONS

Sections 122, 124, 125, 133, 136

C. MISCELLANEOUS REFERENCES

Texas Surface Water Quality Standards, 30 TAC Sections 307.1 - 307.10 (21 TexReg 9765, August 17, 2000).

"Procedures to Implement the Texas Surface Water Quality Standards," Texas Commission on Environmental Quality, January 2003.

D. LETTERS/MEMORANDA/RECORDS OF COMMUNICATION, ETC.

E-mails from Tojuana Cooper, SJRA, to Larry Giglio providing additional information/data on the following dates: September 8, 18, 20 and October 23, 2006.

E-mails from Kenda Smith, TCEQ WQAS, September 19 and 25, 2006, to Larry Giglio, EPA, providing critical conditions.

APPENDIX A

TEXTOX MENU #3 - PERENNIAL STREAM OR RIVER

The water quality-based effluent limitations demonstrated below are calculated using:

- Table 1, 1997 Texas Surface Water Quality Standards (30 TAC 307) for Freshwater Aquatic Life
- Table 3, 2000 Texas Surface Water Quality Standards for Human Health
- "Procedures to Implement the Texas Surface Water Quality Standards," Texas Commission on Environmental Quality, January 2003.

PERMITTEE INFORMATION:

Permittee Name:	SJRA
TPDES Permit No:	TX0054186
Outfall No:	001
Prepared By:	LEG
Date:	9/7/2006

DISCHARGE INFORMATION:

Receiving Waterbody:	Panther Creek
Segment No:	1008
TSS:	13
pH:	6.7
Hardness:	30
Chloride:	53
Effluent Flow for Aquatic Life (MGD)	7.8
Critical Low Flow [7Q2] (cfs)	2.2
Chronic Effluent % for Aquatic Life:	84.58
Acute Effluent % for Aquatic Life:	95.64
Effluent Flow for Human Health (MGD):	7.8
Harmonic Mean Flow (cfs):	4.17
Human Health Effluent %:	74.32
Public Water Supply Use:	Yes

CALCULATE TOTAL/DISSOLVED RATIO:

Stream/River Metal	Intercept (b)	Slope (m)	Partition Coefficient (Kpo)	Dissolved Fraction (Cd/Ct)		Water Effects Ratio (WER)	
Aluminum	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Arsenic	5.68	-0.73	73590.432	0.51		1.00	Assumed
Cadmium	6.60	-1.13	219403.733	0.26		1.00	Assumed
Chromium (Total)	6.52	-0.93	304812.436	0.20		1.00	Assumed
Chromium (+3)	6.52	-0.93	304812.436	0.20		1.00	Assumed
Chromium (+6)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Copper	6.02	-0.74	156921.308	0.33		1.00	Assumed
Lead	6.45	-0.80	362114.002	0.18		1.00	Assumed
Mercury	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed

APPENDIX A

Stream/River Metal	Intercept (b)	Slope (m)	Partition Coefficient (Kpo)	Dissolved Fraction (Cd/Ct)		Water Effects Ratio (WER)	
Nickel	5.69	-0.57	113514.748	0.40		1.00	Assumed
Selenium	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Silver	6.38	-1.03	170859.192	0.31		1.00	Assumed
Zinc	6.10	-0.70	209044.937	0.27		1.00	Assumed

AQUATIC LIFE
CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS

Parameter	Acute Standard (ug/L)	Chronic Standard (ug/L)	WLAa	WLAc	LTAa	LTAc	Daily Avg. (ug/L)	Daily Max. (ug/L)
Aldrin	3.0	N/A	3.137	N/A	1.797	N/A	2.642	5.590
Aluminum[d]	991	N/A	1036.164	N/A	593.722	N/A	872.771	1846.475
Arsenic[d]	360	190	736.506	439.540	422.018	338.446	497.515	1052.567
Cadmium[d]	8.664	0.441	34.896	2.007	19.995	1.546	2.272	4.807
Carbaryl	2.0	N/A	2.091	N/A	1.198	N/A	1.761	3.726
Chlordane	2.4	0.0043	2.509	0.005	1.438	0.004	0.006	0.012
Chlorpyrifos	0.083	0.041	0.087	0.048	0.050	0.037	0.055	0.116
Chromium (+3)[d]	647.799	77.214	3361.251	453.031	1925.997	348.834	512.786	1084.873
Chromium (+6)[d]	16	11	16.729	13.005	9.586	10.014	14.091	29.812
Copper[d]	6.173	4.574	19.621	16.439	11.243	12.658	16.527	34.966
Cyanide (free)	45.78	10.69	47.866	12.639	27.427	9.732	14.306	30.266
4,4'-DDT	1.1	0.001	1.150	0.001	0.659	0.001	0.001	0.003
Dementon	N/A	0.1	N/A	0.118	N/A	0.091	0.134	0.283
Dicofol	59.3	19.8	62.003	23.409	35.527	18.025	26.497	56.059
Dieldrin	2.5	0.0019	2.614	0.002	1.498	0.002	0.003	0.005
Diuron	210	70	219.571	82.761	125.814	63.726	93.677	198.187
Endosulfan (alpha)	0.22	0.056	0.230	0.066	0.132	0.051	0.075	0.159
Endosulfan (beta)	0.22	0.056	0.230	0.066	0.132	0.051	0.075	0.159
Endosulfan sulfate	0.22	0.056	0.230	0.066	0.132	0.051	0.075	0.159
Endrin	0.18	0.0023	0.188	0.003	0.108	0.002	0.003	0.007
Guthion	N/A	0.01	N/A	0.012	N/A	0.009	0.013	0.028
Heptachlor	0.52	0.0038	0.544	0.004	0.312	0.003	0.005	0.011
Hexachlorocyclohexane (Lindane)	2.0	0.08	2.091	0.095	1.198	0.073	0.107	0.227
Lead[d]	17.632	0.687	105.222	4.637	60.292	3.570	5.248	11.103
Malathion	N/A	0.01	N/A	0.012	N/A	0.009	0.013	0.028
Mercury	2.4	1.3	2.509	1.537	1.438	1.183	1.740	3.681
Methoxychlor	N/A	0.03	N/A	0.035	N/A	0.027	0.040	0.085
Mirex	N/A	0.001	N/A	0.001	N/A	0.001	0.001	0.003
Nickel[d]	512.148	56.935	1325.704	166.649	759.628	128.320	188.630	399.075
Parathion (ethyl)	0.065	0.013	0.068	0.015	0.039	0.012	0.017	0.037
Pentachlorophenol	6.709	4.235	7.015	5.008	4.020	3.856	5.668	11.992
Phenanthrene	30	30	31.367	35.469	17.973	27.311	26.421	55.897
Polychlorinated Biphenyls (PCBs)	2.0	0.014	2.091	0.017	1.198	0.013	0.019	0.040

APPENDIX A

Parameter	Acute Standard (ug/L)	Chronic Standard (ug/L)	WLAa	WLAc	LTAa	LTAc	Daily Avg. (ug/L)	Daily Max. (ug/L)
Selenium	20	5	20.911	5.911	11.982	4.552	6.691	14.156
Silver, (free ion)	0.92	N/A	14.249	N/A	8.165	N/A	12.002	25.393
Toxaphene	0.78	0.0002	0.816	0.0002	0.4673	0.0002	0.0003	0.0006
Tributlytin (TBT)	0.13	0.024	0.136	0.028	0.078	0.022	0.032	0.068
2,4,5 Trichlorophenol	136	64	142.198	75.667	81.479	58.264	85.647	181.200
Zinc[d]	42.344	38.21524	164.593	167.967	94.312	129.334	138.638	293.309

HUMAN HEALTH
CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS

Parameter	Water and FW Fish (ug/L)	FW Fish Only (ug/L)	WLAh	LTAh	Daily Avg. (ug/L)	Daily Max. (ug/L)
Acrylonitrile	1.28	10.9	1.722	1.602	2.355	4.981
Aldrin	0.00408	0.00426	0.005	0.005	0.008	0.016
Arsenic[d]	50	N/A	131.639	122.424	179.963	380.738
Barium[d]	2000	N/A	2691.065	2502.691	3678.955	7783.368
Benzene	5	106	6.728	6.257	9.197	19.458
Benzidine	0.00106	0.00347	0.001	0.001	0.002	0.004
Benzo(a)anthracene	0.099	0.810	0.133	0.124	0.182	0.385
Benzo(a)pyrene	0.099	0.810	0.133	0.124	0.182	0.385
Bis(chloromethyl)ether	0.00462	0.0193	0.006	0.006	0.009	0.018
Cadmium[d]	5	N/A	25.917	24.102	35.431	74.959
Carbon Tetrachloride	3.76	8.4	5.059	4.705	6.916	14.633
Chlordane	0.0210	0.0213	0.028	0.026	0.039	0.082
Chlorobenzene	776	1380	1044.133	971.044	1427.435	3019.947
Chloroform	100	1292	134.553	125.135	183.948	389.168
Chromium[d]	100	3320	134.553	125.135	183.948	389.168
Chrysene	0.417	8.1	0.561	0.522	0.767	1.623
Cresols	3313	13116	4457.750	4145.707	6094.189	12893.149
Cyanide (free)	200	N/A	269.107	250.269	367.896	778.337
4,4'-DDD	0.0103	0.010	0.014	0.013	0.019	0.040
4,4'-DDE	0.00730	0.007	0.010	0.009	0.013	0.028
4,4'-DDT	0.00730	0.007	0.010	0.009	0.013	0.028
2,4'-D	70	N/A	94.187	87.594	128.763	272.418
Danitol	0.709	0.721	0.954	0.887	1.304	2.759
Dibromochloromethane	9.20	71.6	12.379	11.512	16.923	35.803
1,2-Dibromoethane	0.014	0.335	0.019	0.018	0.026	0.054
1,3-Dichloropropene (1,3-Dichloropropylene)	22.8	161	30.678	28.531	41.940	88.730
Dieldrin	0.00171	0.002	0.002	0.002	0.003	0.007
p-Dichlorobenzene	75	N/A	100.915	93.851	137.961	291.876
1,2-Dichloroethane	5	73.9	6.728	6.257	9.197	19.458
1,1-Dichloroethylene	1.63	5.84	2.193	2.040	2.998	6.343
Dicofol	0.215	0.217	0.289	0.269	0.395	0.837

APPENDIX A

Parameter	Water and FW Fish (ug/L)	FW Fish Only (ug/L)	WLAh	LTAh	Daily Avg. (ug/L)	Daily Max. (ug/L)
Dioxins/Furans (TCDD Equivalents)	1.34e-07	1.40e-07	1.80e-07	1.68e-07	2.46e-07	5.21e-07
Endrin	1.27	1.34	1.709	1.589	2.336	4.942
Fluoride	4000	N/A	5382.130	5005.381	7357.911	15566.736
Heptachlor	0.00260	0.00265	0.004	0.003	0.005	0.010
Heptachlor Epoxide	0.159	1.1	0.214	0.199	0.292	0.619
Hexachlorobenzene	0.0194	0.0198	0.026	0.024	0.036	0.076
Hexachlorobutadiene	2.99	3.6	4.023	3.742	5.500	11.636
Hexachlorocyclohexane (alpha)	0.163	0.413	0.219	0.204	0.300	0.634
Hexachlorocyclohexane (beta)	0.570	1.45	0.767	0.713	1.049	2.218
Hexachlorocyclohexane (gamma) (Lindane)	0.2	2.00	0.269	0.250	0.368	0.778
Hexachloroethane	84.2	278	113.294	105.363	154.884	327.680
Hexachlorophene	0.0531	0.053	0.071	0.066	0.098	0.207
Lead[d]	4.98	25.3	6.701	6.232	9.161	19.381
Mercury	0.0122	0.0122	0.016	0.015	0.022	0.047
Methoxyclor	2.21	2.22	2.974	2.765	4.065	8.601
Methyl Ethyl Ketone	5.29e+04	9.94e+06	7.12e+04	6.62e+04	9.73e+04	2.06e+05
Nitrate-Nitrogen (as Total Nitrogen)	10000	N/A	13455.326	12513.453	18394.776	38916.840
Nitrobenzene	37.3	233	50.188	46.675	68.613	145.160
N-Nitrosodiethylamine	0.0382	7.68	0.051	0.048	0.070	0.149
N-Nitroso-di-*n*-Butylamine	1.84	13.5	2.476	2.302	3.385	7.161
PCB's (Polychlorinated Biphenyls)	1.30e-03	1.30e-03	1.75e-03	1.63e-03	2.39e-03	5.06e-03
Pentachlorobenzene	6.10	6.68	8.208	7.633	11.221	23.739
Pentachlorophenol	1.0	135	1.346	1.251	1.839	3.892
Pyridine	88.1	13333	118.541	110.244	162.058	342.857
Selenium	50	N/A	67.277	62.567	91.974	194.584
1,2,4,5-Tetrachlorobenzene	0.241	0.243	0.324	0.302	0.443	0.938
Tetrachloroethylene	5	323	6.728	6.257	9.197	19.458
Toxaphene	0.005	0.014	0.007	0.006	0.009	0.019
2,4,5-TP (Silvex)	47.0	50.3	63.240	58.813	86.455	182.909
2,4,5-Trichlorophenol	953	1069	1282.293	1192.532	1753.022	3708.775
Trichloroethylene	5	612	6.728	6.257	9.197	19.458
1,1,1-Trichloroethane	200	12586	269.107	250.269	367.896	778.337
TTHM (Sum of Total Trihalomethanes)	100	N/A	134.553	125.135	183.948	389.168
Vinyl Chloride	2	415	2.691	2.503	3.679	7.783

CALCULATE 70% AND 85% OF DAILY AVERAGE EFFLUENT LIMITATIONS

Parameter	70%	85%	Effluent
Aquatic Life			
Aldrin	1.849	2.246	ND
Aluminum	610.940	741.855	ND
Arsenic	348.261	422.888	ND
Cadmium	1.590	1.931	ND

