Draft

AUTHORIZATION TO DISCHARGE UNDER THE OKLAHOMA POLLUTANT DISCHARGE ELIMINATION SYSTEM

PERMIT NUMBER: OK0030864
ID NUMBER: S20457

PART I

In compliance with the Oklahoma Pollutant Discharge Elimination System (OPDES) Act, Title 27A OS § 2-6-201, *et seq.*, as amended, and the rules of the Oklahoma Department of Environmental Quality (DEQ) adopted thereunder (see the Oklahoma Administrative Code (OAC) 252:606); the Federal Clean Water Act (CWA), Public Law 95-217 (33 USC 1251, *et seq.*), Section 402; and the National Pollutant Discharge Elimination System (NPDES) regulations at Title 40 of the Code of Federal Regulations (CFR) Parts 122, 124, and 403),

City of Sand Springs (owner)
Sand Springs Municipal Authority (operator)
P.O. Box 338
Sand Springs, OK 74063

is hereby authorized to discharge treated wastewater from the Sand Springs Main Wastewater Treatment Plant located at approximately

N½, NW¼, NE¼,
Section 13, Township 19 North, Range 11 East, Indian Meridian,
Tulsa County, Oklahoma
or at 8700 W 21st St., Sand Springs, OK 74063

to receiving water: The Arkansas River at the point located at approximately

Latitude: 36° 07' 52.545" N [GPS: NAD83]
Longitude: 96° 05' 23.950" W [GPS: NAD83]

Water Body ID No. OK120420010130_00

in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts I, II, III, and IV hereof.

This permit replaces and supersedes the previous permit issued on July 9, 2020.

The issuance date of this permit is Month Date, Year.

This permit shall become effective Month Date, Year.

This permit and authorization to discharge shall expire at midnight Month Date, Year.

For the Oklahoma Department of Environmental Quality:

Michael B. Moe, P.E., Manager
Municipal Discharge and Stormwater Permits Section
Water Quality Division

George Russell IV, Acting Director
Water Quality Division

A. Effluent Limitations and Monitoring Requirements (Outfall 001)

During the period beginning the effective date and lasting through date of expiration the permittee is authorized to discharge treated wastewater in accordance with the following limitations:

Pollutants		Discharge Limitations				Monitoring Requirements	
		Mass Loading (lb/day)	Concentrations (mg/L unless otherwise specified)			Frequency	Sample Type
		Monthly Avg.	Monthly Avg.	Weekly Avg.	Daily Max.		
Flow (mgd) [50050]	Year round	Report Monthly Average and Daily Maximum				Daily	Totalized
Biochemical Oxygen Demand – 5 Day [00310]	Year round	775.6	30	45	---	1/Week	2-cycle SBR Comp.
Total Suspended Solids [00530]	Year round	775.6	30	45	---	1/Week	2-cycle SBR Comp.
E. coli (MPN/100 mL) [51040]	May – Sep	---	126 Geo. Mean	---	406	2/Week	Grab
	Oct – Apr	---	630 Geo. Mean	---	2,030	1/Week	Grab
Total Residual Chlorine [50060]	Year round	---	Instantaneous Maximum: No Measurable [a]			Daily	Grab
pH (standard unit) [00400]	Year round	---	6.5 – 9.0			Daily	Grab

[a] No measurable is defined as less than 0.1 mg/L.

Other Year-round Requirements

- There shall be no discharge of floating solids or visible foam in other than trace amounts.
- There shall be no discharge of a visible sheen of oil or globules of oil or grease on or in the water. Oil and grease shall not be present in quantities that adhere to stream banks and coat bottoms of water courses or which cause deleterious effects to the biota.
- All monitoring and reporting requirements shall also be in compliance with Part III of this permit.

Sampling Point

Samples taken in compliance with permit limits and monitoring requirements shall be taken at the new location approximately 150 feet southeast of the chlorine contact basin; latitude 36° 07' 54.753" N, longitude 96° 05' 27.297" W

Reporting of Monitoring Results

Monitoring results shall be reported in accordance with the provisions of Part III.B.5 of the permit. Monitoring results obtained during the previous month shall be summarized and electronically reported on an electronic Discharge Monitoring Report (eDMR) form due to the Oklahoma Department of Environmental Quality, Water

Quality Division, Wastewater Compliance Tracking Section no later than the 15th day of the month following the completed monthly test. If no discharge occurs during the reporting period, an eDMR form stating "No Discharge" shall be electronically submitted according to the above schedule. Instructions on how to register as a Preparer or Signatory for eDMRs, as well as how to prepare and submit eDMRs, can be found on DEQ's website at http://www.deq.state.ok.us/wqdnew/ereporting/index.html. Assistance is also available by contacting DEQ at (405) 702-8100 or email deqreporting@deq.ok.gov.

The first report is due on the 15th of _____2025 .

B. Whole Effluent Toxicity (WET) Limit/Testing and Reporting Requirements (Outfall TX1)

During the period beginning the effective date of the permit and lasting through the expiration date, the permittee is authorized to discharge from Outfall TX1 (functionally identical to Outfall 001). The discharge consists of domestic sewage. Such discharge shall be limited and monitored by the permittee as specified below.

The permittee is encouraged to perform required biomonitoring activities as early in the reporting period as is practical to ensure sufficient time remains in the reporting period should retests/repeat tests be necessary.

All laboratory analyses for the biomonitoring parameters specified in this permit must be performed by a laboratory certified by DEQ for those parameters.

Acute WET Testing and Reporting Requirements (*Daphnia pulex*)

Effluent Characteristic				Reporting/Monitoring Requirements [a]		
	Test	Critical Dilution [b]	Parameter	48-hour Min.	Testing Frequency [f]	Sample Type
Testing	*Daphnia pulex*, 48-hour acute LC_{50} static renewal, freshwater	100%	Pass/Fail Survival [TIM3D]	Report	1/Quarter [e]	24-hr Comp
			LC_{50} Effluent Conc. [TAM3D]	Report		
			% Mortality at 100% Effluent [TJM3D]	Report		
Retesting	Retest #1 [22415] [c]			Report	As Required [d]	24-hr Comp
	Retest #2 [22416] [c]			Report		

[a] See Part II, Section E of the permit, WET testing for additional monitoring and reporting conditions.
[b] All acute WET testing shall use the dilution series specified in Part II, Section E, Item 1 of the permit.
[c] Applies according to results of test failure triggering monthly retests.
[d] Monthly retesting required only if routine test for reporting period fails. Fill out ONLY these two retest parameters on the retest DMRs, do not change the original results, and put the correct submission date in the lower right-hand corner of the DMR.
[e] Results of retests conducted pursuant to prior test failure shall not be substituted on DMRs in lieu of routine test results (see Part II, Section E, Item 2.a of the permit).
[f] See Part II, Section E, Item 5 of the permit for provision about monitoring frequency reduction after the second year.

D. pulex whole effluent toxicity testing and reporting requirements apply beginning the effective date of the permit, and the first reporting period is _____ to _____. The first report is due on _____ .

WET Testing Summary Reports: Reports of all WET testing initiated, regardless of whether such tests are carried to completion, shall follow the requirements of Part II, Section E, Item 4 of the permit.

Acute WET Reporting and Monitoring Requirements (*Pimephales promelas*)

Effluent Characteristic				Reporting/Monitoring Requirements [a]		
Test		Critical Dilution [b]	Parameter	48-hour Min.	Testing Frequency [c]	Sample Type
Testing	*Pimephales promelas* (Fathead minnow), 48-hour acute LC_{50} static renewal, freshwater	100%	Pass/Fail Survival [TIM6C]	Report	1/Quarter	24-hr Comp.
			LC_{50} Effluent Conc. [TAM6C]	Report		
			% Mortality at 100% Effluent [TJM6C]	Report		

[a] See Part II, Section F of the permit, WET Limit, for additional monitoring and reporting conditions.
[b] All acute WET testing shall use the dilution series specified in Part II, Section F, Item 1 of the permit.
[c] Quarterly reporting periods commence with the effective date of the permit. A valid WET test shall be reported for *Pimephales promelas* for each reporting period. Results of monthly tests conducted pursuant to prior test failure may be substituted for a routine test result if the monthly test coincides within the testing period of the routine testing (see Part II, Section F, Item 2.a of the permit).

