

(Draft of May 27, 2020)

**AUTHORIZATION TO DISCHARGE UNDER THE
OKLAHOMA POLLUTANT DISCHARGE ELIMINATION SYSTEM**

PERMIT NUMBER: OK0027715

ID NUMBER: S20930

PART I

In compliance with the Oklahoma Pollutant Discharge Elimination System Act (OPDES Act), Title 27A O.S. § 2-6-201 *et seq.*, and the rules of the State of Oklahoma Department of Environmental Quality (DEQ) adopted thereunder {See OAC 252:606}; the Federal Clean Water Act, Public Law 95-217 (33 U.S.C. 1251 *et seq.*), Section 402; and NPDES Regulations (40 CFR Parts 122, 124, and 403),

Guthrie Public Works Authority
Guthrie Wastewater Treatment Plant
P.O. Box 908
Guthrie, OK 73044

is hereby authorized to discharge treated wastewater from a facility located at approximately

E½, SW¼ of Section 32,
Township 17 North, Range 2 West, Indian Meridian (I.M.),
Logan County, Oklahoma

to receiving waters: Cimarron River at the point located at approximately

Latitude: 35° 54' 22.116" N [GPS: NAD 1983 CONUS]
Longitude: 97° 26' 03.459" W [GPS: NAD 1983 CONUS]

Planning Segment No. 620910 (Water Body I.D. No. 620910010010_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 May 15, 2015 with a modification effective on December 1, 2016.

The issuance date of this permit is _____.

This permit shall become effective _____.

This permit and authorization to discharge shall expire at midnight _____.

For the Oklahoma Department of Environmental Quality:

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

Shellie R. Chard, Director
Water Quality Division

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (OUTFALL 001)

Beginning the effective date of the permit through the expiration date of the permit, the permittee is authorized to discharge treated wastewater in accordance with the following limitations:

Effluent Characteristic		Discharge Limitations				Monitoring Requirements	
		Mass Loading (lbs/day)	Concentrations (mg/l unless otherwise specified)			Frequency	Sample Type
			Monthly Avg.	Monthly Avg.	Weekly Avg.		
Flow (mgd) [STORET: 50050]	Year round	---	Report	---	Report	Continuous	Totalized
Biochemical Oxygen Demand -5 Day (BOD₅) [STORET: 00310]	Year round	250.2	30.0	45.0	---	1/week	6-hour composite
Total Suspended Solids [STORET: 00530]	Year round	250.2	30.0	45.0	---	1/week	6-hour composite
<i>E. coli</i> (CFU/100 ml) [STORET: 51040]	May - Sep	---	126 ^a	---	406	2/week	Grab
	Oct - Apr	---	630 ^a	---	2030	1/week	Grab
Total Residual Chlorine (TRC) [STORET: 50060]	Year round	---	Instantaneous Maximum: No Measurable ^b			Daily	Grab
pH (standard unit) [STORET: 00400]	Year round	---	6.5 – 9.0			Daily	Grab

^a Monthly data for *E. coli* is reported as geometric mean of all samples in that month.

^b 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 Location: Samples taken in compliance with permit limits and monitoring requirements specified above shall be taken at the end of the chlorine contact basin, in the SE¼, SE¼, NW¼ of Section 32, Township 17 North, Range 2 West, I.M., Logan County, Oklahoma.

B. WHOLE EFFLUENT TOXICITY REPORTING AND MONITORING REQUIREMENTS (OUTFALL TX1)

1. Whole Effluent Toxicity(WET) Reporting and Monitoring Requirements

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 treated municipal wastewater. 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 the Oklahoma Department of Environmental Quality for those parameters.

Acute Whole Effluent Toxicity Reporting and Monitoring Requirements (Outfall TX1)

Effluent Characteristic			Reporting/Monitoring Requirements ^a			
Test	Critical Dilution ^b	Parameter	48-hour Min	Testing Frequency	Sample Type	
Routine Testing	<i>Daphnia pulex</i> , 48-hour acute LC ₅₀ static renewal, freshwater	Pass/Fail Survival [TIM3D]	Report	1/quarter ^e	24-hr comp	
		LC ₅₀ Effluent Conc [TAM3D]	Report			
		% Mortality at 100% Effluent [TJM3D]	Report			
	<i>Pimephales promelas</i> (Fathead minnow), 48-hour acute LC ₅₀ static renewal, freshwater	100%	Pass/Fail Survival [TIM6C]	Report	1/quarter ^e	24-hr comp
			LC ₅₀ Effluent Conc [TAM6C]	Report		
			% Mortality at 100% Effluent [TJM6C]	Report		
Retesting ^g	Retest #1 [22415] ^c		Report	As Required ^d	24-hr comp	
	Retest #2 [22416] ^c		Report			

^a See Part II, Section E, Whole Effluent Toxicity 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.