APPENDIX A

Parameter	70%	85%	Effluent
Carbaryl	1.233	1.497	ND
Chlordane	0.004	0.005	ND
Chlorpyrifos	0.038	0.047	ND
Chromium (+3)	358.950	435.868	ND
Chromium (+6)	9.864	11.977	ND
Copper	11.569	14.048	10.000
Cyanide (free)	10.014	12.160	ND
4,4'-DDT	0.001	0.001	ND
Demeton	0.094	0.114	ND
Dicofol	18.548	22.523	ND
Dieldrin	0.002	0.002	ND
Diuron	65.574	79.625	ND
Endosulfan (alpha)	0.052	0.064	ND
Endosulfan (beta)	0.052	0.064	ND
Endosulfan sulfate	0.052	0.064	ND
Endrin	0.002	0.003	ND
Guthion	0.009	0.011	ND
Heptachlor	0.004	0.004	ND
Hexachlorocyclohexane (Lindane)	0.075	0.091	ND
Lead	3.674	4.461	ND
Malathion	0.009	0.011	ND
Mercury	1.218	1.479	ND
Methoxychlor	0.028	0.034	ND
Mirex	0.001	0.001	ND
Nickel	132.041	160.336	ND
Parathion (ethyl)	0.012	0.015	ND
Pentachlorophenol	3.968	4.818	ND
Phenanthrene	18.495	22.458	ND
Polychlorinated Biphenyls (PCBs)	0.013	0.016	ND
Selenium	4.684	5.688	ND
Silver, (free ion)	8.402	10.202	ND
Toxaphene	0.0002	0.0002	ND
Tributyltin (TBT)	0.022	0.027	ND
2,4,5 Trichlorophenol	59.953	72.800	ND
Zinc	97.047	117.842	42.300
Human Health			
Acrylonitrile	1.648	2.001	ND
Aldrin	0.005	0.006	ND
Arsenic	125.974	152.969	ND
Barium	2575.269	3127.112	ND
Benzene	6.438	7.818	ND
Benzidine	0.001	0.002	ND
Benzo(a)anthracene	0.127	0.155	ND
Benzo(a)pyrene	0.127	0.155	ND

APPENDIX A

Parameter	70%	85%	Effluent
Bis(chloromethyl)ether	0.006	0.007	ND
Cadmium	24.801	30.116	ND
Carbon Tetrachloride	4.842	5.879	ND
Chlordane	0.027	0.033	ND
Chlorobenzene	999.204	1213.319	ND
Chloroform	128.763	156.356	20.600
Chromium	128.763	156.356	ND
Chrysene	0.537	0.652	ND
Cresols	4265.933	5180.061	ND
Cyanide (free)	257.527	312.711	ND
4,4'-DDD	0.013	0.016	ND
4,4'-DDE	0.009	0.011	ND
4,4'-DDT	0.009	0.011	ND
4,4'-D	90.134	109.449	ND
Danitol	0.913	1.109	ND
Dibromochloromethane	11.846	14.385	7.815
1,2-Dibromoethane	0.018	0.022	ND
1,3-Dichloropropene (1,3-Dichloropropylene)	29.358	35.649	ND
Dieldrin	0.002	0.003	ND
p-Dichlorobenzene	96.573	117.267	ND
1,2-Dichloroethane	6.438	7.818	ND
1,1-Dichloroethylene	2.099	2.549	ND
Dicofol	0.277	0.336	ND
Dioxins/Furans (TCDD Equivalents)	1.73e-07	2.10e-07	ND
Endrin	1.635	1.986	ND
Fluoride	5150.537	6254.224	ND
Heptachlor	0.003	0.004	ND
Heptachlor Epoxide	0.205	0.249	ND
Hexachlorobenzene	0.025	0.030	ND
Hexachlorobutadiene	3.850	4.675	ND
Hexachlorocyclohexane (alpha)	0.210	0.255	ND
Hexachlorocyclohexane (beta)	0.734	0.891	ND
Hexachlorocyclohexane (gamma) (Lindane)	0.258	0.313	ND
Hexachloroethane	108.419	131.651	ND
Hexachlorophene	0.068	0.083	ND
Lead	6.412	7.787	ND
Mercury	0.016	0.019	ND
Methoxychlor	2.846	3.455	ND
Methyl Ethyl Ketone	6.81e+04	8.27e+04	ND
Nitrate-Nitrogen (as Total Nitrogen)	12876.343	15635.560	15400.000
Nitrobenzene	48.029	58.321	ND
N-Nitrosodiethylamine	0.049	0.060	ND
N-Nitroso-di-*n*-Butylamine	2.369	2.877	ND
PCB's (Polychlorinated Biphenyls)	1.67e-03	2.03e-03	ND

APPENDIX A

Parameter	70%	85%	Effluent
Pentachlorobenzene	7.855	9.538	ND
Pentachlorophenol	1.288	1.564	ND
Pyridine	113.441	137.749	ND
Selenium	64.382	78.178	ND
1,2,4,5-Tetrachlorobenzene	0.310	0.377	ND
Tetrachloroethylene	6.438	7.818	ND
Toxaphene	0.006	0.008	ND
2,4,5-TP (Silvex)	60.519	73.487	ND
2,4,5-Trichlorophenol	1227.116	1490.069	ND
Trichloroethylene	6.438	7.818	ND
1,1,1-Trichloroethane	257.527	312.711	ND
TTHM (Sum of Total Trihalomethanes)	128.763	156.356	38.400
Vinyl Chloride	2.575	3.127	ND

APPENDIX B - WET Reasonable Potential (RP) Analysis

Facility Name: **San Jacinto River Authority - Woodlands No. 1**
NPDES Permit Number: **TX0054186** Outfall Number: **001**
% Critical Dilution: **85**
Effluent dilutions required in tests performed under previous EPA permit: **"0%, 23%, 32%, 45%, 62%, 86%"**

Test Data

	VERTEBRATE				INVERTEBRATE			
Date	Lethal NOEC*	Sublethal NOEC	Lethal TU**	Sublethal TU	Lethal NOEC	Sublethal NOEC#	Lethal TU	Sublethal TU
01/15/01	86	86	1.16	1.16	62	<23	1.61	4.55
01/29/01					86	86	1.16	1.16
02/20/01					86	23	1.16	4.35
03/19/01	86	86	1.16	1.16	86	23	1.16	4.35
04/16/01					86	86	1.16	1.16
05/07/01					86	86	1.16	1.16
06/18/01	86	86	1.16	1.16	86	86	1.16	1.16
07/30/01					62	62	1.61	1.61
08/13/01					86	86	1.16	1.16
09/12/01	86	86	1.16	1.16	86	86	1.16	1.16
10/03/01	86	86	1.16	1.16	86	86	1.16	1.16
11/05/01					45	45	2.22	2.22
12/14/01	86	86	1.16	1.16	86	86	1.16	1.16
12/14/01					86	32	1.16	3.13
01/21/02					45	32	2.22	3.13
01/22/02					86	86	1.16	1.16
02/18/02					86	86	1.16	1.16
03/11/02					86	45	1.16	2.22
04/08/02	86	86	1.16	1.16	86	86	1.16	1.16
04/09/02					86	86	1.16	1.16
05/06/02					86	45	1.16	2.22
06/12/02					86	86	1.16	1.16
06/13/02					86	86	1.16	1.16
07/08/02					86	86	1.16	1.16
07/09/02					86	86	1.16	1.16
08/06/02					86	86	1.16	1.16
09/10/02	86	86	1.16	1.16	86	86	1.16	1.16
09/10/02					86	23	1.16	4.35
10/07/02					86	62	1.16	1.61
11/12/02					86	45	1.16	2.22
12/03/02	86	86	1.16	1.16	86	86	1.16	1.16
01/21/03	86	86	1.16	1.16	86	86	1.16	1.16
02/04/03					86	86	1.16	1.16
03/04/03	86	86	1.16	1.16	86	86	1.16	1.16
04/08/03					86	86	1.16	1.16
05/06/03					86	86	1.16	1.16
06/10/03	86	86	1.16	1.16	86	86	1.16	1.16
07/15/03					86	86	1.16	1.16
08/12/03					86	86	1.16	1.16
09/16/03	86	86	1.16	1.16	86	86	1.16	1.16
10/14/03					86	86	1.16	1.16
11/11/03					86	86	1.16	1.16
12/09/03	86	62	1.16	1.61	86	86	1.16	1.16
01/06/04	86	86	1.16	1.16	86	86	1.16	1.16
02/03/04					86	86	1.16	1.16
03/09/04	86	32	1.16	3.13	86	86	1.16	1.16
04/06/04	86	86	1.16	1.16	86	86	1.16	1.16
05/04/04					86	86	1.16	1.16
06/08/04	86	86	1.16	1.16	86	86	1.16	1.16
07/13/04					86	86	1.16	1.16
08/03/04					86	<23	1.16	4.55
09/14/04	86	86	1.16	1.16	86	62	1.16	1.61
10/12/04					86	62	1.16	1.61
11/16/04					86	86	1.16	1.16

APPENDIX B - WET Reasonable Potential (RP) Analysis (Cont.)

Facility Name: **San Jacinto River Authority - Woodlands No. 1**
NPDES Permit Number: **TX0054186** Outfall Number: **001**
% Critical Dilution: **85**
Effluent dilutions required in tests performed under previous EPA permit: **"0%, 23%, 32%, 45%, 62%, 86%"**

Test Data

	VERTEBRATE				INVERTEBRATE			
Date	Lethal NOEC*	Sublethal NOEC	Lethal TU**	Sublethal TU	Lethal NOEC	Sublethal NOEC#	Lethal TU	Sublethal TU
12/14/04	86	86	1.16	1.16	86	86	1.16	1.16
01/04/05					86	86	1.16	1.16
02/08/05					86	86	1.16	1.16
03/08/05	86	86	1.16	1.16	86	86	1.16	1.16
04/05/05					86	86	1.16	1.16
05/03/05					86	86	1.16	1.16
06/07/05	86	86	1.16	1.16	86	86	1.16	1.16
07/12/05					86	86	1.16	1.16
08/09/05					86	55	1.16	1.82
09/13/05	86	86	1.16	1.16	86	55	1.16	1.82
10/04/05					86	86	1.16	1.16
11/08/05					86	86	1.16	1.16
12/02/05	86	86	1.16	1.16	86	62	1.16	1.61
01/10/06	86	86	1.16	1.16	86	86	1.16	1.16
02/07/06	86	86	1.16	1.16	86	62	1.16	1.61
03/07/06	85	85	1.18	1.18	85	48	1.18	2.08
04/11/06					85	85	1.18	1.18
05/09/06					85	62	1.18	1.61
06/06/06	85	85	1.18	1.18	85	<27	1.18	3.85
07/11/06					85	62	1.18	1.61
Min. NOEC/Max TU	85	32	1.18	3.13	45	<23	2.22	4.55
Total Tests	28	28			74	74		
Mean of NOECs	85.929	83.143			84.176	73.270		
Std. Dev.	0.262	10.997			7.651	21.015		
Coeff. of Variation	0	0.1			0.1	0.3		
RPMF***	1	1.1			1.1	1.2		

	1.18	Site –specific Reasonable Potential Acceptance criterion and effluent low flow critical dilution (85/100 = 1.18)
Vertebrate Lethal	1.000	No RP exists. Include WET monitoring.
Vertebrate Sublethal	2.922	RP exists, include WET monitoring and WET limit.
Invertebrate Lethal	2.078	RP exists, include WET monitoring and WET limit.
Invertebrate Sublethal	4.636	RP exists, include WET monitoring and WET limit.

* NOEC (No Observed Effect Concentration) - Effluent concentration at which significant toxicity was not found.

** TU = Toxic Unit (100/NOEC)

*** RPMF = Reasonable Potential Multiplying Factor

< - A NOEC value preceded by "<" indicates that the effluent was reported as toxic at the lowest effluent dilution tested that month, either 23% or 27%. The true NOEC value was between 1% effluent and either 23% or 27%.

Reasonable potential for WET limits is based on species sensitivity and effluent toxic variability as reported by WET test results (after allowing for available dilution), and best professional judgment.

PROPOSED PERMIT

REGION 6
1445 ROSS AVENUE
DALLAS, TEXAS 75202-2733

NPDES Permit No TX0054186

AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Clean Water Act, as amended, (33 U.S.C. 1251 et. seq; the "Act"),

San Jacinto River Authority (SJRA)
Woodlands Wastewater Treatment Plant No. 1
2436 Sawdust Road
The Woodlands, TX 77380

is authorized to discharge from a facility located at 2436 Sawdust Road, The Woodlands, Montgomery County, Texas,

from Outfall 001 located at Latitude 30° 08' 06" North, Longitude 95° 28' 38" West, to Panther Branch, thence Spring Creek and/or Outfall 002 located at Latitude 30° 08' 31.5" North, Longitude 95° 28' 14.9" West, to Lake "B", the upper portion of Harrison Lake, thence to a tributary of Panther Branch, thence to Panther Branch, thence to Spring Creek, both in Segment 1008 of the San Jacinto River Basin,

in accordance with this cover page and the effluent limitations, monitoring requirements, and other conditions set forth in Part I, Part II, Part III and Part IV hereof.

This permit shall become effective on

This permit and the authorization to discharge shall expire at midnight,

Issued on

Miguel I. Flores
Director
Water Quality Protection Division (6WQ)

Prepared by

Laurence E. Giglio
Environmental Engineer
Permits & Technical Section (6WQ-PP)

PART I – REQUIREMENTS FOR NPDES PERMITS

SECTION A. LIMITATIONS AND MONITORING REQUIREMENTS

1. Interim Effluent Limits – Outfalls 001 and/or 002 - 7.8 MGD Design Flow

During the period beginning the effective date of the permit and lasting until December 31, 2009, the permittee is authorized to discharge treated wastewater to either Panther Branch, thence Spring Creek or Lake "B", the upper portion of Harrison Lake, thence to a tributary of Panther Branch, thence to Panther Branch, thence to Spring Creek, both in Segment 1008 of the San Jacinto River Basin. Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS		DISCHARGE LIMITATIONS mg/l unless noted		MONITORING REQUIREMENTS	
POLLUTANT	STORET CODE	MINIMUM	MAXIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
Ph, standard units	00400	6.0	9.0	Five Days/Week (*1)	Grab
Dissolved Oxygen	00300	4.0 (*2)	N/A	Five Days/Week (*1)	Grab
Dissolved Oxygen	00300	6.0 (*3)	N/A	Five Days/Week (*1)	Grab

EFFLUENT CHARACTERISTICS		DISCHARGE LIMITATIONS lbs/day, unless noted			DISCHARGE LIMITATIONS mg/l, unless noted			MONITORING REQUIREMENTS	
POLLUTANT	STORET CODE	30-Day Avg	7-Day Avg	Daily Max	30-Day Avg	7-Day Avg	Daily Max	MEASUREMENT FREQUENCY	SAMPLE TYPE
Flow, MGD	50050	N/A	N/A	N/A	Report	Report	Report	Daily	Instantaneous
Carbonaceous Biochemical Oxygen Demand (5-day)	80082	651	976	N/A	10	15	N/A	Five Days/Week (*1)	12-Hr Composite
Total Suspended Solids	00530	976	1627	N/A	15	25	N/A	Five Days/Week (*1)	12-Hr Composite
E. coli Bacteria (*4)	51040	N/A	N/A	N/A	Report	N/A	Report	Daily	Grab
E. coli Bacteria (*5)	51040	N/A	N/A	N/A	394 (*6, 7)	N/A	126 (*6, 7)	Daily	Grab
Total Residual Chlorine	50060	N/A	N/A	N/A	N/A	N/A	0.1	Daily	Instantaneous Grab (*8)

EFFLUENT CHARACTERISTICS		DISCHARGE LIMITATIONS						MONITORING REQUIREMENTS	
		lbs/day, unless noted			mg/l, unless noted				
POLLUTANT	STORET CODE	30-Day Avg	7-Day Avg	Daily Max	30-Day Avg	7-Day Avg	Daily Max	MEASUREMENT FREQUENCY	SAMPLE TYPE
Ammonia Nitrogen (Total As N)	00610	195	391	N/A	3	6	N/A	Five days/Week (*1)	12-Hr Composite
Nitrate Nitrogen (Total as N)	00620	Report	N/A	Report	Report	N/A	Report	Twice/Month (*9)	Grab
Dibromochloromethane	32101	Report	N/A	Report	Report	N/A	Report	Twice/Month (*9)	Grab
Copper, Total	01042	Report	N/A	Report	Report	N/A	Report	Twice/Month (*9)	Grab

EFFLUENT CHARACTERISTICS	DISCHARGE MONITORING		MONITORING REQUIREMENTS	
Whole Effluent Toxicity Testing (7-Day NOEC) (See Part II, Section D)	30-DAY AVG	7-DAY MINIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
Ceriodaphnia dubia	Report	Report	Once/Quarter (*10)	24-Hr Composite
Pimephales promelas	Report	Report	Once/Quarter (*10)	24-Hr Composite

Footnotes:

*1 Five Days/Week means at least one sample each normal workday; Monday through Friday. The first sample of any day shall be at least sixteen (16) hours after the first daily sample of the previous day.