Acute WET Limit and Monitoring Requirements (*Pimephales promelas*)

Effluent Characteristic	Reporting/Monitoring Requirements [a]		
	48-hour Min.	Testing Frequency [b]	Sample Type
Whole Effluent Limit *Pimephales promelas* (lowest acute LC_{50}) [STORET 51714]	>100%	1/Quarter	24-hr Comp.

[a] See Part II, Section F, WET Limit, for additional monitoring and reporting conditions.
[b] Results of monthly retests conducted pursuant to prior test failure may be substituted for a routine test result if the monthly test coincides within the testing period of the routine testing (see Part II, Section F, Item 2.a of the permit).

P. promelas (Fathead minnow) whole effluent toxicity limit and reporting requirements apply beginning the effective date of the permit, and the first reporting period is _____ to _____. The first report is due on _____.

WET Testing Summary Reports: Reports of all WET testing initiated, regardless of whether such tests are carried to completion, shall follow the requirements of Part II, Section F, Item 4 of the permit.

Whole Effluent Toxicity Concurrent Testing Provision: Concurrent analyses of ammonia and pH are required on all effluent samples, including static renewals, collected for Fathead minnows WET testing or retesting. Reporting and monitoring of results shall be in accordance with the following requirements:

Effluent Characteristic	Concentration			Monitoring Requirements	
	Daily Min.	Monthly Avg.	Daily Max.	Monitoring Frequency	Sample Type
Ammonia as N (NH_3-N) (mg/L) [a] [STORET 00610]	Report	Report	Report	1/Quarter	24-hr Comp.
pH (standard units) [a] [STORET 00400]	Report	N/A	Report	1/quarter	Measured in each composite effluent sample, including static renewals, just prior to first use

[a] Two sets of samples for concurrent analyses are required for ammonia and pH: Report only those effluent samples collected for WET testing of the *Pimephales promelas*.

Samples collected for WET testing purposes, including static renewals, shall be of sufficient volume to allow for the required concurrent analyses in addition to the WET testing itself.

Samples sent directly to a WET testing laboratory shall NOT undergo any preservation other than refrigeration to maintain a temperature at or below 6°C but not frozen prior to arrival and processing at the WET testing laboratory. These results should be used in the table above. Samples sent directly to a state certified analytical laboratory must be composite samples that are properly preserved. These results may be included in the results for Outfall 001.

A second concurrent analysis is required for the sample that is sent to the WET testing laboratory and for the table above. Just prior to first use of each composite sample for WET testing purposes, the biomonitoring laboratory shall take an adequately-sized portion of each composite sample, acidify it in accordance with preservation requirements in 40 CFR Part 136, and have it analyzed for ammonia as N (NH_3-N) at a state certified laboratory. The pH measurement required for the above table must be taken just prior to the acidification step. These pH and ammonia readings should NOT be included in the results for Outfall 001.

Sampling Location: Samples taken in compliance with the monitoring requirements specified above for Outfall TX1 shall be taken at the following location: at the same location as for Outfall 001.

C. Sanitary Sewer Overflows

Any bypass in the collection system [sanitary sewer overflow (SSO)] shall be reported in accordance with Permit Part III.B.6.

PART II. OTHER PERMIT REQUIREMENTS

A. CONTRIBUTING INDUSTRIES AND PRETREATMENT REQUIREMENTS

1. The permittee shall operate an industrial pretreatment program in accordance with Section 402(b)(8) of the Clean Water Act (CWA), the General Pretreatment Regulations (40 CFR Part 403) and the provisions of the subsequently approved industrial pretreatment program submitted by the permittee. A Publicly Owned Treatment Works (POTW) facility is defined in 40 CFR § 403.3(o) as any devices and systems used in storage, treatment, recycling and reclamation of municipal sewage and industrial wastes of a liquid nature. It includes sewers, pipes and other conveyances if they convey wastewater to a POTW. The term also means a municipality as defined in the Act, which has jurisdiction over the Indirect Discharges to and from such treatment works. The POTW pretreatment program was approved on December 17, 1983, and modified on December 4, 1992, March 28, 2013, and February 20, 2025, to incorporate program revisions including the latest 40 CFR Part 403 regulations adopted by DEQ effective June 15, 2007. Any non-substantial modifications [as defined under 40 CFR § 403.18(b)] to the POTW pretreatment program received and implemented in accordance with 40 CFR § 403.18(d) shall be considered incorporated as of the date of approval by DEQ. The current POTW pretreatment program is hereby incorporated by reference and shall be implemented in a manner consistent with the following requirements:

   a. Industrial user information shall be updated at a frequency adequate to ensure that all industrial users (IU) are properly characterized at all times;

   b. The frequency and nature of industrial user compliance monitoring activities by the permittee shall be commensurate with the character, consistency and volume of waste. The permittee must inspect and sample the effluent from each Significant Industrial User (SIU) in accordance with 40 CFR § 403.8(f)(2)(v). This is in addition to any industrial self-monitoring activities;

   c. The permittee shall enforce and obtain remedies for noncompliance by any industrial users with applicable pretreatment standards and requirements;

   d. The permittee shall control through permit, order, or similar means, the contribution to the POTW by each IU to ensure compliance with applicable pretreatment standards and requirements. In the case of IUs identified as significant under 40 CFR § 403.3(v), this control shall be achieved through individual or general control mechanisms in accordance with 40 CFR § 403.8(f)(1)(iii). Both individual and general control mechanisms must be enforceable and contain, at a minimum, the following conditions:

      (1) Statement of duration (in no case more than 5 years);

      (2) Statement of non-transferability without, at a minimum, prior notification to the POTW and provision of a copy of the existing control mechanism to the new owner or operator;

      (3) Effluent limits and/or Best Management Practices (BMP) based on applicable general and categorical Pretreatment Standards, local limits, and State and local laws;

      (4) Self-monitoring, sampling, reporting, notification and record keeping requirements, including an identification of the pollutants to be monitored (including the process for seeking pollutant waivers in accordance with 40 CFR § 403.12(e)(2)), sampling location, sampling frequency, and sample type, based on the applicable general and categorical Pretreatment Standards, local limits, and State and local laws; and

(5) Statement of applicable civil and criminal penalties for violation of Pretreatment Standards and requirements and any applicable compliance schedule. Such schedules may not extend the compliance date beyond federal deadlines; and

(6) Requirements to control slug discharges, if determined by the POTW to be necessary.

e. The permittee shall evaluate whether each SIU needs a plan or other action to control slug discharges in accordance with 40 CFR § 403.8(f)(2)(vi);

f. The permittee shall provide adequate staff, equipment, and support capabilities to carry out all elements of the pretreatment program; and

g. The approved program shall not be modified by the permittee without the prior approval of the DEQ.

2. The permittee shall establish and continue to develop and enforce technically based local limits (TBLL) to implement the provisions of 40 CFR § 403.5. POTWs may develop BMPs to implement paragraphs 40 CFR § 403.5 (c)(1) and (c)(2). Such BMPs shall be considered local limits and Pretreatment Standards. All specific prohibitions or limits developed under this requirement are deemed to be conditions of this permit. The general and specific prohibitions set out in 40 CFR § 403.5(a)(1) and (b) shall also be enforced by the permittee unless modified under this provision.

   The permittee shall, within 60 days of the effective date of this permit, (1) submit a WRITTEN CERTIFICATION that a technical evaluation has been performed demonstrating that the existing TBLL are based on the current state water quality standards and are adequate to prevent pass through of pollutants, inhibition of or interference with the treatment facility, worker health and safety problems, and sludge contamination, OR (2) submit a WRITTEN NOTIFICATION that a technical evaluation revising the current TBLL and a draft sewer use ordinance which incorporates such revisions will be submitted within 12 months of the effective date of this permit.