^c Applies to either or both test species according to results of test failure triggering monthly retests.

^d Monthly retesting required only if routine test for reporting period (for either species) fails. Fill out ONLY these two retest parameters on the retest DMRs, do not change the original results, and enter the correct submission date.

^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).

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

P. promelas (Fathead minnow) whole effluent toxicity reporting and monitoring 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.

2. Concurrent testing provision for acute WET testing

Concurrent analyses of ammonia and pH are required for each individual effluent sample collected for acute WET testing or retesting of the Fathead minnow species. Reporting of concurrent testing results shall be in

accordance with the following requirements in the table below.

Concurrent Effluent Testing for Acute WET Tests - Reporting Requirements (Outfall TX1)

Effluent Characteristic	Concentration			Monitoring Requirements	
	Daily Min	Monthly Avg	Daily Max	Monitoring Frequency ^b	Sample Type
Ammonia, (NH ₃ -N) (mg/l) ^a [STORET 00610]	Report	Report	Report	1/quarter	24-hr comp
pH (std 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 136, and have it analyzed for ammonia (NH₃-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.

3. Sampling Location

Samples taken in compliance with the monitoring requirements specified above for Outfall TX1 shall be taken 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.

D. 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 _____.

PART II - OTHER PERMIT REQUIREMENTS

A. CONTRIBUTING INDUSTRIES AND PRETREATMENT REQUIREMENTS

1. The following pollutants shall not be introduced into a Publicly Owned Treatment Works (POTW) facility, 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. t also includes sewers, pipes, and other conveyances only if they convey wastewater to a POTW Treatment Plant. The term also means the municipality as defined in Section 502(4) of the Act, which has jurisdiction over the Indirect Discharges to and from such treatment works.”
 - a. Pollutants which create a fire or explosion hazard in the POTW facility, including, but not limited to, waste streams with a closed cup flashpoint of less than 60°C (140°F) 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 (e.g., BOD), 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°C (104°F) unless the Approval Authority, upon request of the POTW, approves alternate temperature limits;
 - f. Petroleum oil, non-biodegradable cutting oil, or products of mineral oil 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 and/or Sections 40 CFR 405-499 if it were directly discharging those pollutants;
 - 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; and
 - 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 the change on the quality or quantity of effluent to be discharged from the POTW.

B. 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

C. BIOSOLIDS/SEWAGE SLUDGE REQUIREMENTS

1. Biosolids/sewage sludge removal practices shall comply with the Federal regulations for land application of biosolids/sewage sludge, established at 40 CFR Part 503, and the DEQ rules governing Sludge Management (OAC 252:606) as applicable, and with the Sludge Management Plan (SMP) No.3542011 approved by the Department of Environmental Quality (formerly Oklahoma State Department of Health) on December 2, 1994, that allows the permittee to land apply biosolids/sewage sludge at a site located in the NE $\frac{1}{4}$ of Section 1, Township 16 North, Range 3 West, I.M., Logan County, Oklahoma.
2. The permittee shall give 120 days prior notice to DEQ of any change planned in the biosolids/sewage sludge disposal practice.
3. In addition, the permittee shall comply with other biosolids/sewage sludge requirements specified in Part IV of this permit.
4. The permittee is required to maintain all records relevant to biosolids/sewage sludge disposal for the life of the permit. These records shall be made available to DEQ upon request.

D. 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 reuse or disposal shall be performed for the pollutants listed in Part IV, Element 1, Section III, Table 3 of the permit.
 - 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 of the permit.
 - 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 Permits Section
P. O. Box 1677
707 North Robinson Street
Oklahoma City, Oklahoma 73101-1677

E. ACUTE WHOLE EFFLUENT TOXICITY TESTING (OUTFALL TX1)

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* and *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 certified 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.