*2 Requirements for dissolved oxygen are effective during the period beginning the effective date of the permit and lasting through one (1) day prior to three (3) months from the effective date of the permit.

*3 Requirements for dissolved oxygen are effective during the period beginning three (3) months from the effective date of the permit and lasting through the expiration date of the permit

*4 Requirements for E. coli bacteria are effective during the period beginning the effective date of the permit and lasting through one (1) day prior to three (3) months from the effective date of the permit.

*5 Requirements for E. coli bacteria are effective during the period beginning three (3) months from the effective date of the permit and lasting through the expiration date of the permit.

*6 Colony forming units per 100 ml.

*7 The permittee shall use Guidelines Establishing Test Procedures for the Analysis of Pollutants; Analytical Methods for Biological Pollutants in Wastewater and Sewage Sludge (September 29, 2006). The E. coli methods include EPA Method 1603 (modified mTEC), and vendor methods Colilert® and Colilert-18®, and mColiBlue24®for analytical methods for E. coli bacteria analysis.

*8 The chlorine residual shall be monitored by instantaneous grab sample five days per week. Regulations at 40 CFR Part 136 define "instantaneous grab" as analyzed within 15 minutes of collection.

*9 The first sample of any reporting period shall be at least ten (10) days after the first sample of the previous reporting period.

*10 Monitoring and reporting requirements begin on the effective date of this permit. See PART II, Whole Effluent Toxicity Testing Requirements for additional WET monitoring and reporting conditions.

2. Final Effluent Limits – Outfalls 001 and/or 002 - 7.8 MGD Design Flow

During the period beginning January 1, 2010 and lasting through the expiration date of the permit, the permittee is authorized to discharge treated wastewater to either Panther Branch, thence Spring Creek or Lake "B", the upper portion of Harrison Lake, thence to a tributary of Panther Branch, thence to Panther Branch, thence to Spring Creek, both in Segment 1008 of the San Jacinto River Basin. Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS		DISCHARGE LIMITATIONS mg/l unless noted		MONITORING REQUIREMENTS	
POLLUTANT	STORET CODE	MINIMUM	MAXIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
Ph, standard units	00400	6.0	9.0	Five Days/Week (*1)	Grab
Dissolved Oxygen	00300	4.0 (*2)	N/A	Five Days/Week (*1)	Grab
Dissolved Oxygen	00300	6.0 (*3)	N/A	Five Days/Week (*1)	Grab

EFFLUENT CHARACTERISTICS		DISCHARGE LIMITATIONS						MONITORING REQUIREMENTS	
		Lbs/day, unless noted			mg/l, unless noted				
POLLUTANT	STORET CODE	30-Day Avg	7-Day Avg	Daily Max	30-Day Avg	7-Day Avg	Daily Max	MEASUREMENT FREQUENCY	SAMPLE TYPE
Flow, MGD	50050	N/A	N/A	N/A	Report	Report	Report	Daily	Instantaneous
Carbonaceous Biochemical Oxygen Demand (5-day)	80082	651	976	N/A	10	15	N/A	Five Days/Week (*1)	12-Hr Composite
Total Suspended Solids	00530	976	1627	N/A	15	25	N/A	Five Days/Week (*1)	12-Hr Composite
E. coli Bacteria (*4)	51040	N/A	N/A	N/A	394 (*5, 6)	N/A	126 (*5, 6)	Daily	Grab
Total Residual Chlorine	50060	N/A	N/A	N/A	N/A	N/A	0.1	Daily	Instantaneous Grab (*7)
Ammonia Nitrogen (Total As N)	00610	195	391	N/A	3	6	N/A	Five days/Week (*1)	12-Hr Composite
Nitrate Nitrogen (Total as N)	00620	Report	N/A	Report	Report	N/A	Report	Twice/Month (*8)	Grab
Dibromochloromethane	32101	Report	N/A	Report	Report	N/A	Report	Twice/Month (*8)	Grab
Copper, Total	01042	Report	N/A	Report	Report	N/A	Report	Twice/Month (*8)	Grab

EFFLUENT CHARACTERISTICS	DISCHARGE MONITORING		MONITORING REQUIREMENTS	
Whole Effluent Toxicity (PCS 22414) (7-Day NOEC) (See Part II, Section D)	30-DAY AVG	7-DAY MINIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
Ceriodaphnia dubia	85%	85%	Once/Quarter (*9)	24-Hr Composite
Pimephales promelas	85%	85%	Once/Quarter (*9)	24-Hr Composite

Footnotes:

*1 Five Days/Week means at least one sample each normal workday; Monday through Friday. The first sample of any day shall be at least sixteen (16) hours after the first daily sample of the previous day.

*2 Requirements for dissolved oxygen are effective during the period beginning the effective date of the permit and lasting through one (1) day prior to three (3) months from the effective date of the permit.

*3 Requirements for dissolved oxygen are effective during the period beginning three (3) months from the effective date of the permit and lasting through the expiration date of the permit

*4 Requirements for E. coli bacteria are effective during the period beginning the effective date of the permit and lasting through one (1) day prior to three (3) months from the effective date of the permit.

*5 Colony forming units per 100 ml.

*6 EPA has yet to approve a method for E. coli. The permittee shall use Standard Methods for the Examination of Water and Wastewater, 20th Edition, for analytical methods for E. coli bacteria analysis; 1) Section 9221 B.1/F (5 tube, 3 dilution MPN); 2) Section 9223 B (MPN - IDEXX); 3) Section 9222 B/G (membrane filtration, 2 step); and 4) Section 9213 D (membrane filtration, one step - HACH m-ColiBlue24). The permittee may use these methods for E. coli analysis for wastewater until the time EPA approves the proposed 40 CFR 136 method(s). Once EPA approves an analytical method(s) for E. coli, the Permittee will begin using an approved method within ninety (90) days after final approval.

*7 The chlorine residual shall be monitored by instantaneous grab sample five days per week. Regulations at 40 CFR Part 136 define "instantaneous grab" as analyzed within 15 minutes of collection.

*8 The first sample of any reporting period shall be at least ten (10) days after the first sample of the previous reporting period.

*9 Monitoring and reporting requirements begin on the effective date of this permit. See PART II, Whole Effluent Toxicity Testing Requirements for additional WET monitoring and reporting conditions.

NARRATIVE LIMITATIONS

The effluent shall contain no visible film of oil or globules of grease on the surface or coat the banks or bottoms of the watercourse.

Surface water shall be essentially free of floating debris and suspended solids that are conducive to producing adverse responses in aquatic organisms or putrescible sludge deposits or sediment layers which adversely affect benthic biota or any lawful uses.

Surface waters shall be essentially free of settleable solids conducive to changes in flow characteristics of stream channels or the untimely filling of surface water in the state.

Waste discharges shall not cause substantial and persistent changes from ambient conditions of turbidity or color.

There shall be no foaming or frothing of a persistent nature.

SAMPLING LOCATION

Samples taken in compliance with the monitoring requirements specified above shall be taken at the discharge from the final treatment unit prior to the receiving stream.

B. SCHEDULE OF COMPLIANCE

The permittee shall comply with the following schedule of activities for the attainment of Whole Effluent Toxicity.

a. Determine exceedance cause(s);
b. Develop control options, if needed;
c. Evaluate and select control mechanisms;
d. Implement corrective action; and
e. Attain final effluent limitations no later than three (3) years from the permit effective date.

The permittee shall submit quarterly progress reports to EPA, in accordance with the following schedule. The requirement to submit quarterly progress reports shall expire December 31, 2009. No later than January 15, 2010, or 15 days after compliance has been achieved, whichever occurs first, the permittee shall submit a written final report to EPA, stating that compliance has been completed. If at any time during the compliance period the permittee determines that full compliance will not be met within the time allowed, a separate report shall be sent to EPA and the State stating the explanation for this delay and proposed remedial actions.

PROGRESS REPORT DATES
January 1
April 1
July 1
October 1

Send progress and final reports to the following address:

EPA:
Compliance Assurance and Enforcement Division
Water Enforcement Branch (6EN-W)
U.S. EPA, Region 6
1445 Ross Avenue
Dallas, TX 75202-2733

C. MONITORING AND REPORTING (MAJOR DISCHARGERS)

The permittee shall effectively monitor the operation and efficiency of all treatment and control facilities and the quantity and quality of the treated discharge.

Monitoring information shall be on Discharge Monitoring Report Form(s) EPA 3320-1 as specified in Part III.D.4 of this permit and shall be submitted monthly.

1. Reporting periods shall end on the last day of the month.

2. The first Discharge Monitoring Report(s) shall represent facility operations from the effective date of the permit through the last day of the month.

3. Thereafter, the permittee is required to submit regular monthly reports as described above postmarked no later than the 25th day of the month following each reporting period. The annual sludge report required in Part IV of the permit is due on February 19 of each year and covers the previous calendar year from January 1 through December 31.

4. If any 7-day average or daily maximum value exceeds the effluent limitations specified in Part I.A, the permittee shall report the excursion in accordance with the requirements of Part III.D.

5. Any 30-day average, 7-day average, or daily maximum value reported in the required Discharge Monitoring Report which is in excess of the effluent limitation specified in Part I.A shall constitute evidence of violation of such effluent limitation and of this permit.

6. Other measurements of oxygen demand (e.g., TOC and COD) may be substituted for five-day Biochemical Oxygen Demand (BOD_5) or for five-day Carbonaceous Biochemical Oxygen Demand ($CBOD_5$), as applicable, where the permittee can demonstrate long-term correlation of the method with BOD_5 or $CBOD_5$ values, as applicable. Details of the correlation procedures used must be submitted and prior approval granted by the permitting authority for this procedure to be acceptable. Data reported must also include evidence to show that the proper correlation continues to exist after approval.

7. The permittee shall report all non-compliance overflows with the Discharge Monitoring Report submittal. These reports shall be summarized and reported in tabular format. The summaries shall include: the date, time, duration, location, estimated volume, and cause of the overflow; observed environmental impacts from the overflow; actions taken to address the overflow; and ultimate discharge location if not contained (e.g., storm sewer system, ditch, tributary).

   Overflows that endanger health or the environment shall be orally reported to EPA at (214) 665-6595, within 24 hours from the time the permittee becomes aware of the circumstance. A written report of overflows that endanger health or the environment shall be provided to EPA within 5 days of the time the permittee becomes aware of the circumstance.

D. POLLUTION PREVENTION REQUIREMENTS

The permittee shall institute a program within 12 months of the effective date of the permit (or continue an existing one) directed towards optimizing the efficiency and extending the useful life of the facility. The permittee shall consider the following items in the program:

1. The influent loadings, flow and design capacity;
2. The effluent quality and plant performance;
3. The age and expected life of the wastewater treatment facility's equipment;
4. Bypasses and overflows of the tributary sewerage system and treatment works;
5. New developments at the facility;
6. Operator certification and training plans and status;
7. The financial status of the facility;
8. Preventative maintenance programs and equipment conditions and;
9. An overall evaluation of conditions at the facility.

PART II - OTHER CONDITIONS

A. 24-HOUR ORAL REPORTING: EFFLUENT LIMITATION VIOLATIONS

Under the provisions of Part III.D.7 of this permit, violations of effluent limitations for the following pollutants shall be reported orally to EPA Region 6, Compliance and Assurance Division, Water Enforcement Branch (6EN-W), Dallas, Texas within 24 hours from the time the permittee becomes aware of the violation followed by a written report in five days.

E. coli bacteria
TRC

B. PERMIT MODIFICATION AND REOPENER

In accordance with 40 CFR Part 122.44(d), the permit may be reopened and modified during the life of the permit if relevant portions of Texas's Surface Water Quality Standards or its Procedures to Implement the Texas Surface Water Quality Standards are revised, or new State Surface Water Quality Standards are established and/or remanded and/or if any revisions to applicable Total Maximum Daily Loads are completed.

In accordance with 40 CFR Part 122.62(s)(2), the permit may be reopened and modified if new information is received that was not available at the time of permit issuance that would have justified the application of different permit conditions at the time of permit issuance. Permit modifications shall reflect the results of any of these actions and shall follow regulations listed at 40 CFR Part 124.5.