3. The permittee shall analyze, at a minimum the treatment facility influent and effluent for the presence of the toxic pollutants listed in 40 CFR Part 122 Appendix D (NPDES Application Testing Requirements) Table II at least annually (once per year) and the toxic pollutants in Table III plus molybdenum at least semi-annually (once per six months). If, based upon information available to the permittee there is reason to suspect the presence of any toxic or hazardous pollutant listed in Table V, or any other pollutant, known or suspected to adversely affect treatment plant operation, receiving water quality, or solids disposal procedures, analysis for those pollutants shall be performed at least semi-annually (once per 6 months) on both the influent and the effluent.

   The influent and effluent samples collected shall be flow-composite samples consisting of at least 12 aliquots collected at approximately equal intervals over a representative 24 hour period. Sampling and analytical procedures shall be in accordance with guidelines established in 40 CFR Part 136. The effluent samples shall be analyzed to a level as required in item 6 below. Where composite samples are inappropriate, due to sampling, holding time, or analytical constraints, grab samples shall be taken.

4. The permittee shall prepare annually a list of IUs which during the preceding pretreatment year were significantly noncompliant with applicable pretreatment requirements. For the purposes of this Part, significant noncompliance shall be determined based upon the more stringent of either criteria established at 40 CFR Part § 403.8(f)(2)(viii) or criteria established in the approved POTW pretreatment program. This list is to be published annually in a newspaper of general circulation that provides meaningful public notice within the jurisdiction(s) served by the POTW during the month of **January**.

In addition, during the month of **January** the permittee shall submit an updated status report to DEQ containing the following information:

a. An updated list of all Non-significant Categorical Industrial Users defined under 40 CFR § 403.3(v)(2) if applicable, Categorical Industrial Users subject to reduced reporting under 40 CFR § 403.12(e)(3) if applicable and SIUs. For each industrial user listed the following information shall be included:

(1) Standard Industrial Classification (SIC) or the North American Industry Classification System (NAICS) code and categorical determination;

(2) Control document status. Whether the user has an effective control document, and the date such document was last issued, reissued, or modified, (indicate which industrial users were added to the system (or newly identified) within the previous year);

(3) A summary of all monitoring activities performed within the previous year. The following information shall be reported:

- total number of inspections performed;
- total number of sampling visits made;

(4) Status of compliance with both effluent limitations and reporting requirements. Compliance status shall be defined as follows:

- Compliant (C) - no violations during the previous pretreatment year;
- Non-compliant (NC) - one or more violations during the previous pretreatment year but does not meet the criteria for significant non-compliance;
- Significantly Noncompliant (SNC) - in accordance with requirements described above; and

(5) For significantly noncompliant industrial users, indicate the nature of the violations, the type and number of actions taken (notice of violation, administrative order, criminal or civil suit, fines or penalties collected, etc.) and current compliance status. If ANY industrial user was on a schedule to attain compliance with effluent limits, indicate the date the schedule was issued and the date compliance is to be attained.

b. A list of all significant industrial users whose authorization to discharge was terminated or revoked during the preceding pretreatment year and the reason for termination;

c. A report on any interference, pass through, upset or POTW permit violations known or suspected to be caused by industrial contributors and actions taken by the permittee in response;

d. A copy of the newspaper publication of the significantly non-compliant industrial users giving the name of the newspaper and the date published;

e. The results of all influent and effluent analyses performed pursuant to above requirements;

f. A comparison of the influent and effluent analyses performed pursuant to above with maximum allowable headwork loadings developed in the approved technically based local limits and water quality based effluent concentrations necessary to meet state water quality standards.

5. 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 CWA and/or Sections 40 CFR Parts 405-499 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 by a source introducing pollutants into the treatment works at the time of issuance of the permit.

      Adequate 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 the change on the quality or quantity of effluent to be discharged from the POTW.

6. All effluent monitoring conducted pursuant to above requirements shall meet the Minimum Quantification Levels (MQLs) shown in the tables on Pages 19-22.

A. REOPENER CLAUSE

This permit may be reopened for modification or revocation and reissuance to require additional monitoring and/or effluent limitations where actual or potential exceedances of State water quality criteria are determined to be the result of the permittee's discharge to the receiving water(s), or a revised Total Maximum Daily Load is established for the receiving water(s), or when required as technology advances. Modification or revocation and reissuance of the permit shall follow regulations listed at 40 CFR § 124.5.

B. SEWAGE SLUDGE REQUIREMENTS

Biosolids beneficial use and/or sewage sludge disposal practices shall comply with the Federal regulations for landfills, biosolids land application, and/or sewage sludge solid waste disposal established at 40 CFR Parts 257, 503, and the DEQ rules governing Sludge Management (OAC 252:515 and OAC 252:606) as applicable.

Sewage sludge disposal shall also comply with the requirements of the Sludge Disposition Plan, which was approved by DEQ on February 7, 2014, that allows the permittee to dispose of sewage sludge at the American Environmental Landfill located in the City of Sand Spring, Oklahoma.

The permittee is required to maintain all records relevant to biosolids beneficial use and/or sewage sludge disposal for the life of the permit. These records shall be made available to DEQ upon request.

The permittee shall notify DEQ at least 120 days prior to implementing any changes in the biosolids beneficial use and/or sewage sludge disposal practices.

The permittee shall comply with other biosolids/sewage sludge requirements specified in Part IV of this permit.

C. POLLUTION PREVENTION REQUIREMENTS

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

   a. The influent loadings, flow and design capacity;

   b. The effluent quality and plant performance;

   c. The age and expected life of the wastewater treatment facility's equipment;

d. Bypasses and overflows of the tributary sewerage system and treatment works;

e. New developments at the facility;

f. Operator certification and training plans and status;

g. The financial status of the facility;

h. Preventative maintenance programs and equipment conditions; and

i. An overall evaluation of conditions at the facility.

2. The permittee shall prepare the following information on the biosolids/sewage sludge generated by the facility:

a. An annual quantitative tabulation of the ultimate disposition of all biosolids/sewage sludge (including, but not limited to, the amount beneficially reused, landfilled, and incinerated).

b. An assessment of technological processes and an economic analysis evaluating the potential for beneficial reuse of all biosolids/sewage sludge not currently beneficially reused including a listing of any steps which would be required to achieve the biosolids/sewage sludge quality necessary to beneficially reuse the biosolids/sewage sludge.

c. A description of, including the expected results and the anticipated timing for, all projects in process, in planning and/or being considered which are directed towards additional beneficial reuse of biosolids/sewage sludge.

d. An analysis of one composite sample of the biosolids/sewage sludge collected prior to ultimate re-use or disposal shall be performed for the pollutants listed in Part IV, Element 1, Section III, Table 3.

e. A listing of the specific steps (controls/changes) which would be necessary to achieve and sustain the quality of the biosolids/sewage sludge so that the pollutant concentrations in the biosolids/sewage sludge fall below the pollutant concentration criteria listed in Part IV, Element 1, Section III, Table 3.

f. A listing of, and the anticipated timing for, all projects in process, in planning, and/or being considered which are directed towards meeting the biosolids/sewage sludge quality referenced in (e) above.

The permittee shall certify in writing, within three years of the effective date of the permit, that all pertinent information is available. This certification shall be submitted to:

Oklahoma Department of Environmental Quality
Water Quality Division
Municipal Discharge and Stormwater Permits Section
P. O. Box 1677
707 North Robinson Ave
Oklahoma City, Oklahoma 73101-1677

E. WHOLE EFFLUENT TOXICITY TESTING (*Daphnia pulex*)

1. Scope and Methodology

a. The permittee shall test the effluent for toxicity in accordance with the provisions in this section, which apply individually and separately to the outfalls listed below. No samples or portions of samples from one outfall may be composited with samples or portions of samples from another outfall. The permittee shall biomonitor for *Daphnia pulex* in accordance with the WET testing frequencies prescribed in Part I.