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.

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 (LC₅₀ test) is defined as 50% or more lethality (toxicity) at 48 hours to test organisms at any effluent concentration. The 48-hour LC₅₀ effluent value must be >100% to indicate a passing test. Any 48-hour LC₅₀ 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* and/or *Pimephales promelas* during routine testing, the frequency of testing for *Daphnia pulex* and/or *Pimephales promelas* 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* and/or *Pimephales promelas* 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 LC₅₀ 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 LC₅₀ 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* and Fathead minnow survival tests.
 - (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* and Fathead minnow survival tests.
 - (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* and the Fathead minnow survival tests, used to determine the LC₅₀ 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 252:690-3-36, 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 their 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.

As of October 22, 2015, the EPA published the “National Pollutant Discharge Eliminations System (NPDES) Electronic Reporting” final rule, with an effective date of December 21, 2015, which requires the electronic reporting and sharing of Clean Water Act National Pollutant Discharge Elimination System (NPDES) program information. DEQ has developed electronic systems so that NPDES-regulated entities can submit the required electronic DMRs and other reports to DEQ as the initial recipient. Instructions on how to access and use the appropriate electronic reporting tool can be found on DEQ’s website at <https://www.deq.ok.gov/water-quality-division/electronic-reporting/>. Assistance is also available by contacting DEQ at (405) 702-8100 or deqreporting@deq.ok.gov.

- b. A valid test for *Daphnia pulex* and/or *Pimephales promelas* (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* and/or *Pimephales promelas*, 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 LC₅₀ 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 LC₅₀ 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.

Daphnia pulex

- (1) Parameter TIM3D: If the *Daphnia pulex* 48-hour LC₅₀ 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 LC₅₀ value for survival.
- (3) Parameter TJM3D: Report the *Daphnia pulex* 48-hour percent mortality in the 100% effluent concentration.

Pimephales promelas (Fathead Minnow)

- (1) Parameter TIM6C: If the Fathead minnow 48-hour LC₅₀ 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 LC₅₀ value for survival.
- (3) Parameter TJM6C: Report the Fathead minnow 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* and/or Fathead minnow results in a 48-hour LC₅₀ 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* and/or Fathead minnow results in a 48-hour LC₅₀ 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. Toxicity Reduction Evaluation (TRE)

- a. Within ninety (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 step-wise 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
(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 thirty (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 LC₅₀ 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).

MINIMUM QUANTIFICATION LEVELS (MQLs)

	<u>MQL (µg/l)</u>	<u>EPA METHOD</u>
<u>METALS AND CYANIDE</u>		
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
<u>DIOXIN</u>		
2,3,7,8-Tetrachlorodibenzo- P-Dioxin (TCDD) ^{2,4}	0.00001	1613
<u>VOLATILE COMPOUNDS</u>		
Acrolein ³	50	624.1
Acrylonitrile ³	50	624.1

MINIMUM QUANTIFICATION LEVELS (MQLs)

	<u>MQL (µg/l)</u>	<u>EPA METHOD</u>
Benzene ³	10	624.1
Bromoform ⁴	10	624.1
Carbon Tetrachloride ⁴	10	624.1
Chlorobenzene ⁴	10	624.1
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
<u>ACID COMPOUNDS</u>		
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

MINIMUM QUANTIFICATION LEVELS (MQLs)

	<u>MQL (µg/l)</u>	<u>EPA METHOD</u>
		625.1
<u>BASE/NEUTRAL COMPOUNDS</u>		625.1
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
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-Chloronaphthalene 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	20	625.1
(2.3-o-phenylene pyrene)		
Isophorone ⁴	20	625.1
Naphthalene ⁴	10	625.1

MINIMUM QUANTIFICATION LEVELS (MQLs)

	<u>MQL (µg/l)</u>	<u>EPA METHOD</u>
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
<u>PESTICIDES</u>		
Aldrin ¹	0.05	608.3
Alpha-BHC ¹	0.05	608.3
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 developed pursuant to 40 CFR Part 122 established

⁴ CRQL basis, equivalent to MQL

MQL based on 3.3 times LOD published in 40 CFR 136, Appendix B

MINIMUM QUANTIFICATION LEVELS (MQLs)

MQL (µg/l)

EPA METHOD

Methods/MQL List modified 06/20/08