C. CONTRIBUTING INDUSTRIES AND PRETREATMENT REQUIREMENTS

1. The following pollutants may not be introduced into the treatment facility:

   (a) Pollutants which create a fire or explosion hazard in the publicly owned treatment works (POTW), including, but not limited to, wastestreams with a closed cup flashpoint of less than 140 degrees Fahrenheit or 60 degrees Centigrade using the test methods specified in 40 CFR 261.21;

   (b) Pollutants which will cause corrosive structural damage to the POTW, but in no case discharges with pH lower than 5.0, unless the works are specifically designed to accommodate such discharges;

   (c) Solid or viscous pollutants in amounts which will cause obstruction to the flow in the POTW, resulting in Interference;

(d) Any pollutant, including oxygen demanding pollutants (BOD, etc.), released in a discharge at a flow rate and/or pollutant concentration which will cause Interference with the POTW;

(e) Heat in amounts which will inhibit biological activity in the POTW resulting in Interference, but in no case heat in such quantities that the temperature at the POTW treatment plant exceeds 40 degrees Centigrade (104 degrees Fahrenheit) unless the Approval Authority, upon request of the POTW, approves the alternate temperature limit;

(f) Petroleum oil, non biodegradable cutting oil, or products of mineral origin in amounts that will cause interference or pass through;

(g) Pollutants which result in the presence of toxic gases, vapors, or fumes within the POTW in a quantity that may cause acute worker health and safety problems; and

(h) Any trucked or hauled pollutants, except at discharge points designated by the POTW.

2. The permittee shall require any indirect discharger to the treatment works to comply with the reporting requirements of Sections 204(b), 307, and 308 of the Act, including any requirements established under 40 CFR Part 403.

3. The permittee shall provide adequate notice of the following:

(a) Any new introduction of pollutants into the treatment works from an indirect discharger which would be subject to Sections 301 and 306 of the Act if it were directly discharging those pollutants; and

(b) Any substantial change in the volume or character of pollutants being introduced into the treatment works.

(c) Any notice shall include information on (i) the quality and quantity of effluent to be introduced into the treatment works, and (ii) any anticipated impact of such change in the quality or quantity of effluent to be discharged from the publicly owned treatment works.

D. WHOLE EFFLUENT TOXICITY LIMITS (7 DAY CHRONIC NOEC FRESHWATER)

It is unlawful and a violation of this permit for a permittee or his designated agent, to manipulate test samples in any manner, to delay sample shipment, or to terminate or to cause to terminate a toxicity test. Once initiated, all toxicity tests must be completed unless specific authority has been granted by EPA Region 6.

a. The permittee shall test the effluent for toxicity in accordance with the provisions in this section.

APPLICABLE TO FINAL OUTFALL(S): 001 and/or 002

REPORTED ON DMR AS FINAL OUTFALL: TX1

CRITICAL DILUTION (%): 85

EFFLUENT DILUTION SERIES (%): 0, 27, 36, 48, 64, 85

COMPOSITE SAMPLE TYPE: Defined at PART I

TEST SPECIES/METHODS: 40 CFR Part 136

Ceriodaphnia dubia chronic static renewal survival and reproduction test, Method 1002.0, EPA-821-R-02-013, or the most recent update thereof. This test should be terminated when 60% of the surviving females in the control produce three broods or at the end of eight days, whichever comes first.

Pimephales promelas (Fathead minnow) chronic static renewal 7-day larval survival and growth test, Method 1000.0, EPA-821-R-02-013, or the most recent update thereof. A minimum of five (5) replicates with eight (8) organisms per replicate must be used in the control and in each effluent dilution of this test.

b. The NOEC (No Observed Lethal Effect Concentration) is herein defined as the greatest effluent dilution at and below which lethality that is statistically different from the control (0% effluent) at the 95% confidence level does not occur. Chronic lethal test failure is defined as a demonstration of a statistically significant lethal effect at test completion to a test species at or below the critical dilution. Chronic sub-lethal test failure is defined as a demonstration of a statistically significant sub-lethal effect (i.e., growth or reproduction) at test completion to a test species at or below the critical dilution.

c. The conditions of this item are effective beginning with the effective date of the WET limit. When the testing frequency stated above is less than monthly and the effluent fails a test endpoint at or below the critical dilution, the permittee shall be considered in violation of this permit limit and the frequency for the affected species will increase to monthly until such time compliance with the No Observed Effect Concentration (NOEC) effluent limitation is demonstrated for a period of three consecutive months, at which time the permittee may return to the testing frequency stated in PART I of this permit. During the period the permittee is out of compliance, test results shall be reported on the DMR for that reporting period. The purpose of additional tests (also referred to as 'retests' or confirmation tests) is to determine the duration of a toxic event. A test that meets all test acceptability criteria and demonstrates significant toxic effects does not need additional confirmation. Such testing cannot confirm or disprove a previous test result.

d. This permit may be reopened to require chemical specific effluent limits, additional testing, and/or other appropriate actions to address toxicity.

2. REQUIRED TOXICITY TESTING CONDITIONS

a. Test Acceptance

The permittee shall repeat a test, including the control and all effluent dilutions, if the procedures and quality assurance requirements defined in the test methods or in this permit are not satisfied, including the following additional criteria:

i. The toxicity test control (0% effluent) must have survival equal to or greater than 80%.

ii. The mean number of Ceriodaphnia dubia neonates produced per surviving female in the control (0% effluent) must be 15 or more.

iii. 60% of the surviving control females must produce three broods.

iv. The mean dry weight of surviving Fathead minnow larvae at the end of the 7 days in the control (0% effluent) must be 0.25 mg per larva or greater.

v. The percent coefficient of variation between replicates shall be 40% or less in the control (0% effluent) for: the young of surviving females in the Ceriodaphnia dubia reproduction test, the growth and survival of the Fathead minnow test.

vi. The percent coefficient of variation between replicates shall be 40% or less in the critical dilution, unless significant lethal or nonlethal effects are exhibited for: the

young of surviving females in the Ceriodaphnia dubia reproduction test; the growth and survival endpoints in the Fathead minnow test.

vii. A Percent Minimum Significant Difference (PMSD) range of 13 - 47 for Ceriodaphnia dubia reproduction;

viii. A PMSD range of 12 - 30 for Fathead minnow growth.

Test failure may not be construed or reported as invalid due to a coefficient of variation value of greater than 40%. A repeat test shall be conducted within the required reporting period of any test determined to be invalid.

b. Statistical Interpretation

i. For the Ceriodaphnia dubia survival test, the statistical analyses used to determine if there is a significant difference between the control and the critical dilution shall be Fisher's Exact Test as described in EPA-821-R-02-013 or the most recent update thereof.

ii. For the Ceriodaphnia dubia reproduction test and the Fathead minnow larval survival and growth test, the statistical analyses used to determine if there is a significant difference between the control and the critical dilution shall be in accordance with the methods for determining the No Observed Effect Concentration (NOEC) as described in EPA-821-R-02-013, or the most recent update thereof.

iii. If the conditions of Test Acceptability are met in Item 2.a above and the percent survival of the test organism is equal to or greater than 80% in the critical dilution concentration and all lower dilution concentrations, the test shall be considered to be a passing test, and the permittee shall report a survival NOEC of not less than the critical dilution for the DMR reporting requirements found in Item 3 below.

c. Dilution Water

i. Dilution water used in the toxicity tests will be receiving water collected as close to the point of discharge as possible but unaffected by the discharge. The permittee shall substitute synthetic dilution water of similar pH, hardness, and alkalinity to the closest downstream perennial water where the receiving stream is classified as intermittent or where the receiving stream has no flow due to zero flow conditions.

ii. If the receiving water is unsatisfactory as a result of instream toxicity (fails to fulfil the test acceptance criteria of Item 2.a), the permittee may substitute synthetic dilution water for the receiving water in all subsequent tests provided the unacceptable receiving water test met the following stipulations:

(A) a synthetic dilution water control which fulfils the test acceptance requirements of Item 2.a was run concurrently with the receiving water control;

(B) the test indicating receiving water toxicity has been carried out to completion (i.e., 7 days);

(C) the permittee includes all test results indicating receiving water toxicity with the full report and information required by Item 3.a below; and

(D) the synthetic dilution water shall have a pH, hardness, and alkalinity similar to that of the receiving water or closest downstream perennial water not adversely affected by the discharge, provided the magnitude of these parameters will not cause toxicity in the synthetic dilution water.

d. Samples and Composites

i. The permittee shall collect a minimum of three flow-weighted composite samples from the outfall(s) listed at Item 1.a above.

ii. The permittee shall collect second and third composite samples for use during 24-hour renewals of each dilution concentration for each test. The permittee must collect the composite samples such that the effluent samples are representative of any periodic episode of chlorination, biocide usage or other potentially toxic substance discharged on an intermittent basis.

iii. The permittee must collect the composite samples so that the maximum holding time for any effluent sample shall not exceed 72 hours. The permittee must have initiated the toxicity test within 36 hours after the collection of the last portion of the first composite sample. Samples shall be chilled to 4 degrees Centigrade during collection, shipping, and/or storage.

iv. If the flow from the outfall(s) being tested ceases during the collection of effluent samples, the requirements for the minimum number of effluent samples, the minimum number of effluent portions and the sample holding time are waived during that sampling period. However, the permittee must collect an effluent composite sample volume during the period of discharge that is sufficient to

complete the required toxicity tests with daily renewal of effluent. When possible, the effluent samples used for the toxicity tests shall be collected on separate days if the discharge occurs over multiple days. The effluent composite sample collection duration and the static renewal protocol associated with the abbreviated sample collection must be documented in the full report required in Item 3 of this section.

3. REPORTING

a. The permittee shall prepare a full report of the results of all tests conducted pursuant to this section in accordance with the Report Preparation Section of EPA-821-R-02-013, or the most current publication, for every valid or invalid toxicity test initiated whether carried to completion or not. The permittee shall retain each full report pursuant to the provisions of PART III.C.3 of this permit. The permittee shall submit full reports upon the specific request of the Agency. For any test which fails, is considered invalid or which is terminated early for any reason, the full report must be submitted for agency review.

b. The permittee shall report the Whole Effluent Toxicity values for the 30-Day Average Minimum and the 7-Day Minimum under Parameter No. 22414 on the DMR for that reporting period in accordance with PART III.D.4 of this permit.

If more than one valid test for a species was performed during the reporting period, the test NOEC's may be averaged arithmetically and reported as the DAILY AVERAGE MINIMUM NOEC for that reporting period.

If more than one species is tested during the reporting period, the permittee shall report the LOWEST 30-Day Average Minimum NOEC and the lowest 7-Day Minimum NOEC for Whole Effluent Toxicity.

A valid test for each species must be reported on the DMR during each reporting period specified in PART I of this permit. Only ONE set of biomonitoring data for each species is to be recorded on the DMR for each reporting period. The data submitted should reflect the LOWEST lethal and sub-lethal effects results for each species during the reporting period. All invalid tests, repeat tests (for invalid tests), and retests (for tests previously failed) performed during the reporting period must be attached to the DMR for EPA review.

c. The permittee shall submit the results of the valid toxicity test on the DMR for that reporting period in accordance with PART III.D.4 of this permit, as follows below. Submit retest information clearly marked as such with the following month's DMR. Only results of valid tests are to be reported on the DMR.

i. Pimephales promelas (Fathead Minnow)

A. If the No Observed Effect Concentration (NOEC) for toxicity is less than the critical dilution, enter a "1"; otherwise, enter a "0" for Parameter No. TLP6C

B. Report the NOEC value for survival, Parameter No. TOP6C

C. Report the Lowest Observed Effect Concentration (LOEC) value for survival, Parameter No. TXP6C

D. Report the NOEC value for growth, Parameter No. TPP6C

E. Report the LOEC value for growth, Parameter No. TYP6C

F. If the No Observed Effect Concentration (NOEC) for growth is less than the critical dilution, enter a "1"; otherwise, enter a "0" for Parameter No. TGP6C

G. Report the highest (critical dilution or control) Coefficient of Variation, Parameter No. TQP6C

ii. Ceriodaphnia dubia

A. If the NOEC for toxicity is less than the critical dilution, enter a "1"; otherwise, enter a "0" for Parameter No. TLP3B

B. Report the NOEC value for survival, Parameter No. TOP3B

C. Report the LOEC value for survival, Parameter No. TXP3B

D. Report the NOEC value for reproduction, Parameter No. TPP3B

E. Report the LOEC value for reproduction, Parameter No. TYP3B

F. If the No Observed Effect Concentration (NOEC) for reproduction is less than the critical dilution, enter a "1"; otherwise, enter a "0" for Parameter No. TGP3B

G. Report the higher (critical dilution or control) Coefficient of Variation, Parameter No. TQP3B

4. MONITORING FREQUENCY REDUCTION (applies to Fathead minnow only)

   a. The permittee may apply for a testing frequency reduction upon the successful completion of the first four consecutive quarters of testing for the *Pimephales promelas* (fathead minnow) test species, with no lethal or sub-lethal effects demonstrated at or below the critical dilution. If granted, the monitoring frequency for that test species may be reduced to not less than once per year.

   b. CERTIFICATION - The permittee must certify in writing that no test failures have occurred and that all tests meet all test acceptability criteria in item 3.a. above. In addition the permittee must provide a list with each test performed including test initiation date, species, NOECs for lethal and sub-lethal effects and the maximum coefficient of variation for the controls. Upon review and acceptance of this information the agency will issue a letter of confirmation of the monitoring frequency reduction. A copy of the letter will be forwarded to the agency's Permit Compliance System section to update the permit reporting requirements.

   c. SUB-LETHAL OR SURVIVAL FAILURES - If any test fails the survival or sub-lethal endpoint at any time during the life of this permit, three monthly retests are required and the monitoring frequency for the Fathead minnow test species shall be increased to once per quarter until the permit is re-issued.

      Any monitoring frequency reduction granted applies only until the expiration date of this permit, at which time the monitoring frequency for both test species reverts to once per quarter until the permit is re-issued.

E. MINIMUM ANALYTICAL LEVEL (MAL)

If any individual analytical test result is less than the minimum quantification level listed below, a value of zero (0) may be used for that individual result for the Discharge Monitoring Report (DMR) calculations and reporting requirements.

Pollutant	MQL (ug/l)
Dichlorobromomethane	10
Copper	10

PART III - STANDARD CONDITIONS FOR NPDES PERMITS

A. GENERAL CONDITIONS

1. INTRODUCTION
In accordance with the provisions of 40 CFR Part 122.41, et. seq., this permit incorporates by reference ALL conditions and requirements applicable to NPDES Permits set forth in the Clean Water Act, as amended, (hereinafter known as the "Act") as well as ALL applicable regulations.

2. DUTY TO COMPLY
The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

3. TOXIC POLLUTANTS

a. Notwithstanding Part III.A.5, if any toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under Section 307(a) of the Act for a toxic pollutant which is present in the discharge and that standard or prohibition is more stringent than any limitation on the pollutant in this permit, this permit shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition.

b. The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Act for toxic pollutants within the time provided in the regulations that established those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

4. DUTY TO REAPPLY
If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. The application shall be submitted at least 180 days before the expiration date of this permit. The Director may grant permission to submit an application less than 180 days in advance but no later than the permit expiration date. Continuation of expiring permits shall be governed by regulations promulgated at 40 CFR Part 122.6 and any subsequent amendments.