The permittee is encouraged to perform required biomonitoring activities as early in the reporting period as is practical to ensure sufficient time remains in the reporting period should retests/repeat tests be necessary.

All laboratory analyses for the biomonitoring parameters specified in this permit must be performed by a laboratory accredited by the Oklahoma Department of Environmental Quality for those parameters.

Provisions for performance-based monitoring frequency reductions are contained in Item 5 of this section.

Intervals between test initiation dates shall be a function of the required testing frequency, as follows:

- Monthly: No less than 20 days and no more than 40 days.
- Quarterly: No less than 2 months and no more than 4 months.
- Semi-annually: No less than 4 months and no more than 8 months.

APPLICABLE TO OUTFALL(S):	001
REPORTED ON DMR AS OUTFALL(S):	TX1
CRITICAL DILUTION:	100%
EFFLUENT DILUTION SERIES (ALL TESTS):	32%, 42%, 56%, 75%, 100%
SAMPLE TYPE:	Defined at Part I
TEST SPECIES/METHODS:	40 CFR 136, except for changes required by EPA, Region 6.

Daphnia pulex acute static renewal 48-hour definitive toxicity test, Method 2021.0, EPA-821-R-02-012 (October 2002), or latest 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. Acute test failure –Acute test failure (LC_{50} test) is defined as 50% or more lethality (toxicity) at 48 hours to test organisms at any effluent concentration. The 48-hour LC_{50} effluent value must be >100% to indicate a passing test. Any 48-hour LC_{50} effluent value of 100% or less (or equivalently, a survival value of less than 50.1% in any test dilution) will constitute a test failure.

c. Reopener clause – This permit may be reopened to require whole effluent toxicity limits, chemical specific effluent limits, additional testing, and/or other appropriate actions to address toxicity.

2. **Testing Requirements due to Test Failure**

Upon becoming aware of the failure of any test, the permittee shall immediately notify the DEQ Water Quality Division biomonitoring coordinator, and shall provide written notification within 5 working days, of the test failure with a summary of the results of, and any other pertinent circumstances associated with, the failed test.

a. Whenever there is a test failure for *Daphnia pulex* during routine testing, the frequency of testing for *Daphnia pulex* shall automatically increase to, or continue at, as appropriate, the WET testing frequency prescribed in Part I for the remaining life of the permit. In addition, two (2) additional monthly tests (retests) of *Daphnia pulex* are required. The two additional tests shall be conducted monthly during the next two consecutive months. The permittee shall not substitute either of the two additional tests for routine toxicity testing. A full laboratory report for the failed routine test and both additional tests, if required, shall be prepared and submitted to DEQ in accordance with procedures outlined in Item 4 of this section.

b. Persistent toxicity – If either of the two additional tests results in an LC_{50} value less than or equal to 100%, persistent toxicity is exhibited. Then the permittee shall initiate a Toxicity Reduction Evaluation (TRE) as specified in Item 6 of this section. The TRE initiation date will be the test completion date of the first failed retest. The permittee may request a temporary exemption to this TRE-triggering criterion only if the permittee is under a compliance schedule defined in an OPDES permit or an enforcement order to effect aquatic toxicity reduction measures.

c. Intermittent toxicity – If both additional tests result in an LC_{50} value of greater than 100%, persistent toxicity is not exhibited. However, if any routine test failure occurs within 18 months of a prior test failure, intermittent toxicity is exhibited, and the permittee may be required by DEQ to initiate a TRE, as described in Item 6 of this section, based on the severity and pattern of such toxic effect over time.

d. Suspension of Retesting Requirement During TRE -_Retesting requirements in Item 2.a are temporarily suspended upon submittal of a TRE Action Plan. Such suspension of retesting requirements applies only to the species under evaluation by a TRE and only to the period during which a TRE is being performed.

3. **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:

(1) The toxicity test control (0% effluent) must have survival equal to or greater than 90%.

(2) The percent coefficient of variation between replicates shall be 40% or less in the control (0% effluent) for the *Daphnia pulex* survival test.

(3) The percent coefficient of variation between replicates shall be 40% or less in the critical dilution, unless significant toxicity is exhibited in the *Daphnia pulex* survival test.

(4) As documented at test termination, no more than forty (40) percent of the daphnid test organisms in any replicate of any effluent dilution or in any replicate of the control (0% effluent) shall be male.

If the above criteria or criteria listed in Item 1.a are not met the test will be considered invalid. Test failure may not be construed or reported as invalid due to a coefficient of variation value for toxicity of greater than 40% for replicates tested at the critical dilution. A repeat test shall be conducted and the biomonitoring enforcement coordinator notified, within the reporting period of any test determined to be invalid.

b. The permittee shall follow the requirements listed below in determining success or failure of a WET test:

The statistical analyses in the *Daphnia pulex* test, used to determine the LC_{50} shall be in accordance with the methods described in EPA-821-R-02-012, or the most recent update thereof.

c. The permittee shall use dilution water that meets the following standards:

(1) 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. In OAC 252:606-6-36, for discharges to a receiving stream classified as intermittent or to a receiving stream with no flow due to zero flow, the permittee shall substitute synthetic dilution water of similar pH, hardness and alkalinity to the closest downstream perennial water where the toxicity test is conducted. In the event that the receiving stream has sufficient flow for a sample to be collected, the facility will return to receiving stream water instead of synthetic.

(2) If the receiving water is unsatisfactory as a result of instream toxicity (fails to meet the test acceptance criteria in Item 3.a), the permittee must submit the test results exhibiting receiving water toxicity with the full test report required in Item 4 below and may thereafter 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 fulfills the test acceptance requirements of Item 3.a was run concurrently with the receiving water control;

(b) the test indicating receiving water toxicity was carried out to completion (i.e., 48 hours);

(c) the synthetic dilution water had 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; and

(d) the receiving water test must be conducted at the start of each permitting cycle.

d. The permittee shall collect samples that are representative of the effluent by following the criteria listed below:

(1) Unless grab sampling is specifically authorized in Part I of the permit, the permittee shall collect two flow-weighted 24-hour composite samples representative of the flows during normal operation from the outfall(s) listed at Item 1.a above. If grab sampling is authorized, all the requirements listed below for composite sampling also pertain to grab sampling. In such cases, collection of the grab sample is considered equivalent to collection of the last portion of a composite sample. Unless otherwise specified in Part I of the permit, a 24-hour composite sample consists of a minimum of 12 effluent portions collected at equal time intervals representative of a 24-hour operating day and combined proportional to flow, or a sample continuously collected proportional to flow over a 24-hour operating day.

(2) The permittee must collect the composite samples so that the maximum holding time for any effluent sample shall not exceed 36 hours. The permittee must initiate the toxicity test within 36 hours after the collection of the last portion of the first composite sample. The first composite sample shall be used to initiate each test. The second composite sample shall be used for 24-hour static renewal of each dilution concentration for each test. Samples shall be chilled to maintain a temperature at or below 6° C but not frozen during collection, shipping, and/or storage.

(3) 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.

(4) If it is anticipated that flow from the outfall being tested may cease prior to collection of the second composite sample, the permittee must ensure that the first composite sample is of sufficient volume to complete the required testing with daily renewal of effluent. The abbreviated composite sample collection duration, the static renewal protocol associated with an abbreviated sample collection, and a summary of the circumstances justifying collection of an abbreviated sample must be adequately documented in the full test report required in Item 4 below. DEQ reserves the right to require a retest and/or consider the permittee in violation of this permit if the basis offered for justification of an abbreviated sample is insufficient, flawed, or in any way reflects an effort on the part of the permittee to avoid test failure by use of an abbreviated sample.