5. PERMIT FLEXIBILITY
This permit may be modified, revoked and reissued, or terminated for cause in accordance with 40 CFR 122.62-64. The filing of a request for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

6. PROPERTY RIGHTS
This permit does not convey any property rights of any sort, or any exclusive privilege.

7. DUTY TO PROVIDE INFORMATION
The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

8. CRIMINAL AND CIVIL LIABILITY
Except as provided in permit conditions on "Bypassing" and "Upsets", nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance. Any false or materially misleading representation or concealment of information required to be reported by the provisions of the permit, the Act, or applicable regulations, which avoids or effectively defeats the regulatory purpose of the Permit may subject the Permittee to criminal enforcement pursuant to 18 U.S.C. Section 1001.

9. OIL AND HAZARDOUS SUBSTANCE LIABILITY
Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to

which the permittee is or may be subject under Section 311 of the Act.

10. STATE LAWS
Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority preserved by Section 510 of the Act.

11. SEVERABILITY
The provisions of this permit are severable, and if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

B. PROPER OPERATION AND MAINTENANCE

1. NEED TO HALT OR REDUCE NOT A DEFENSE
It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. The permittee is responsible for maintaining adequate safeguards to prevent the discharge of untreated or inadequately treated wastes during electrical power failure either by means of alternate power sources, standby generators or retention of inadequately treated effluent.

2. DUTY TO MITIGATE
The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

3. PROPER OPERATION AND MAINTENANCE

a. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by permittee as efficiently as possible and in a manner which will minimize upsets and discharges of excessive pollutants and will achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of this permit.

b. The permittee shall provide an adequate operating staff which is duly qualified to carry out operation, maintenance and testing functions required to insure compliance with the conditions of this permit.

4. BYPASS OF TREATMENT FACILITIES

a. BYPASS NOT EXCEEDING LIMITATIONS
The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of Parts III.B.4.b. and 4.c.

b. NOTICE

(1) ANTICIPATED BYPASS
If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass.

(2) UNANTICIPATED BYPASS
The permittee shall, within 24 hours, submit notice of an unanticipated bypass as required in Part III.D.7.

c. PROHIBITION OF BYPASS

(1) Bypass is prohibited, and the Director may take enforcement action against a permittee for bypass, unless:

(a)Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

(b)There were no feasible alternatives to the bypass, such as the use of

auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and,

(c) The permittee submitted notices as required by Part III.B.4.b.

(2) The Director may allow an anticipated bypass after considering its adverse effects, if the Director determines that it will meet the three conditions listed at Part III.B.4.c(1).

5. UPSET CONDITIONS

a. EFFECT OF AN UPSET

An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of Part III.B.5.b. are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

b. CONDITIONS NECESSARY FOR A DEMONSTRATION OF UPSET

A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

(1) An upset occurred and that the permittee can identify the cause(s) of the upset;

(2) The permitted facility was at the time being properly operated;

(3) The permittee submitted notice of the upset as required by Part III.D.7; and,

(4) The permittee complied with any remedial measures required by Part III.B.2.

c. BURDEN OF PROOF

In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

6. REMOVED SUBSTANCES

Unless otherwise authorized, solids, sewage sludges, filter backwash, or other pollutants removed in the course of treatment or wastewater control shall be disposed of in a manner such as to prevent any pollutant from such materials from entering navigable waters.

7. PERCENT REMOVAL (PUBLICLY OWNED TREATMENT WORKS)

For publicly owned treatment works, the 30-day average (or Monthly Average) percent removal for Biochemical Oxygen Demand and Total Suspended Solids shall not be less than 85 percent unless otherwise authorized by the permitting authority in accordance with 40 CFR 133.103.

C. MONITORING AND RECORDS

1. INSPECTION AND ENTRY

The permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by the law to:

a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices or operations regulated or required under this permit; and

d. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the Act, any substances or parameters at any location.

2. REPRESENTATIVE SAMPLING
Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

3. RETENTION OF RECORDS
The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report, or application. This period may be extended by request of the Director at any time.

4. RECORD CONTENTS
Records of monitoring information shall include:

a. The date, exact place, and time of sampling or measurements;
b. The individual(s) who performed the sampling or measurements;
c. The date(s) and time(s) analyses were performed;
d. The individual(s) who performed the analyses;
e. The analytical techniques or methods used; and
f. The results of such analyses.

5. MONITORING PROCEDURES

a. Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit or approved by the Regional Administrator.

b. The permittee shall calibrate and perform maintenance procedures on all monitoring and analytical instruments at intervals frequent enough to insure accuracy of measurements and shall maintain appropriate records of such activities.

c. An adequate analytical quality control program, including the analyses of sufficient standards, spikes, and duplicate samples to insure the accuracy of all required analytical results shall be maintained by the permittee or designated commercial laboratory.

6. FLOW MEASUREMENTS
Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated, and maintained to insure that the accuracy of the measurements is consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than 10% from true discharge rates throughout the range of expected discharge volumes.

D. REPORTING REQUIREMENTS

1. PLANNED CHANGES

a. INDUSTRIAL PERMITS
The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

(1) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR Part 122.29(b); or,

(2) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements listed at Part III.D.10.a.

b. MUNICIPAL PERMITS
Any change in the facility discharge (including the introduction of any new source or significant discharge or significant changes in the quantity or quality of existing discharges of pollutants) must be reported to the permitting authority. In no case are any new connections, increased flows, or significant changes in influent quality permitted that will cause violation of the effluent limitations specified herein.

2. ANTICIPATED NONCOMPLIANCE
The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

3. TRANSFERS
This permit is not transferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Act.

4. DISCHARGE MONITORING REPORTS AND OTHER REPORTS
Monitoring results must be reported on Discharge Monitoring Report (DMR) Form EPA No. 3320-1 in accordance with the "General Instructions" provided on the form. The permittee shall submit the original DMR signed and certified as required by Part III.D.11 and all other reports required by Part III.D. to the EPA at the address below. DMR's and all other reports shall be submitted to EPA at the following address:

EPA:
Compliance Assurance and Enforcement Division
Water Enforcement Branch (6EN-W)
U.S. Environmental Protection Agency, Region 6
1445 Ross Avenue
Dallas, TX 75202-2733

Additionally, a copy shall be sent to:

TCEQ
P. O. Box 13087
Austin, TX 78711-3087

5. ADDITIONAL MONITORING BY THE PERMITTEE
If the permittee monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 CFR Part 136 or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the Discharge Monitoring Report (DMR). Such increased monitoring frequency shall also be indicated on the DMR.

6. AVERAGING OF MEASUREMENTS
Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Director in the permit.

7. TWENTY-FOUR HOUR REPORTING
a. The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall be provided within 5 days of the time the permittee becomes aware of the circumstances. The report shall contain the following information:

(1) A description of the noncompliance and its cause;

(2) The period of noncompliance including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and,

(3) Steps being taken to reduce, eliminate, and prevent recurrence of the non-complying discharge.

b. The following shall be included as information which must be reported within 24 hours:

(1) Any unanticipated bypass which exceeds any effluent limitation in the permit;

(2) Any upset which exceeds any effluent limitation in the permit; and,

(3) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Director in Part II (industrial permits only) of the permit to be reported within 24 hours.

c. The Director may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

8. OTHER NONCOMPLIANCE
The permittee shall report all instances of noncompliance not reported under Parts III.D.4 and D.7 and Part I.B (for industrial

permits only) at the time monitoring reports are submitted. The reports shall contain the information listed at Part III.D.7.

9. OTHER INFORMATION
Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information.

10. CHANGES IN DISCHARGES OF TOXIC SUBSTANCES
All existing manufacturing, commercial, mining, and silvacultural permittees shall notify the Director as soon as it knows or has reason to believe:

a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant listed at 40 CFR Part 122, Appendix D, Tables II and III (excluding Total Phenols) which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

(1) One hundred micrograms per liter (100 µg/L);
(2) Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,4-dinitro-phenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
(3) Five (5) times the maximum concentration value reported for that pollutant in the permit application; or
(4) The level established by the Director.

b. That any activity has occurred or will occur which would result in any discharge, on a nonroutine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

(1) Five hundred micrograms per liter (500 µg/L);
(2) One milligram per liter (1 mg/L) for antimony;
(3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application; or
(4) The level established by the Director.

11. SIGNATORY REQUIREMENTS
All applications, reports, or information submitted to the Director shall be signed and certified.

a. ALL PERMIT APPLICATIONS shall be signed as follows:

(1) FOR A CORPORATION - by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

(a) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions for the corporation; or,

(b) The manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

(2) FOR A PARTNERSHIP OR SOLE PROPRIETORSHIP - by a general partner or the proprietor, respectively.

(3) FOR A MUNICIPALITY, STATE, FEDERAL, OR OTHER PUBLIC AGENCY - by either a principal executive officer or ranking elected official. For purposes of this section, a principal

executive officer of a Federal agency includes:

(a) The chief executive officer of the agency, or

(b) A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.

b. ALL REPORTS required by the permit and other information requested by the Director shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

(1) The authorization is made in writing by a person described above;

(2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. A duly authorized representative may thus be either a named individual or an individual occupying a named position; and,

(3) The written authorization is submitted to the Director.

c. CERTIFICATION

Any person signing a document under this section shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

12. AVAILABILITY OF REPORTS

Except for applications, effluent data, permits, and other data specified in 40 CFR 122.7, any information submitted pursuant to this permit may be claimed as confidential by the submitter. If no claim is made at the time of submission, information may be made available to the public without further notice.

E. PENALTIES FOR VIOLATIONS OF PERMIT CONDITIONS

1. CRIMINAL

a. NEGLIGENT VIOLATIONS

The Act provides that any person who negligently violates permit conditions implementing Section 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a fine of not less than $2,500 nor more than $25,000 per day of violation, or by imprisonment for not more than 1 year, or both.

b. KNOWING VIOLATIONS

The Act provides that any person who knowingly violates permit conditions implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a fine of not less than $5,000 nor more than $50,000 per day of violation, or by imprisonment for not more than 3 years, or both.

c. KNOWING ENDANGERMENT

The Act provides that any person who knowingly violates permit conditions implementing Sections 301, 302, 303, 306, 307, 308, 318, or 405 of the Act and who knows at that time that he is placing another person in imminent danger of death or serious bodily injury is subject to a fine of not more than $250,000, or by imprisonment for not more than 15 years, or both.

d. FALSE STATEMENTS

The Act provides that any person who knowingly makes any false material statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under the Act or who knowingly falsifies,

tampers with, or renders inaccurate, any monitoring device or method required to be maintained under the Act, shall upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than 2 years, or by both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment shall be by a fine of not more than $20,000 per day of violation, or by imprisonment of not more than 4 years, or by both. (See Section 309.c.4 of the Clean Water Act)

2. CIVIL PENALTIES
The Act provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a civil penalty not to exceed $27,500 per day for each violation.

3. ADMINISTRATIVE PENALTIES
The Act provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to an administrative penalty, as follows:

a. CLASS I PENALTY
Not to exceed $11,000 per violation nor shall the maximum amount exceed $27,500.

b. CLASS II PENALTY
Not to exceed $11,000 per day for each day during which the violation continues nor shall the maximum amount exceed $137,500.

F. DEFINITIONS
All definitions contained in Section 502 of the Act shall apply to this permit and are incorporated herein by reference. Unless otherwise specified in this permit, additional definitions of words or phrases used in this permit are as follows:

1. ACT means the Clean Water Act (33 U.S.C. 1251 et. seq.), as amended.

2. ADMINISTRATOR means the Administrator of the U.S. Environmental Protection Agency.

3. APPLICABLE EFFLUENT STANDARDS AND LIMITATIONS means all state and Federal effluent standards and limitations to which a discharge is subject under the Act, including, but not limited to, effluent limitations, standards or performance, toxic effluent standards and prohibitions, and pretreatment standards.

4. APPLICABLE WATER QUALITY STANDARDS means all water quality standards to which a discharge is subject under the Act.

5. BYPASS means the intentional diversion of waste streams from any portion of a treatment facility.

6. DAILY DISCHARGE means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in terms of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the sampling day. For pollutants with limitations expressed in other units of measurement, the "daily discharge" is calculated as the average measurement of the pollutant over the sampling day. "Daily discharge" determination of concentration made using a composite sample shall be the concentration of the composite sample. When grab samples are used, the "daily discharge" determination of concentration shall be arithmetic average (weighted by flow value) of all samples collected during that sampling day.

7. DAILY MAXIMUM discharge limitation means the highest allowable "daily discharge" during the calendar month.

8. DIRECTOR means the U.S. Environmental Protection Agency Regional Administrator or an authorized representative.

9. ENVIRONMENTAL PROTECTION AGENCY means the U.S. Environmental Protection Agency.

10. GRAB SAMPLE means an individual sample collected in less than 15 minutes.

11. INDUSTRIAL USER means a nondomestic discharger, as identified in 40 CFR 403,

introducing pollutants to a publicly owned treatment works.

12. MONTHLY AVERAGE (also known as DAILY AVERAGE) discharge limitations means the highest allowable average of "daily discharge(s)" over a calendar month, calculated as the sum of all "daily discharge(s)" measured during a calendar month divided by the number of "daily discharge(s)" measured during that month. When the permit establishes daily average concentration effluent limitations or conditions, the daily average concentration means the arithmetic average (weighted by flow) of all "daily discharge(s)" of concentration determined during the calendar month where C = daily concentration, F = daily flow, and n = number of daily samples; daily average discharge =

$$\frac{C1F1 + C2F2 + \ldots + CnFn}{F1 + F2 + \ldots + Fn}$$

13. NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 318, 402, and 405 of the Act.

14. SEVERE PROPERTY DAMAGE means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

15. SEWAGE SLUDGE means the solids, residues, and precipitates separated from or created in sewage by the unit processes of a publicly owned treatment works. Sewage as used in this definition means any wastes, including wastes from humans, households, commercial establishments, industries, and storm water runoff, that are discharged to or otherwise enter a publicly owned treatment works.

16. TREATMENT WORKS means any devices and systems used in the storage, treatment, recycling and reclamation of municipal sewage and industrial wastes of a liquid nature to implement Section 201 of the Act, or necessary to recycle or reuse water at the most economical cost over the estimated life of the works, including intercepting sewers, sewage collection systems, pumping, power and other equipment, and their appurtenances, extension, improvement, remodeling, additions, and alterations thereof.

17. UPSET means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

18. FOR FECAL COLIFORM BACTERIA, a sample consists of one effluent grab portion collected during a 24-hour period at peak loads.

19. The term "MGD" shall mean million gallons per day.

20. The term "mg/L" shall mean milligrams per liter or parts per million (ppm).

21. The term "µg/L" shall mean micrograms per liter or parts per billion (ppb).

22. MUNICIPAL TERMS

a. 7-DAY AVERAGE or WEEKLY AVERAGE, other than for fecal coliform bacteria, is the arithmetic mean of the daily values for all effluent samples collected during a calendar week, calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week. The 7-day average for fecal coliform bacteria is the geometric mean of the values for all effluent samples collected during a calendar week.

b. 30-DAY AVERAGE or MONTHLY AVERAGE, other than for fecal coliform bacteria, is the arithmetic mean of the daily values for all effluent samples collected during a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month. The 30-day average for fecal coliform bacteria is the geometric mean of the values for all effluent samples collected during a calendar month.

c. 24-HOUR COMPOSITE SAMPLE consists of a minimum of 12 effluent portions collected at equal time intervals over the 24-hour period and combined proportional to flow or a sample collected at frequent intervals proportional to flow over the 24-hour period.

d. 12-HOUR COMPOSITE SAMPLE consists of 12 effluent portions collected no closer together than one hour and composited according to flow. The daily sampling intervals shall include the highest flow periods.

e. 6-HOUR COMPOSITE SAMPLE consists of six effluent portions collected no closer together than one hour (with the first portion collected no earlier than 10:00 a.m.) and composited according to flow.

f. 3-HOUR COMPOSITE SAMPLE consists of three effluent portions collected no closer together than one hour (with the first portion collected no earlier than 10:00 a.m.) and composited according to flow.

SEWAGE SLUDGE REQUIREMENTS – MAJOR FACILITIES

INSTRUCTIONS TO PERMITTEES

Select only those Elements and Sections that apply to your sludge reuse or disposal practice.

The sludge conditions do not apply to wastewater treatment lagoons where sludge is not wasted for final reuse/disposal. If the sludge is not removed, the permittee shall indicate on the DMR "No Discharge".

Although reporting is not required at this time, this permit may be modified or revoked and reissued to require an annual DMR.

ELEMENT 1 - LAND APPLICATION

SECTION I:	Requirements Applying to All Sewage Sludge Land Application
SECTION II:	Requirements Specific to Bulk Sewage Sludge for Application to the Land Meeting Class A or B Pathogen Reduction and the Cumulative Loading Rates in Table 2, or Class B Pathogen Reduction and the Pollutant Concentrations in Table 3
SECTION III:	Requirements Specific to Bulk Sewage Sludge Meeting Pollutant Concentrations in Table 3 and Class A Pathogen Reduction Requirements
SECTION IV:	Requirements Specific to Sludge Sold or Given Away in a Bag or Other Container for Application to the Land that does not Meet the Pollutant Concentrations in Table 3

ELEMENT 2 - SURFACE DISPOSAL

SECTION I:	Requirements Applying to All Sewage Sludge Surface Disposal
SECTION II:	Requirements Specific to Surface Disposal Sites Without a Liner and Leachate Collection System
SECTION III:	Requirements Specific to Surface Disposal Sites With a Liner and Leachate Collection System

ELEMENT 3 - MUNICIPAL SOLID WASTE LANDFILL DISPOSAL

SECTION I:	Requirements Applying to All Municipal Solid Waste Landfill Disposal Activities

ELEMENT 1 - LAND APPLICATION

SECTION I. REQUIREMENTS APPLYING TO ALL SEWAGE SLUDGE LAND APPLICATION

A. General Requirements

1. The permittee shall handle and dispose of sewage sludge in accordance with Section 405 of the Clean Water Act and all other applicable Federal regulations to protect public health and the environment from any reasonably anticipated adverse effects due to any toxic pollutants which may be present in the sludge.

2. If requirements for sludge management practices or pollutant criteria become more stringent than the sludge pollutant limits or acceptable management practices in this permit, or control a pollutant not listed in this permit, this permit may be modified or revoked and reissued to conform to the requirements promulgated at Section 405(d)(2) of the Clean Water Act. If new limits for Molybdenum are promulgated prior to permit expiration, than those limits shall become directly enforceable.

3. In all cases, if the person (permit holder) who prepares the sewage sludge supplies the sewage sludge to another person for land application use or to the owner or lease holder of the land, the permit holder shall provide necessary information to the parties who receive the sludge to assure compliance with these regulations.

4. The permittee shall give prior notice to EPA (Chief, Permits Branch, Water Management Division, Mail Code 6W-P, EPA Region 6, 1445 Ross Avenue, Dallas, Texas 75202) of any planned changes in the sewage sludge disposal practice, in accordance with 40 CFR Part 122.41(l)(1)(iii). These changes may justify the application of permit conditions that are different from or absent in the existing permit. Change in the sludge use or disposal practice may be cause for modification of the permit in accordance with 40 CFR Part 122.62(a)(1).

B. Testing Requirements

1. Sewage sludge shall not be applied to the land if the concentration of the pollutants exceed the pollutant concentration criteria in Table 1. The frequency of testing for pollutants in Table 1 is found in Element 1, Section I.C.

TABLE 1

Pollutant	Ceiling Concentration (milligrams per kilogram)*
Arsenic	75
Cadmium	85
Chromium	3000
Copper	4300
Lead	840

Mercury	57
Molybdenum	75
Nickel	420
PCBs	49
Selenium	100
Zinc	7500

* Dry weight basis

2. Pathogen Control

All sewage sludge that is applied to agricultural land, forest, a public contact site, or a reclamation site shall be treated by either the Class A or Class B pathogen requirements. Sewage sludge that is applied to a lawn or home garden shall be treated by the Class A pathogen requirements. Sewage sludge that is sold or given away in a bag shall be treated by Class A pathogen requirements.

a. Six alternatives are available to demonstrate compliance with Class A sewage sludge. All 6 options require either the density of fecal coliform in the sewage sludge be less than 1000 Most Probable Number (MPN) per gram of total solids (dry weight basis), or the density of Salmonella sp. bacteria in the sewage sludge be less than three MPN per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed; at the time the sewage sludge is prepared for sale or given away in a bag or other container for application to the land. Below are the additional requirements necessary to meet the definition of a Class A sludge. Alternatives 5 and 6 are not authorized to demonstrate compliance with Class A sewage sludge in Texas permits.

Alternative 1 - The temperature of the sewage sludge that is used or disposed shall be maintained at a specific value for a period of time. See 503.32(a)(3)(ii) for specific information.

Alternative 2 - The pH of the sewage sludge that is used or disposed shall be raised to above 12 and shall remain above 12 for 72 hours.

The temperature of the sewage sludge shall be above 52 degrees Celsius for 12 hours or longer during the period that the pH of the sewage sludge is above 12.

At the end of the 72 hour period during which the pH of the sewage sludge is above 12, the sewage sludge shall be air dried to achieve a percent solids in the sewage sludge greater than 50 percent.

Alternative 3 - The sewage sludge shall be analyzed for enteric viruses prior to pathogen treatment. The limit for enteric viruses is one Plaque-forming Unit per four grams of total solids (dry weight basis) either before or following pathogen treatment. See 503.32(a)(5)(ii) for specific information. The sewage sludge shall be analyzed for viable helminth ova prior to pathogen treatment. The limit for viable helminth ova is less than one per

four grams of total solids (dry weight basis) either before or following pathogen treatment. See 503.32(a)(5)(iii) for specific information.

Alternative 4 - The density of enteric viruses in the sewage sludge shall be less than one Plaque-forming Unit per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed or at the time the sludge is prepared for sale or give away in a bag or other container for application to the land.

The density of viable helminth ova in the sewage sludge shall be less than one per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed or at the time the sewage sludge is prepared for sale or give away in a bag or other container for application to the land.

Alternative 5 - Sewage sludge shall be treated by one of the Processes to Further Reduce Pathogens (PFRP) described in 503 Appendix B. PFRPs include composting, heat drying, heat treatment, and thermophilic aerobic digestion.

Alternative 6 - Sewage sludge shall be treated by a process that is equivalent to a Process to Further Reduce Pathogens, if individually approved by the Pathogen Equivalency Committee representing the EPA.

b. Three alternatives are available to demonstrate compliance with Class B sewage sludge. Alternatives 2 and 3 are not authorized to demonstrate compliance with Class B sewage sludge in Texas permits.

Alternative 1 - (i) Seven random samples of the sewage sludge shall be collected for one monitoring episode at the time the sewage sludge is used or disposed.

(ii) The geometric mean of the density of fecal coliform in the samples collected shall be less than either 2,000,000 MPN per gram of total solids (dry weight basis) or 2,000,000 Colony Forming Units per gram of total solids (dry weight basis).

Alternative 2 - Sewage sludge shall be treated in one of the Processes to significantly Reduce Pathogens described in 503 Appendix B.

Alternative 3 - Sewage sludge shall be treated in a process that is equivalent to a PSRP, if individually approved by the Pathogen Equivalency Committee representing the EPA.

In addition, the following site restrictions must be met if Class B sludge is land applied:

i. Food crops with harvested parts that touch the sewage sludge/soil mixture and are totally above the land surface shall not be harvested for 14 months after application of sewage sludge.

ii. Food crops with harvested parts below the surface of the land shall not be harvested for 20 months after application of sewage sludge when the sewage sludge remains on the land surface for 4 months or longer prior to incorporation into the soil.

iii. Food crops with harvested parts below the surface of the land shall not be harvested for 38 months after application of sewage sludge when the sewage sludge remains on the land surface for less than 4 months prior to incorporation into the soil.

iv. Food crops, feed crops, and fiber crops shall not be harvested for 30 days after application of sewage sludge.

v. Animals shall not be allowed to graze on the land for 30 days after application of sewage sludge.

vi. Turf grown on land where sewage sludge is applied shall not be harvested for 1 year after application of the sewage sludge when the harvested turf is placed on either land with a high potential for public exposure or a lawn, unless otherwise specified by the permitting authority.

vii. Public access to land with a high potential for public exposure shall be restricted for 1 year after application of sewage sludge.

viii. Public access to land with a low potential for public exposure shall be restricted for 30 days after application of sewage sludge.

3. Vector Attraction Reduction Requirements

All bulk sewage sludge that is applied to agricultural land, forest, a public contact site, or a reclamation site shall be treated by one of the following alternatives 1 through 10 for Vector Attraction Reduction. If bulk sewage sludge is applied to a home garden, or bagged sewage sludge is applied to the land, only alternative 1 through alternative 8 shall be used.

Alternative 1 - The mass of volatile solids in the sewage sludge shall be reduced by a minimum of 38 percent.

Alternative 2 - If Alternative 1 cannot be met for an anaerobically digested sludge, demonstration can be made by digesting a portion of the previously digested sludge anaerobically in the laboratory in a bench-scale unit for 40 additional days at a temperature between 30 and 37 degrees Celsius. Volatile solids must be reduced by less than 17 percent to demonstrate compliance.

Alternative 3 - If Alternative 1 cannot be met for an aerobically digested sludge, demonstration can be made by digesting a portion of the previously digested sludge with a percent solids of two percent or less aerobically in the laboratory in a bench-scale unit for 30 additional days at 20 degrees Celsius. Volatile solids must be reduced by less than 15 percent to demonstrate compliance.

Alternative 4 - The specific oxygen uptake rate (SOUR) for sewage sludge treated in an aerobic process shall be equal to or less than 1.5 milligrams of oxygen per hour per gram of total solids (dry weight basis) at a temperature of 20 degrees Celsius.

Alternative 5 - Sewage sludge shall be treated in an aerobic process for 14 days or longer. During that time, the temperature of the sewage sludge shall be higher than 40 degrees Celsius and the average temperature of the sewage sludge shall be higher than 45 degrees Celsius.

Alternative 6 - The pH of sewage sludge shall be raised to 12 or higher by alkali addition and, without the addition of more alkali shall remain at 12 or higher for two hours and then at 11.5 or higher for an additional 22 hours.

Alternative 7 - The percent solids of sewage sludge that does not contain unstabilized solids generated in a primary wastewater treatment process shall be equal to or greater than 75 percent based on the moisture content and total solids prior to mixing with other materials. Unstabilized solids are defined as organic materials in sewage sludge that have not been treated in either an aerobic or anaerobic treatment process.

Alternative 8 - The percent solids of sewage sludge that contains unstabilized solids generated in a primary wastewater treatment process shall be equal to or greater than 90 percent based on the moisture content and total solids prior to mixing with other materials. Unstabilized solids are defined as organic materials in sewage sludge that have not been treated in either an aerobic or anaerobic treatment process.

Alternative 9 - (i) Sewage sludge shall be injected below the surface of the land.

(ii) No significant amount of the sewage sludge shall be present on the land surface within one hour after the sewage sludge is injected.

(iii) When sewage sludge that is injected below the surface of the land is Class A with respect to pathogens, the sewage sludge shall be injected below the land surface within eight hours after being discharged from the pathogen treatment process.

Alternative 10 - (i) Sewage sludge applied to the land surface or placed on a surface disposal site shall be incorporated into the soil within six hours after application to or placement on the land.

(ii) When sewage sludge that is incorporated into the soil is Class A with respect to pathogens, the sewage sludge shall be applied to or placed on the land within eight hours after being discharged from the pathogen treatment process.

C. Monitoring Requirements

All other pollutants shall be monitored at the frequency shown below:

Amount of sewage sludge* (metric tons per 365 day period)	Frequency
0 ≤ Sludge < 290	Once/Year
290 ≤ Sludge < 1,500	Once/Quarter
1,500 ≤ Sludge < 15,000	Once/Two Months
15,000 ≤ Sludge	Once/Month

* Either the amount of bulk sewage sludge applied to the land or the amount of sewage sludge received by a person who prepares sewage sludge that is sold or given away in a bag or other container for application to the land (dry weight basis).

Representative samples of sewage sludge shall be collected and analyzed in accordance with the methods referenced in 40 CFR 503.8(b).

SECTION II. REQUIREMENTS SPECIFIC TO BULK SEWAGE SLUDGE FOR APPLICATION TO THE LAND MEETING CLASS A or B PATHOGEN REDUCTION AND THE CUMULATIVE LOADING RATES IN TABLE 2, OR CLASS B PATHOGEN REDUCTION AND THE POLLUTANT CONCENTRATIONS IN TABLE 3

For those permittees meeting Class A or B pathogen reduction requirements and that meet the cumulative loading rates in Table 2 below, or the Class B pathogen reduction requirements and contain concentrations of pollutants below those listed in Table 3 found in Element I, Section III, the following conditions apply:

1. *Pollutant Limits*

Table 2

Pollutant	Cumulative Pollutant Loading Rate (kilograms per hectare)
Arsenic	41
Cadmium	39
Chromium	3000
Copper	1500
Lead	300
Mercury	17
Molybdenum	Monitor
Nickel	420
Selenium	100

Zinc	2800

2. Pathogen Control

All bulk sewage sludge that is applied to agricultural land, forest, a public contact site, a reclamation site, or lawn or home garden shall be treated by either Class A or Class B pathogen reduction requirements as defined above in Element 1, Section I.B.3.