4. **Reporting**

a. The permittee shall retain each full report pursuant to the records retention provisions of Part III of this permit. The permittee shall also submit to the DEQ biomonitoring enforcement coordinator a copy of the full laboratory test reports at TX1 in accordance with the Report Preparation Section of EPA-821-R-02-012 for every valid or invalid toxicity test initiated, whether carried to completion or not, including any test which is considered invalid, is terminated early for any reason, or which indicates receiving water toxicity. The reports shall be received no later than the 15th day of the month following the end of the testing period.

b. A valid test for *Daphnia pulex* (excluding retests) at TX1 must be reported on the DMR for each reporting period specified in Part I of this permit, unless the permittee is performing a TRE, which may increase the frequency of testing and reporting. An electronic DMR and a copy of the lab report must be received by the 15th day of the month following the end of the testing period.

If a test is determined to be invalid, the repeat test must be conducted in the coinciding testing period; if the first sample of the repeat test is taken after the last day of the final month in a testing period, the facility will be out of compliance with the reporting period. If a lethal failure is experienced for *Daphnia pulex*, two (2) monthly WET retests are required during the two-month period following the month in which the test failure is experienced.

If more than one valid test (excluding retests) is performed on a species during a reporting period, the permittee shall report the lowest lethality LC_{50} effluent concentrations for all such tests as the 7-day minimum on the DMR for the reporting period in question, specifying the dates of each test in the comments section of the DMR. Under no circumstance shall the monitoring/reporting period dates at the top of the DMR form be altered.

c. If any test results in anomalous LC_{50} findings (i.e., it indicates an interrupted dose response across the dilution series), DEQ recommends that the permittee contact the DEQ biomonitoring coordinator for a technical review of the test results prior to submitting the full laboratory test report and DMR. A

summary of all tests initiated during the reporting period, including invalid tests, repeat tests, and retests, shall be attached to the reporting period DMR for DEQ review.

A test is a REPEAT test if it is performed as the result of a previously invalid test. A test is a RETEST if it is performed as the result of a previously failed test, the exception being where the test is the first (valid) test of a reporting period, in which case it is reported as such on the DMR for that period.

(1) The reporting period test summary attached to the DMR shall be organized as follows:

(a) Invalid tests (basis for test invalidity must be described)

(b) Valid tests (other than retests) initiated during current reporting period

(c) Valid retests for tests failed during previous reporting period (if not submitted in the previous reporting period test summary)

(d) Valid retests for tests failed during current reporting period

(2) The following information shall be listed in the reporting period test summary for each valid test in categories (b) through (d) in Item 4.b(1) above:

(a) Test species

(b) Date of test initiation at laboratory

(c) Results of all concurrent effluent analyses specified in Part I of this permit

(d) All test result parameters for the test species specified in Item 4.c below.

d. The permittee shall report the following results for all VALID routine toxicity tests (excluding retests) on the DMR(s) for that reporting period in accordance with Item 4.b above and Part III of this permit.

(1) Parameter TIM3D: If the *Daphnia pulex* 48-hour LC_{50} for survival is equal to or less than 100%, report a "1"; otherwise, report a "0".

(2) Parameter TAM3D: Report the *Daphnia pulex* 48-hour LC_{50} value for survival.

(3) Parameter TJM3D: Report the *Daphnia pulex* 48-hour percent mortality in the 100% effluent concentration.

e. The permittee shall report the following results for all VALID toxicity retests on the DMR(s) for that reporting period.

(1) Retest #1 (STORET 22415): If the first monthly retest following failure of a routine test for *Daphnia pulex* results in a 48-hour LC_{50} for survival equal to or less than 100%, report a "1"; otherwise, report a "0".

(2) Retest #2 (STORET 22416): If the second monthly retest following failure of a routine test for *Daphnia pulex* results in a 48-hour LC_{50} for survival equal to or less than 100%, report a "1"; otherwise, report a "0".

Results of all retests shall be reported on a copy of the DMR for the reporting period (see Item 4.b above) in which the triggering routine test failure is experienced. Such retest results (using STORET codes 22415 and 22416 only) shall be received no later than the 15th day of the month at the end of the testing period for the retest. The full report for the retest (see Item 4.a above) shall be submitted along with the retest DMR. Even if a retest cannot be conducted before the end of the reporting period for which it is required (due to test initiation interval requirements), the retest results shall still be reported for the reporting period in which the triggering test failure is experienced. Under no circumstance shall the monitoring/reporting period dates for a supplemental retest DMR ever be modified. The permittee shall indicate the retest date in the comments section of the supplemental DMR and insert the date the DMR is submitted in the lower right hand corner. In this manner, both retests are reported for the same reporting period as the failed routine test triggering the retests. If retesting is not required during a given reporting period, the permittee shall leave the DMR retest fields blank.

5. **Monitoring Frequency Reduction**

   a. The permittee may apply for a testing frequency reduction upon the successful completion of the first two years of testing for *Daphnia pulex* with no lethal effects demonstrated at or below the critical dilution. Certification in accordance with Item 5.b of this section shall be submitted with the application for monitoring frequency reduction. If granted, the monitoring frequency may be reduced to a minimum of once per 6 months (actual testing must occur during the periods June 1 through September 30 and December 1 through March 31) for the approved test specie(s).

   b. Certification – The permittee must certify in writing that no lethal test failures have occurred for the species for which the monitoring frequency reduction is being requested and that all tests meet all test acceptability criteria in Item 3.a above. In addition, the permittee must provide a summary of all tests initiated during the period of certification including test initiation dates, species, test acceptability parameters, LC_{50} concentrations, percent mortality at the 100% effluent dilution, and coefficients of variation for the control and 100% effluent dilution. If the certification is approvable, DEQ will issue a letter of confirmation of the monitoring frequency reduction. A copy of the confirmation letter will be forwarded to DEQ's Permit Compliance Tracking Section to update the permit reporting requirements and TX1S will be activated while TX1Q will be deactivated. DEQ may refuse to approve the certification if it determines that, during the period for which the certification is submitted, there were errors in meeting test acceptability requirements, errors in statistical interpretation affecting test results reported on DMRs, late submissions of test reports or submissions of substantively incomplete test reports. If the certification is not approved, the permittee shall continue biomonitoring of the affected test species at a frequency of once per quarter until the permit is reissued.

   c. Lethal failures after a monitoring frequency reduction – If any lethal endpoint test is failed at any time after the granting of a monitoring frequency reduction, two monthly retests are required for that species in accordance with Item 2 above and the monitoring frequency for the affected test species shall be increased to the WET testing frequency prescribed in Part I before the frequency reduction was granted and shall remain for the life of the permit. TX1Q will be reactivated and TX1S will be discontinued for the life of the permit. If the permittee is performing a TRE this section does not apply.

6. **Toxicity Reduction Evaluation (TRE)**

   a. Within 90 days of confirming toxicity in the retests for a test species, the permittee shall submit to DEQ a TRE Action Plan and Schedule for conducting a Toxicity Reduction Evaluation (TRE). The TRE Action Plan shall specify the approach and methodology to be used in performing the TRE. A Toxicity Reduction Evaluation is an investigation intended to determine those actions necessary to achieve compliance with water quality-based effluent limits by reducing an effluent's toxicity to an acceptable level. A TRE is defined as a stepwise process which combines toxicity testing and analyses

of the physical and chemical characteristics of a toxic effluent to identify the constituents causing effluent toxicity and/or treatment methods which will reduce the effluent toxicity. The TRE Action Plan shall lead to the successful elimination of effluent toxicity and include the following:

(1) Specific Activities. DEQ requires that a thorough audit of the design, operation and maintenance of the entire plant be done at the **outset** of the Toxicity Identification Evaluation (TIE) and/or TRE, rather than later in the process.

The plan shall detail the specific approach the permittee intends to utilize in conducting the TRE. The approach may include toxicity characterizations, identifications and confirmation activities, source evaluation, treatability studies, or alternative approaches. When the permittee conducts Toxicity Characterization Procedures, the permittee shall perform multiple characterizations and follow the procedures specified in the documents "Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures" (EPA-600/6-91/003) and "Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I" (EPA-600/6-91/005F), or alternate procedures. When the permittee conducts Toxicity Identification Evaluations and Confirmations, the permittee shall perform multiple identifications and follow the methods specified in the documents "Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity" (EPA/600/R-92/080) and "Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity" (EPA/600/R-92/081), as appropriate.