3. Management Practices

a. Bulk sewage sludge shall not be applied to agricultural land, forest, a public contact site, or a reclamation site that is flooded, frozen, or snow-covered so that the bulk sewage sludge enters a wetland or other waters of the U.S., as defined in 40 CFR 122.2, except as provided in a permit issued pursuant to section 404 of the CWA.

b. Bulk sewage sludge shall not be applied within 10 meters of a water of the U.S.

c. Bulk sewage sludge shall be applied at or below the agronomic rate in accordance with recommendations from the following references:

i. STANDARDS 1992, Standards, Engineering Practices and Data, 39th Edition (1992) American Society of Agricultural Engineers, 2950 Niles Road, St. Joseph, MI 49085-9659.

ii. National Engineering Handbook Part 651, Agricultural Waste Management Field Handbook (1992), P.O. Box 2890, Washington, D.C. 20013.

iii. Recommendations of local extension services or Soil Conservation Services.

iv. Recommendations of a major University's Agronomic Department.

d. An information sheet shall be provided to the person who receives bulk sewage sludge sold or given away. The information sheet shall contain the following information:

i. The name and address of the person who prepared the sewage sludge that is sold or given away in a bag or other container for application to the land.

ii. A statement that application of the sewage sludge to the land is prohibited except in accordance with the instructions on the label or information sheet.

iii. The annual whole sludge application rate for the sewage sludge that does not cause any of the cumulative pollutant loading rates in Table 2 above to be exceeded, unless the pollutant concentrations in Table 3 found in Element I, Section III below are met.

4. Notification requirements

a. If bulk sewage sludge is applied to land in a State other than the State in which the sludge is prepared, written notice shall be provided prior to the initial land application to the permitting authority for the State in which the bulk sewage sludge is proposed to be applied. The notice shall include:

i. The location, by either street address or latitude and longitude, of each land application site.

ii. The approximate time period bulk sewage sludge will be applied to the site.

iii. The name, address, telephone number, and National Pollutant Discharge Elimination System permit number (if appropriate) for the person who prepares the bulk sewage sludge.

iv. The name, address, telephone number, and National Pollutant Discharge Elimination System permit number (if appropriate) for the person who will apply the bulk sewage sludge.

b. The permittee shall give 60 days prior notice to the Director of any change planned in the sewage sludge practice. Any change shall include any planned physical alterations or additions to the permitted treatment works, changes in the permittee's sludge use or disposal practice, and also alterations, additions, or deletions of disposal sites. These changes may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional disposal sites not reported during the permit application process

or absent in the existing permit. Change in the sludge use or disposal practice may be cause for modification of the permit in accordance with 40 CFR 122.62(a)(1).

c. The permittee shall provide the location of all existing sludge disposal/use sites to the State Historical Commission within 90 days of the effective date of this permit. In addition, the permittee shall provide the location of any new disposal/use site to the State Historical Commission prior to use of the site.

The permittee shall within 30 days after notification by the State Historical Commission that a specific sludge disposal/use area will adversely effect a National Historic Site, cease use of such area.

5. Recordkeeping Requirements - The sludge documents will be retained on site at the same location as other NPDES records.

The person who prepares bulk sewage sludge or a sewage sludge material shall develop the following information and shall retain the information for five years. If the permittee supplies the sludge to another person who land applies the sludge, the permittee shall notify the

land applier of the requirements for recordkeeping found in 40 CFR 503.17 for persons who land apply.

a. The concentration (mg/Kg) in the sludge of each pollutant listed in Table 3 found in Element I, Section III and the applicable pollutant concentration criteria (mg/Kg), or the applicable cumulative pollutant loading rate and the applicable cumulative pollutant loading rate limit (kg/ha) listed in Table 2 above.

b. A description of how the pathogen reduction requirements are met (including site restrictions for Class B sludges, if applicable).

c. A description of how the vector attraction reduction requirements are met.

d. A description of how the management practices listed above in Section II.3 are being met.

e. The recommended agronomic loading rate from the references listed in Section II.3.c. above, as well as the actual agronomic loading rate shall be retained.

f. A description of how the site restrictions in 40 CFR Part 503.32(b)(5) are met for each site on which Class B bulk sewage sludge is applied.

g. The following certification statement:

"I certify, under penalty of law, that the management practices in §503.14 have been met for each site on which bulk sewage sludge is applied. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the management practices have been met. I am aware that there are significant penalties for false certification including fine and imprisonment."

h. A certification statement that all applicable requirements (specifically listed) have been met, and that the permittee understands that there are significant penalties for false certification including fine and imprisonment. See 40 CFR 503.17(a)(4)(i)(B) or 40 CFR Part 503.17(a)(5)(i)(B) as applicable to the permittees sludge treatment activities.

i. The permittee shall maintain information that describes future geographical areas where sludge may be land applied.

j. The permittee shall maintain information identifying site selection criteria regarding land application sites not identified at the time of permit application submission.

k. The permittee shall maintain information regarding how future land application sites will be managed.

The person who prepares bulk sewage sludge or a sewage sludge material shall develop the following information and shall retain the information indefinitely. If the permittee supplies the sludge to another person who land applies the sludge, the permittee shall notify the land applier of the requirements for recordkeeping found in 40 CFR 503.17 for persons who land apply.

a. The location, by either street address or latitude and longitude, of each site on which sludge is applied.

b. The number of hectares in each site on which bulk sludge is applied.

c. The date and time sludge is applied to each site.

d. The cumulative amount of each pollutant in kilograms/hectare listed in Table 2 applied to each site.

e. The total amount of sludge applied to each site in metric tons.

f. The following certification statement:

"I certify, under penalty of law, that the requirements to obtain information in §503.12(e)(2) have been met for each site on which bulk sewage sludge is applied. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the requirements to obtain information have been met. I am aware that there are significant penalties for false certification including fine and imprisonment."

g. A description of how the requirements to obtain information in §503.12(e)(2) are met.

6. Reporting Requirements - None.

SECTION III. REQUIREMENTS SPECIFIC TO BULK OR BAGGED SEWAGE SLUDGE MEETING POLLUTANT CONCENTRATIONS IN TABLE 3 AND CLASS A PATHOGEN REDUCTION REQUIREMENTS

For those permittees with sludge that contains concentrations of pollutants below those pollutant limits listed in Table 3 for bulk or bagged (containerized) sewage sludge and also meet the Class A pathogen reduction requirements, the following conditions apply (Note: All bagged sewage sludge must be treated by Class A pathogen reduction requirements.):

1. Pollutant limits - The concentration of the pollutants in the municipal sewage sludge is at or below the values listed.

Table 3

Pollutant	Monthly Average Concentration (milligrams per kilogram)*
Arsenic	41
Cadmium	39
Chromium	1200
Copper	1500
Lead	300
Mercury	17
Molybdenum	Monitor
Nickel	420
Selenium	36
Zinc	2800

* Dry weight basis

2. Pathogen Control

All bulk sewage sludge that is applied to agricultural land, forest, a public contact site, a reclamation site, or lawn or home garden shall be treated by the Class A pathogen reduction requirements as defined above in Element I, Section I.B.3. All bagged sewage sludge must be treated by Class A pathogen reduction requirements.

3. Management Practices - None.

4. Notification Requirements - None.

5. Recordkeeping Requirements - The permittee shall develop the following information and shall retain the information for five years. The sludge documents will be retained on site at the same location as other NPDES records.

a. The concentration (mg/Kg) in the sludge of each pollutant listed in Table 3 and the applicable pollutant concentration criteria listed in Table 3.

b. A certification statement that all applicable requirements (specifically listed) have been met, and that the permittee understands that there are significant penalties for false certification including fine and imprisonment. See 503.17(a)(1)(ii) or 503.17(a)(3)(i)(B), whichever applies to the permittees sludge treatment activities.

c. A description of how the Class A pathogen reduction requirements are met.

d. A description of how the vector attraction reduction requirements are met.

6. Reporting Requirements - None.

SECTION IV. REQUIREMENTS SPECIFIC TO SLUDGE SOLD OR GIVEN AWAY IN A BAG OR OTHER CONTAINER FOR APPLICATION TO THE LAND THAT DOES NOT MEET THE MINIMUM POLLUTANT CONCENTRATIONS

1. Pollutant Limits

Table 4

Pollutant	Annual Pollutant Loading Rate (kilograms per hectare per 365 day period)
Arsenic	2
Cadmium	1.9
Chromium	150
Copper	75
Lead	15
Mercury	0.85
Molybdenum	Monitor
Nickel	21
Selenium	5
Zinc	140

2. Pathogen Control

All sewage sludge that is sold or given away in a bag or other container for application to the land shall be treated by the Class A pathogen requirements as defined above in Section I.B.3.a. above.

3. Management Practices

Either a label shall be affixed to the bag or other container in which sewage sludge that is sold or given away for application to the land, or an information sheet shall be provided to the person who receives sewage sludge sold or given away in an other container for application to the land. The label or information sheet shall contain the following information:

a. The name and address of the person who prepared the sewage sludge that is sold or given away in a bag or other container for application to the land.

b. A statement that application of the sewage sludge to the land is prohibited except in accordance with the instructions on the label or information sheet.

c. The annual whole sludge application rate for the sewage sludge that will not cause any of the annual pollutant loading rates in Table 4 above to be exceeded.

4. Notification Requirements - None.

5. Recordkeeping Requirements - The sludge documents will be retained on site at the same location as other NPDES records.

The person who prepares sewage sludge or a sewage sludge material shall develop the following information and shall retain the information for five years.

a. The concentration in the sludge of each pollutant listed above in found in Element I, Section I, Table 1.

b. The following certification statement found in §503.17(a)(6)(iii).

"I certify, under penalty of law, that the management practice in §503.14(e), the Class A pathogen requirement in §503.32(a), and the vector attraction reduction requirement in (insert vector attraction reduction option) have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the management practice, pathogen requirements, and vector attraction reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

c. A description of how the Class A pathogen reduction requirements are met.

d. A description of how the vector attraction reduction requirements are met.

e. The annual whole sludge application rate for the sewage sludge that does not cause the annual pollutant loading rates in Table 4 to be exceeded. See Appendix A to Part 503 - Procedure to Determine the Annual Whole Sludge Application Rate for a Sewage Sludge.

6. Reporting Requirements - None.

ELEMENT 2- SURFACE DISPOSAL

SECTION I. REQUIREMENTS APPLYING TO ALL SEWAGE SLUDGE SURFACE DISPOSAL

A. General Requirements

1. The permittee shall handle and dispose of sewage sludge in accordance with Section 405 of the Clean Water Act and all other applicable Federal regulations to protect public health and the environment from any reasonably anticipated adverse effects due to any toxic pollutants which may be present.

2. If requirements for sludge management practices or pollutant criteria become more stringent than the sludge pollutant limits or acceptable management practices in this permit, or control a pollutant not listed in this permit, this permit may be modified or revoked and reissued to conform to the requirements promulgated at Section 405(d)(2) of the Clean Water Act.

3. In all cases, if the person (permit holder) who prepares the sewage sludge supplies the sewage sludge to another person (owner or operator of a sewage sludge unit) for disposal in a surface disposal site, the permit holder shall provide all necessary information to the parties who receive the sludge to assure compliance with these regulations.

4. The permittee shall give prior notice to EPA (Chief, Permits Branch, Water Management Division, Mail Code 6W-P, EPA Region 6, 1445 Ross Avenue, Dallas, Texas 75202) of any planned changes in the sewage sludge disposal practice, in accordance with 40 CFR Part 122.41(l)(1)(iii). These changes may justify the application of permit conditions that are different from or absent in the existing permit. Change in the sludge use or disposal practice may be cause for modification of the permit in accordance with 40 CFR Part 122.62(a)(1).

5. The permittee or owner/operator shall submit a written closure and post closure plan to the permitting authority 180 days prior to the closure date. The plan shall include the following information:

(a) A discussion of how the leachate collection system will be operated and maintained for three years after the surface disposal site closes if it has a liner and leachate collection system.

(b) A description of the system used to monitor continuously for methane gas in the air in any structures within the surface disposal site. The methane gas concentration shall not exceed 25% of the lower explosive limit for methane gas for three years after the sewage sludge unit closes. A description of the system used to monitor for methane gas in the air at the property line of the site shall be included. The methane gas concentration at the surface disposal site property line shall not exceed the lower explosive limit for methane gas for three years after the sewage sludge unit closes.

(c) A discussion of how public access to the surface disposal site will be restricted for three years after it closes.

B. Management Practices

1. An active sewage sludge unit located within 60 meters of a fault that has displacement in Holocene time shall close by March 22, 1994.

2. An active sewage sludge unit located in an unstable area shall close by March 22, 1994.

3. An active sewage sludge unit located in a wetland shall close by March 22, 1994.

4. Surface disposal shall not restrict the flow of the base 100-year flood.

5. The run-off collection system for an active sewage sludge unit shall have the capacity to handle run-off from a 25-year, 24-hour storm event.

6. A food crop, feed crop, or a fiber crop shall not be grown on a surface disposal site.

7. Animals shall not be grazed on a surface disposal site.

8. Public access shall be restricted on the active surface disposal site and for three years after the site closes.

9. Placement of sewage sludge shall not contaminate an aquifer. This shall be demonstrated through one of the following:

(a) Results of a ground-water monitoring program developed by a qualified ground-water scientist.

(b) A certification by a qualified ground-water scientist may be used to demonstrate that sewage sludge placed on an active sewage sludge unit does not contaminate an aquifer.

10. When a cover is placed on an active surface disposal site, the concentration of methane gas in air in any structure within the surface disposal site shall not exceed 25 percent of the lower explosive limit for methane gas during the period that the sewage sludge unit is active. The concentration of methane gas in air at the property line of the surface disposal site shall not exceed the lower explosive limit for methane gas during the period that the sewage sludge unit is active. Monitoring shall be continuous.

C. Testing Requirements

1. Sewage sludge shall be tested at the frequency show below in Element 2, Section I.D. for PCBs. Any sludge exceeding a concentration of 50 mg/Kg shall not be surface disposed.

2. Pathogen Control

All sewage sludge that is disposed of in a surface disposal site shall be treated by either the Class A or Class B pathogen requirements unless sewage sludge is placed on an active surface disposal site, and is covered with soil or other material at the end of each operating day.

(a) Six alternatives are available to demonstrate compliance with Class A sewage sludge. All 6 alternatives require either the density of fecal coliform in the sewage sludge be less than 1000 MPN per gram of total solids (dry weight basis), or the density of Salmonella sp. bacteria in the sewage sludge be less than three Most Probable Number per four grams of total

solids (dry weight basis) at the time the sewage sludge is used or disposed; at the time the sewage sludge is prepared for sale or given away in a bag or other container for application to the land. Below are the additional requirements necessary to meet the definition of a Class A sludge. Alternatives 5 and 6 are not authorized to demonstrate compliance with Class A sewage sludge in Texas permits.

Alternative 1 - The temperature of the sewage sludge that is used or disposed shall be maintained at a specific value for a period of time. See 503.32(a)(3)(ii) for specific information.

Alternative 2 - The pH of the sewage sludge that is used or disposed shall be raised to above 12 and shall remain above 12 for 72 hours.

The temperature of the sewage sludge shall be above 52 degrees Celsius for 12 hours or longer during the period that the pH of the sewage sludge is above 12.

At the end of the 72 hour period during which the pH of the sewage sludge is above 12, the sewage sludge shall be air dried to achieve a percent solids in the sewage sludge greater than 50 percent.

Alternative 3 - The sewage sludge shall be analyzed for enteric viruses prior to pathogen treatment. The limit for enteric viruses is one Plaque-forming Unit per four grams of total solids (dry weight basis) either before or following pathogen treatment. See 503.32(a)(5)(ii) for specific information. The sewage sludge shall be analyzed for viable helminth ova prior to pathogen treatment. The limit for viable helminth ova is less than one per four grams of total solids (dry weight basis) either before or following pathogen treatment. See 503.32(a)(5)(iii) for specific information.

Alternative 4 - The density of enteric viruses in the sewage sludge shall be less than one Plaque-forming Unit per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed or at the time the sludge is prepared for sale or give away in a bag or other container for application to the land.

The density of viable helminth ova in the sewage sludge shall be less than one per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed or at the time the sewage sludge is prepared for sale or give away in a bag or other container for application to the land.

Alternative 5 - Sewage sludge shall be treated by one of the Processes to Further Reduce Pathogens (PFRP) described in 503 Appendix B. PFRPs include composting, heat drying, heat treatment, and thermophilic aerobic digestion.

Alternative 6 - Sewage sludge shall be treated by a process that is equivalent to a Process to Further Reduce Pathogens, if individually approved by the Pathogen Equivalency Committee representing the EPA.

(b) Four alternatives are available to demonstrate compliance with Class B sewage sludge. Alternatives 2, 3, and 4 are not authorized to demonstrate compliance with Class B sewage sludge in Texas permits.

Alternative 1 - (i) Seven random samples of the sewage sludge shall be collected for one monitoring episode at the time the sewage sludge is used or disposed.

(ii) The geometric mean of the density of fecal coliform in the samples collected shall be less than either 2,000,000 Most Probable Number per gram of total solids (dry weight basis) or 2,000,000 Colony Forming Units per gram of total solids (dry weight basis).

Alternative 2 - Sewage sludge shall be treated in one of the Processes to significantly Reduce Pathogens described in 503 Appendix B.

Alternative 3 - Sewage sludge shall be treated in a process that is equivalent to a PSRP, if individually approved by the Pathogen Equivalency Committee representing the EPA.

Alternative 4 - Sewage sludge placed on an active surface disposal site is covered with soil or other material at the end of each operating day.

3. Vector Attraction Reduction Requirements

All sewage sludge that is disposed of in a surface disposal site shall be treated by one of the following alternatives 1 through 11 for Vector Attraction Reduction.

Alternative 1 - The mass of volatile solids in the sewage sludge shall be reduced by a minimum of 38 percent.

Alternative 2 - If Alternative 1 cannot be met for an anaerobically digested sludge, demonstration can be made by digesting a portion of the previously digested sludge anaerobically in the laboratory in a bench-scale unit for 40 additional days at a temperature between 30 and 37 degrees Celsius. Volatile solids must be reduced by less than 17 percent to demonstrate compliance.

Alternative 3 - If Alternative 1 cannot be met for an aerobically digested sludge, demonstration can be made by digesting a portion of the previously digested sludge with a percent solids of two percent or less aerobically in the laboratory in a bench-scale unit for 30 additional days at 20 degrees Celsius. Volatile solids must be reduced by less than 15 percent to demonstrate compliance.

Alternative 4 - The specific oxygen uptake rate (SOUR) for sewage sludge treated in an aerobic process shall be equal to or less than 1.5 milligrams of oxygen per hour per gram of total solids (dry weight basis) at a temperature of 20 degrees Celsius.

Alternative 5 - Sewage sludge shall be treated in an aerobic process for 14 days or longer. During that time, the temperature of the sewage sludge shall be higher than 40 degrees Celsius and the average temperature of the sewage sludge shall be higher than 45 degrees Celsius.

Alternative 6 - The pH of sewage sludge shall be raised to 12 or higher by alkali addition and, without the addition of more alkali shall remain at 12 or higher for two hours and then at 11.5 or higher for an additional 22 hours.

Alternative 7 - The percent solids of sewage sludge that does not contain unstabilized solids generated in a primary wastewater treatment process shall be equal to or greater than 75 percent based on the moisture content and total solids prior to mixing with other materials. Unstabilized solids are defined as organic materials in sewage sludge that have not been treated in either an aerobic or an anaerobic treatment process.

Alternative 8 - The percent solids of sewage sludge that contains unstabilized solids generated in a primary wastewater treatment process shall be equal to or greater than 90 percent based on the moisture content and total solids prior to mixing with other materials. Unstabilized solids are defined as organic materials in sewage sludge that have not been treated in either an aerobic or an anaerobic treatment process.

Alternative 9 - (i) Sewage sludge shall be injected below the surface of the land.

(ii) No significant amount of the sewage sludge shall be present on the land surface within one hour after the sewage sludge is injected.

(iii) When sewage sludge that is injected below the surface of the land is Class A with respect to pathogens, the sewage sludge shall be injected below the land surface within eight hours after being discharged from the pathogen treatment process.

Alternative 10 - (i) Sewage sludge applied to the land surface or placed on a surface disposal site shall be incorporated into the soil within six hours after application to or placement on the land.

(ii) When sewage sludge that is incorporated into the soil is Class A with respect to pathogens, the sewage sludge shall be applied to or placed on the land within eight hours after being discharged from the pathogen treatment process.

Alternative 11 - Sewage sludge placed on an active sewage sludge unit shall be covered with soil or other material at the end of each operating day.

4. Methane Gas Control Within a Structure On Site

When cover is placed on an active surface disposal site, the methane gas concentration in the air in any structure shall not exceed 25% of the lower explosive limit (LEL) for methane gas during the period that the disposal site is active.

5. Methane Gas Control at Property Line

The concentration of methane gas in air at the property line of the surface disposal site shall not exceed the LEL for methane gas during the period that the disposal site is active.

D. Monitoring Requirements

Methane Gas in covered structures on site - Continuous

Methane Gas at property line - Continuous

All other pollutants shall be monitored at the frequency shown below:

Amount of sewage sludge* (metric tons per 365 day period)	Frequency
$0 \leq$ Sludge $<$ 290	Once/Year
$290 \leq$ Sludge $<$ 1,500	Once/Quarter
$1{,}500 \leq$ Sludge $<$ 15,000	Once/Two Months
$15{,}000 \leq$ Sludge	Once/Month

* Amount of sewage sludge placed on an active sewage sludge unit (dry weight basis).

Representative samples of sewage sludge shall be collected and analyzed in accordance with the methods referenced in 40 CFR 503.8(b).

SECTION II. REQUIREMENTS SPECIFIC TO SURFACE DISPOSAL SITES WITHOUT A LINER AND LEACHATE COLLECTION SYSTEM.

1. Pollutant limits - Sewage sludge shall not be applied to a surface disposal site if the concentration of the listed pollutants exceed the corresponding values based on the surface disposal site boundary to the property line distance:

TABLE 5

Unit boundary to property line distance (meters)	Pollutant Concentrations* Arsenic (mg/kg)	Chromium (mg/kg)	Nickel mg/kg)	PCB's (mg/kg)
0 to less than 25	30	200	210	49
25 to less than 50	34	220	240	49
50 to less than 75	39	260	270	49
75 to less than 100	46	300	320	49
100 to less than 125	53	360	390	49
125 to less than 150	62	450	420	49
≥ 150	73	600	420	49

* Dry weight basis

2. Management practices - Listed in Section I.B. above.

3. Notification requirements

a. The permittee shall assure that the owner of the surface disposal site provide written notification to the subsequent site owners that sewage sludge was placed on the land.

b. The permittee shall provide the location of all existing sludge disposal/use sites to the State Historical Commission within 90 days of the effective date of this permit. In addition, the permittee shall provide the location of any new disposal/use site to the State Historical Commission prior to use of the site.

The permittee shall within 30 days after notification by the State Historical Commission that a specific sludge disposal/use area will adversely affect a National Historic Site, cease use of such area.

4. Recordkeeping requirements - The permittee shall develop the following information and shall retain the information for five years. The sludge documents will be retained on site at the same location as other NPDES records.

a. The distance of the surface disposal site from the property line and the concentration (mg/Kg) in the sludge of each pollutant listed above in Table 5, as well as the applicable pollutant concentration criteria listed in Table 5.

b. A certification statement that all applicable requirements (specifically listed) have been met, and that the permittee understands that there are significant penalties for false certification including fine and imprisonment. See 503.27(a)(1)(ii) or 503.27(a)(2)(ii) as applicable to the permittees sludge disposal activities.

c. A description of how either the Class A or Class B pathogen reduction requirements are met, or whether sewage sludge placed on a surface disposal site is covered with soil or other material at the end of each operating day.

d. A description of how the vector attraction reduction requirements are met.

e. Results of a groundwater monitoring program developed by a qualified ground-water scientist, or a certification by a qualified groundwater scientist may be used to demonstrate that sewage sludge placed on an active sewage sludge unit does not contaminate an aquifer. A qualified groundwater scientist is an individual with a baccalaureate or post graduate degree in the natural sciences or engineering who has sufficient training and experience in groundwater hydrology and related fields, as may be demonstrated by State registration, professional certification or completion of accredited university programs, to make sound professional judgements regarding groundwater monitoring, pollutant fate and transport, and corrective action.

5. Reporting Requirements - None.

SECTION III. REQUIREMENTS SPECIFIC TO SURFACE DISPOSAL SITES WITH A LINER AND LEACHATE COLLECTION SYSTEM.

1. Pollutant limits - None.

2. Management Practices - Listed in Section I.B. above.

3. Notification requirements

a. The permittee shall assure that the owner of the surface disposal site provide written notification to the subsequent owner of the site that sewage sludge was placed on the land.

b. The permittee shall provide the location of all existing sludge disposal/use sites to the State Historical Commission within 90 days of the effective date of this permit. In addition, the permittee shall provide the location of any new disposal/use site to the State Historical Commission prior to use of the site.

The permittee shall within 30 days after notification by the State Historical Commission that a specific sludge disposal/use area will adversely affect a National Historic Site, cease use of such area.

4. Recordkeeping requirements - The permittee shall develop the following information and shall retain the information for five years. The sludge documents will be retained on site at the same location as other NPDES records.

a. The following certification statement found in 503.27(a)(1)(ii).

"I certify, under penalty of law, that the pathogen requirements (define option used) and the vector attraction reduction requirements in (define option used) have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine the (pathogen requirements and vector attraction reduction requirements, if appropriate) have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

b. A description of how either the Class A or Class B pathogen reduction requirements are met or whether sewage sludge placed on a surface disposal site is covered with soil or other material at the end of each operating day.

c. A description of how the vector attraction reduction requirements are met.

d. Results of a ground-water monitoring program developed by a qualified ground-water scientist, or

A certification by a qualified ground-water scientist may be used to demonstrate that sewage sludge placed on an active sewage sludge unit does not contaminate an aquifer.

5. Reporting Requirements - None.

ELEMENT 3 - MUNICIPAL SOLID WASTE LANDFILL DISPOSAL

SECTION I. REQUIREMENTS APPLYING TO ALL SEWAGE SLUDGE DISPOSED IN A MUNICIPAL SOLID WASTE LANDFILL

1. The permittee shall handle and dispose of sewage sludge in accordance with Section 405 of the Clean Water Act and all other applicable Federal regulations to protect public health and the environment from any reasonably anticipated adverse effects due to any toxic pollutants that may be present. The permittee shall ensure that the sewage sludge meets the requirements in 40 CFR 258 concerning the quality of the sludge disposed in a municipal solid waste landfill.

2. If requirements for sludge management practices or pollutant criteria become more stringent than the sludge pollutant limits or acceptable management practices in this permit, or control a pollutant not listed in this permit, this permit may be modified or revoked and

reissued to conform to the requirements promulgated at Section 405(d)(2) of the Clean Water Act.

3. If the permittee generates sewage sludge and supplies that sewage sludge to the owner or operator of a MSWLF for disposal, the permittee shall provide to the owner or operator of the MSWLF appropriate information needed to be in compliance with the provisions of this permit.

4. The permittee shall give prior notice to EPA (Chief, Permits Branch, Water Management Division, Mail Code 6W-P, EPA Region 6, 1445 Ross Avenue, Dallas, Texas 75202) of any planned changes in the sewage sludge disposal practice, in accordance with 40 CFR Part 122.41(l)(1)(iii). These changes may justify the application of permit conditions that are different from or absent in the existing permit. Change in the sludge use or disposal practice may be cause for modification of the permit in accordance with 40 CFR Part 122.62(a)(1).

5. The permittee shall provide the location of all existing sludge disposal/use sites to the State Historical Commission within 90 days of the effective date of this permit. In addition, the permittee shall provide the location of any new disposal/use site to the State Historical Commission prior to use of the site.

The permittee shall within 30 days after notification by the State Historical Commission that a specific sludge disposal/use area will adversely affect a National Historic Site, cease use of such area.

6. Recordkeeping requirements - The permittee shall develop the following information and shall retain the information for five years. The sludge documents will be retained on site at the same location as other NPDES records.

a. The description and results of the tests performed, required by the owner/operator of the MSWLF to demonstrate compliance with the 40 CFR 258 regulations.

b. A certification that sewage sludge meets the requirements in 40 CFR 258 concerning the quality of the sludge disposed in a municipal solid waste landfill unit.

7. Reporting requirements - None.