The documents referenced above may be available through the

National Technical Information Service (NTIS)

U.S. Department of Commerce
National Technical Information Service
5301 Shawnee Rd., Alexandria, VA 22312
E-mail: orders@ntis.gov
(800) 553-NTIS (6847), or at the

National Service Center for Environmental Publications (NSCEP)

U.S. EPA/NSCEP
P.O. Box 42419
Cincinnati, Ohio 45242-0419
E-mail: nscep@bps-lmit.com
1-(800) 490-9198

(2) Sampling Plan (e.g., locations, methods, holding times, chain of custody, preservation, etc.). The effluent sample volume collected for all tests shall be adequate to perform the toxicity test, toxicity characterization, identification and confirmation procedures, and to conduct chemical specific analyses when a probable toxicant has been identified. Where the permittee has identified or suspects specific pollutant(s) and/or source(s) of effluent toxicity, the permittee shall conduct, concurrent with toxicity testing, chemical specific analyses for the identified and/or suspected pollutant(s) and/or source(s) of effluent toxicity. Where toxicity was demonstrated within 48 hours of test initiation, each composite sample shall be analyzed independently. Otherwise, the permittee may substitute a composite sample, comprised of equal portions of the individual composite samples, for the chemical specific analysis.

(3) Quality Assurance Plan (e.g., QA/QC implementation, corrective actions, etc.).

(4) Project Organization (e.g., project staff, project manager, consulting services, etc.).

b. The permittee shall initiate the TRE Action Plan within 30 days of submitting the plan and schedule. The permittee shall assume all risks for failure to achieve the required toxicity reduction.

c. The permittee shall submit to DEQ a quarterly TRE Activities Report with the Discharge Monitoring Report in months to be specified in their TRE plan, containing the following information:

(1) all data and/or substantiating documentation which identifies the pollutant(s) and/or source(s) of effluent toxicity;

(2) all studies/evaluations and results on the treatability of the facility's effluent toxicity; and

(3) all data which identifies effluent toxicity control mechanisms that will reduce effluent toxicity to the level necessary to meet no significant toxicity at any dilution.

d. The permittee shall submit to DEQ a Final Report on Toxicity Reduction Evaluation Activities no later than twenty-eight (28) months after confirming toxicity in the retests. The final report shall provide information pertaining to the specific control mechanism(s) selected that will, when implemented, result in reduction of effluent toxicity to a 48-hour LC_{50} effluent value of greater than 100%. The final report shall also provide a schedule for implementing the selected control mechanism(s).

e. Quarterly testing during the TRE is the minimum monitoring requirement. DEQ recommends that permittees performing a TRE not rely on quarterly testing alone. Failure to identify the specific chemical compound(s) causing toxicity test failure will normally result in a permit limit for whole effluent toxicity per federal regulations at 40 CFR 122.44(d)(1)(v).

F. WHOLE EFFLUENT TOXICITY LIMIT (*Pimephales promelas*)

1. Scope and Methodology

a. The permittee shall test the effluent for toxicity in accordance with the provisions in this section, which apply individually and separately to the outfalls listed below. No samples or portions of samples from one outfall may be composited with samples or portions of samples from another outfall. The permittee shall biomonitor for *Pimephales promelas* in accordance with the WET testing frequencies prescribed in Part I.

The permittee is encouraged to perform required biomonitoring activities as early in the reporting period as is practical to ensure sufficient time remains in the reporting period should retests/repeat tests be necessary.

All laboratory analyses for the biomonitoring parameters specified in this permit must be performed by a laboratory accredited by the Oklahoma Department of Environmental Quality for those parameters.

Intervals between test initiation dates shall be a function of the required testing frequency, as follows:

- Monthly: No less than 20 days and no more than 40 days.
- Quarterly: No less than 2 months and no more than 4 months.
- Semi-annually: No less than 4 months and no more than 8 months.

APPLICABLE TO OUTFALL(S):	001
REPORTED ON DMR AS OUTFALL(S):	TX1
CRITICAL DILUTION:	100%
EFFLUENT DILUTION SERIES (ALL TESTS):	32%, 42%, 56%, 75%, 100%
SAMPLE TYPE:	Defined at Part I
TEST SPECIES/METHODS:	40 CFR 136, except for changes required by EPA, Region 6.

Pimephales promelas (Fathead minnow) acute static renewal 48-hour definitive toxicity test, Method 2000.0, EPA-821-R-02-012 (October 2002), or latest 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. Acute test failure –Acute test failure (LC_{50} test) is defined as 50% or more lethality (toxicity) at 48 hours to test organisms at any effluent concentration. The 48-hour LC_{50} effluent value must be >100% to indicate a passing test. Any 48-hour LC_{50} effluent value of 100% or less (or equivalently, a survival value of less than 50.1% in any test dilution) will constitute a test failure.

c. The conditions of this item are effective beginning with the effective date of the WET limit, as established in Part I of this permit. When a whole effluent toxicity test for *Pimephales promelas* results in an LC_{50} value of 100% or less (i.e., greater than or equal to 50% lethality (toxicity) in any effluent dilution), the permittee shall be considered in violation of this permit, and the frequency of testing for that species will increase to monthly until such time as compliance with the LC_{50} whole effluent toxicity limit is demonstrated for that test species for a period of three (3) consecutive months , at which time the permittee may return to the testing frequency for each species stated in Part I of this permit. The increased frequency for WET testing after a violation is used 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. Testing conducted pursuant to the provision shall be reported in accordance with Item 3 of this section.

d. Reopener clause – This permit may be reopened to require chemical specific effluent limits, additional testing, and/or other appropriate actions to address toxicity. Accelerated or intensified testing may be required in accordance with Section 308 of the Clean Water Act.

e. Upon becoming aware of the failure of any test, the permittee shall immediately notify the DEQ Water Quality Division biomonitoring coordinator and shall provide written notification within five (5) working days of the test failure with a summary of the results of and any other pertinent circumstances associated with the failed test.

2. **Testing Requirements due to Test Failure**

Upon becoming aware of the failure of any test, the permittee shall immediately notify the DEQ Water Quality Division biomonitoring coordinator, and shall provide written notification within 5 working days, of the test failure with a summary of the results of, and any other pertinent circumstances associated with, the failed test.

Beginning with the effective date of the WET limit, as established in Part I of this permit, the following testing requirements due to acute test failure apply:

a. When there is an acute test failure for *Pimephales promelas* during routine testing, at least three additional monthly tests for *Pimephales promelas* are required (Part II, Section F.1.c above). The additional tests shall be conducted monthly during subsequent consecutive months until there are three consecutive months of passing tests at which time the frequency of testing shall return to that stated in Part 1 of the permit. The permittee may substitute one of the monthly tests that coincides within the quarter of a routine toxicity testing.

b. A full laboratory report for the failed routine test and all additional tests shall be provided and submitted to DEQ in accordance with the procedure outlined in Item 3.

c. If the permittee cannot pass three tests in a row within the next six months, DEQ will review the test results and may require a Toxicity Identification Evaluation (TIE) be done to determine the cause of the toxicity. If the TIE cannot detect the problem, another Toxicity Reduction Evaluation (TRE) may be required.

3. **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:

(1) The toxicity test control (0% effluent) must have survival equal to or greater than 90%.

(2) The percent coefficient of variation between replicates shall be 40% or less in the control (0% effluent) for the Fathead minnow survival test.

(3) The percent coefficient of variation between replicates shall be 40% or less in the critical dilution, unless significant toxicity is exhibited in the Fathead minnow survival test.

If the above criteria or criteria listed in Item 1.a are not met the test will be considered invalid. Test failure may not be construed or reported as invalid due to a coefficient of variation value for toxicity of greater than 40% for replicates tested at the critical dilution. A repeat test shall be conducted and the biomonitoring enforcement coordinator notified, within the reporting period of any test determined to be invalid.

b. The permittee shall follow the requirements listed below in determining success or failure of a WET test:

The statistical analyses in the Fathead minnow survival test, used to determine the LC_{50} shall be in accordance with the methods described in EPA-821-R-02-012, or the most recent update thereof.

c. The permittee shall use dilution water that meets the following standards:

(1) 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. In OAC 252:606-6-36, for discharges to a receiving stream classified as intermittent or to a receiving stream with no flow due to zero flow, the permittee shall substitute synthetic dilution water of similar pH, hardness and alkalinity to the closest downstream perennial water where the toxicity test is conducted. In the event that the

receiving stream has sufficient flow for a sample to be collected, the facility will return to receiving stream water instead of synthetic.

(2) If the receiving water is unsatisfactory as a result of instream toxicity (fails to meet the test acceptance criteria in Item 3.a), the permittee must submit the test results exhibiting receiving water toxicity with the full test report required in Item 4 below and may thereafter 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 fulfills the test acceptance requirements of Item 3.a was run concurrently with the receiving water control;

(b) the test indicating receiving water toxicity was carried out to completion (i.e., 48 hours);

(c) the synthetic dilution water had 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; and

(d) the receiving water test must be conducted at the start of each permitting cycle.

d. The permittee shall collect samples that are representative of the effluent by following the criteria listed below:

(1) Unless grab sampling is specifically authorized in Part I of the permit, the permittee shall collect two flow-weighted 24-hour composite samples representative of the flows during normal operation from the outfall(s) listed at Item 1.a above. If grab sampling is authorized, all the requirements listed below for composite sampling also pertain to grab sampling. In such cases, collection of the grab sample is considered equivalent to collection of the last portion of a composite sample. Unless otherwise specified in Part I of the permit, a 24-hour composite sample consists of a minimum of 12 effluent portions collected at equal time intervals representative of a 24-hour operating day and combined proportional to flow, or a sample continuously collected proportional to flow over a 24-hour operating day.

(2) The permittee must collect the composite samples so that the maximum holding time for any effluent sample shall not exceed 36 hours. The permittee must initiate the toxicity test within 36 hours after the collection of the last portion of the first composite sample. The first composite sample shall be used to initiate each test. The second composite sample shall be used for 24-hour static renewal of each dilution concentration for each test. Samples shall be chilled to maintain a temperature at or below 6° C but not frozen during collection, shipping, and/or storage.

(3) 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.

(4) If it is anticipated that flow from the outfall being tested may cease prior to collection of the second composite sample, the permittee must ensure that the first composite sample is of sufficient volume to complete the required testing with daily renewal of effluent. The abbreviated composite sample collection duration, the static renewal protocol associated with an abbreviated sample collection, and a summary of the circumstances justifying collection of an abbreviated sample must be adequately documented in the full test report required in Item 4 below. DEQ reserves the right to require a retest and/or consider the permittee in violation of this permit if the basis offered for

justification of an abbreviated sample is insufficient, flawed, or in any way reflects an effort on the part of the permittee to avoid test failure by use of an abbreviated sample.

4. **Reporting**

a. The permittee shall retain each full report pursuant to the records retention provisions of Part III of this permit. The permittee shall also submit to the DEQ biomonitoring enforcement coordinator a copy of the full laboratory test reports at TX1 in accordance with the Report Preparation Section of EPA-821-R-02-012 for every valid or invalid toxicity test initiated, whether carried to completion or not, including any test which is considered invalid, is terminated early for any reason, or which indicates receiving water toxicity. The reports shall be received no later than the 15th day of the month following the end of the testing period.

b. A valid test for *Pimephales promelas* (excluding retests) at TX1 must be reported on the DMR for each reporting period specified in Part I of this permit. DMRs must be received by the 15th day of the month following the end of the testing period. The full report for the test (see Item 3.a above) shall be submitted along with the DMR. If a test is determined to be invalid, the repeat test must be conducted in the coinciding testing period; if the first sample of the repeat test is taken after the last day of the final month in a testing period, the facility will be out of compliance with the reporting period. If monthly retesting is required as a result of a WET limit permit violation, the monthly DMR will be reported to TX1A. Quarterly testing at TX1Q shall continue; the facility may substitute a monthly test from TX1A for the quarterly report if the test falls within the testing period. If more than one valid test (excluding retests) is performed on a species during a reporting period, the permittee shall report the lowest lethal test results as the 48-hour minimum and the *P. promelas* [51714] result.

c. If any test results in anomalous LC_{50} findings (i.e., it indicates an interrupted dose response across the dilution series), DEQ recommends that the permittee contact the DEQ biomonitoring coordinator for a technical review of the test results prior to submitting the full laboratory test report and DMR. A summary of all tests initiated during the reporting period, including invalid tests, repeat tests, and monthly tests, shall be attached to the reporting period DMR for DEQ review.

A test is a REPEAT test if it is performed as the result of a previously invalid test. A test is a RETEST if it is performed as the result of a previously failed test, the exception being where the test is the first (valid) test of a reporting period, in which case it is reported as such on the DMR for that period.

(1) The reporting period test summary attached to the DMR shall be organized as follows:

(a) Invalid tests (basis for test invalidity must be described)

(b) Valid tests (other than retests) initiated during current reporting period

(c) Valid retests for tests failed during previous reporting period (if not submitted in the previous reporting period test summary)

(d) Valid retests for tests failed during current reporting period

(2) The following information shall be listed in the reporting period test summary for each valid test in categories (b) through (d) in Item 4.b(1) above:

(a) Test species

(b) Date of test initiation at laboratory

(c) Results of all concurrent effluent analyses specified in Part I of this permit

(d) All test result parameters for the test species specified in Item 4.c below.

d. The permittee shall report the following results for all VALID routine toxicity tests (excluding retests) on the DMR(s) for that reporting period in accordance with Item 4.b above and Part III of this permit.

(1) Parameter TIM6C: If the Fathead minnow 48-hour LC_{50} for survival is equal to or less than 100%, report a "1"; otherwise, report a "0".

(2) Parameter TAM6C: Report the Fathead minnow 48-hour LC_{50} value for survival.

(3) Parameter TJM6C: Report the Fathead minnow 48-hour percent mortality in the 100% effluent concentration.

(4) Parameter 51714: Report the lowest acute LC_{50} for Fathead minnow.

e. The permittee shall report the results for all toxicity monthly testing on the DMR(s) for the reporting period in which monthly testing is required, which shall be received no later than the 15th day of the month following the end of the monthly period. Results of all required monthly tests shall be reported under TX1A of the DMR for the reporting period (see Item 4.b above). If the permittee passes three consecutive tests in the six months after the initial failure, the permittee will return to quarterly testing. If the permittee takes the first sample of the monthly test after the last day of the final month in the monthly period, the facility will be out of compliance with the reporting period. The full laboratory report for the WET tests (see Item 4.a above) shall be submitted along with the retest DMR. Should test failures necessitate the continuation of monthly testing into subsequent reporting periods, the results of the first test in any reporting period will be reported using the parameter STORET codes listed in Items 4.c above. If monthly testing is not required during a given reporting period, the permittee shall leave these DMR fields blank and DMR TX1A will not be activated.

f. Whole effluent toxicity limit – The permittee shall report the lowest LC_{50} value across these species for the 48-hour minimum under STORET No. *P. promelas* [51714] on the DMR for the reporting period in accordance with Part III of this permit.

MINIMUM QUANTIFICATION LEVELS (MQL)

METALS AND CYANIDE	(µg/L)	EPA METHOD
Antimony (Total)[1]	60	200.7
Arsenic (Total)[1]	0.5	206.5
		200.7 revision 4.4 (1994)
		200.8 revision 5.4 (1994)
		200.9 revision 2.2 (1994)
Beryllium (Total)[1]	5	200.7
Cadmium (Total)	1	200.7 revision 4.4 (1994)
		200.8 revision 5.4 (1994)
		200.9 revision 2.2 (1994)
Chromium (Total)[1]	10	200.7
Chromium (3+)[1]	10	200.7
Chromium (6+)[1]	10	200.7
Copper (Total)	1	200.7 revision 4.4 (1994)
		200.8 revision 5.4 (1994)
		200.9 revision 2.2 (1994)
Lead (Total)	0.5	200.7 revision 4.4 (1994)
		200.8 revision 5.4 (1994)
		200.9 revision 2.2 (1994)
Mercury (Total)[1]	0.05	245.1 revision 3.0 (1994)
Molybdenum (Total)	30	200.7
Nickel (Total)[1] [Freshwater]	10	200.7
Nickel (Total) [Marine]	5	200.8 revision 5.4 (1994)
		200.9 revision 2.2 (1994)
Selenium (Total)[1]	5	200.7 revision 4.4 (1994)
		200.8 revision 5.4 (1994)
		200.9 revision 2.2 (1994)
Silver (Total)	0.5	200.7 revision 4.4 (1994)
		200.8 revision 5.4 (1994)
		200.9 revision 2.2 (1994)
Thallium (Total)[1]	0.5	279.2 revision
Zinc (Total)[1]	20	200.7
Cyanide (Total)[1]	10	335.4
Phenols, (Total)[1]	10	604
DIOXIN		
2,3,7,8-Tetrachlorodibenzo-P-Dioxin (TCDD)[2,4]	0.00001	1613
VOLATILE COMPOUNDS		
Acrolein[3]	50	624.1
Acrylonitrile[3]	50	624.1
Benzene[3]	10	624.1
Bromoform[4]	10	624.1
Carbon Tetrachloride[4]	10	624.1
Chlorobenzene[4]	10	624.1

MINIMUM QUANTIFICATION LEVELS (MQL)

Chlorodibromomethane[4]	10	624.1
Chloroethane	50	624.1
2-Chloroethylvinyl Ether[3]	10	624.1
Chloroform[4]	10	624.1
Dichlorobromomethane[4]	10	624.1
1,1-Dichloroethane[4]	10	624.1
1,2-Dichloroethane[4]	10	624.1
1,1-Dichloroethylene[4]	10	624.1
1,2-Dichloropropane[4]	10	624.1
1,3-Dichloropropylene[4]	10	624.1
Ethylbenzene[4]	10	624.1
Methyl Bromide [Bromomethane]	50	624.1
Methyl Chloride [Chloromethane]	50	624.1
Methylene Chloride[4]	20	624.1
1,1,2,2-Tetrachloroethane[4]	10	624.1
Tetrachloroethylene[4]	10	624.1
Toluene[4]	10	624.1
1,2-Trans-Dichloroethylene[4]	10	624.1
1,1,1-Trichloroethane[4]	10	624.1
1,1,2-Trichloroethane[4]	10	624.1
Trichloroethylene[4]	10	624.1
Vinyl Chloride[4]	10	624.1

ACID COMPOUNDS

2-Chlorophenol[4]	20	625.1
2,4-Dichlorophenol[4]	20	625.1
2,4-Dimethylphenol[1]	20	625.1
4,6-Dinitro-o-Cresol [12 methyl 4,6-dinitrophenol][4]	50	625.1
2,4-Dinitrophenol[4]	50	625.1
2-Nitrophenol[4]	20	625.1
4-Nitrophenol[4]	50	625.1
p-Chloro-m-cresol [4 chloro-3-methylphenol][1]	20	625.1
Pentachlorophenol[4]	50	625.1
Phenol[4]	20	625.1
2,4,6-Trichlorophenol[4]	20	625.1

BASE/NEUTRAL COMPOUNDS

Acenaphthene[4]	20	625.1
Acenaphthylene[4]	20	625.1
Anthracene[4]	20	625.1
Benzidine[3]	50	625.1
Benzo(a)Anthracene[4]	20	625.1
Benzo(a)Pyrene[4]	20	625.1
3,4-Benzofluoranthene[4]	20	625.1

MINIMUM QUANTIFICATION LEVELS (MQL)

Benzo(ghi)Perylene	20	625.1
Benzo(k)Fluoranthene[4]	20	625.1
Bis(2-Chloroethoxy) Methane[4]	20	625.1
Bis(2-Chloroethyl) Ether[4]	20	625.1
Bis(2-Chloroisopropyl) Ether[4]	20	625.1
Bis(2-Ethylhexyl) Phthalate[4]	20	625.1
4-Bromophenyl Phenyl Ether[4]	20	625.1
Butylbenzyl Phthalate[4]	20	625.1
2-Chloronapthalene[4]	20	625.1
4-Chlorophenyl Phenyl Ether[4]	20	625.1
Chrysene[4]	20	625.1
Dibenzo (a,h) Anthracene	20	625.1
1,2-Dichlorobenzene[4]	20	625.1
1,3-Dichlorobenzene[4]	20	625.1
1,4-Dichlorobenzene[4]	20	625.1
3,3'-Dichlorobenzidine	20	625.1
Diethyl Phthalate[4]	20	625.1
Dimethyl Phthalate[4]	20	625.1
Di-n-butyl Phthalate[4]	20	625.1
2,4-Dinitrotoluene[4]	20	625.1
2,6-Dinitrotoluene[4]	20	625.1
Di-n-octyl Phthalate[4]	20	625.1
1,2-Diphenylhydrazine[3]	20	625.1
Fluoranthene[4]	20	625.1
Fluorene[4]	20	625.1
Hexachlorobenzene[4]	10	625.1
Hexachlorobutadiene[4]	20	625.1
Hexachlorocyclopentadiene[4]	20	625.1
Hexachloroethane	20	625.1
Indeno (1,2,3-cd) Pyrene (2.3-o-phenylene pyrene)	20	625.1
Isophorone[4]	20	625.1
Naphthalene[4]	10	625.1
Nitrobenzene[4]	20	625.1
N-nitrosodimethylamine	50	625.1
N-nitrosodi-n-propylamine	20	625.1
N-nitrosodiphenylamine	20	625.1
Phenanthrene[4]	20	625.1
Pyrene[4]	20	625.1
1,2,4-Trichlorobenzene[4]	20	625.1

PESTICIDES

Aldrin[1]	0.05	608.3
Alpha-BHC[1]	0.05	608.3

MINIMUM QUANTIFICATION LEVELS (MQL)

Beta-BHC[1]	0.05	609
Gamma-BHC (Lindane)[1]	0.05	608.3
Delta-BHC[1]	0.05	608.3
Chlordane[1]	0.2	608.3
4,4'-DDT[1]	0.05	608.3
4,4'-DDE (p,p-DDX)[1]	0.05	608.3
4,4'-DDD (p,p-TDE)[1]	0.05	608.3
Dieldrin[1]	0.05	608.3
Alpha-endosulfan[1]	0.05	608.3
Beta-endosulfan[1]	0.05	608.3
Endosulfan sulfate[1]	0.05	608.3
Endrin[1]	0.05	608.3
Endrin aldehyde[1]	0.05	608.3
Heptachlor[1]	0.05	608.3
Heptachlor epoxide[1] (BHC-hexachlorocyclohexane)	0.05	608.3
PCB-1242[1]	0.25	608.3
PCB-1254	0.25	608.3
PCB-1221	0.25	608.3
PCB-1232	0.25	608.3
PCB-1248	0.25	608.3
PCB-1260	0.25	609
PCB-1016	0.25	608.3
PCB, total	0.25	608.3
Toxaphene[1]	0.3	608.3

[1] Based on Contract Required Quantitation Level (CRQL) developed pursuant to 40 CFR Part 122
[2] Dioxin National Strategy
[3] No CRQL ("Contract Required Quantification Level" developed pursuant to 40 CFR Part 122)
[4] CRQL basis, equivalent to MQL

Note: MQL is based on 3.3 times the Limit of Detection (LOD) or the Method Detection Level (MDL).

Methods/MQL List modified 6/20/08