

(Draft of February 24, 2020)

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

**PERMIT NUMBER: OK0020141**  
**ID NUMBER: S10837**

**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),

Sulphur Municipal Authority  
600 West Broadway  
Sulphur, OK 73086

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

NE¼, SE¼, NW¼ of Section 9,  
Township 1 South, Range 3 East, Indian Meridian (I.M.),  
Murray County, Oklahoma

to receiving waters: Dry Sandy Creek at the point located at approximately

Latitude: 34° 29' 44.875" N [GPS: NAD 1983 CONUS]  
Longitude: 97° 03' 20.484" W [GPS: NAD 1983 CONUS]

Planning Segment No. 310800 (Water Body I.D. No. 310800020150\_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 April 30, 2012.

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., Manager  
Municipal Discharge and Stormwater Permit Section  
Water Quality Division

\_\_\_\_\_  
Shellie R. Chard, Director  
Water Quality Division

**A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (OUTFALL 002)**

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.		
<b>Flow (mgd)</b> [STORET: 50050]	Year round	---	Report	---	Report	Daily	Totalized
<b>Carbonaceous Biochemical Oxygen Demand - 5 Day (CBOD<sub>5</sub>)</b> [STORET: 80082]	Apr - May	175.1	14.0	21.0	---	1/week	2-cycle composite SBR
	Jun - Oct	137.6	11.0	16.5	---		
<b>Biochemical Oxygen Demand - 5 Day (BOD<sub>5</sub>)</b> [STORET: 00310]	Nov - Mar	250.2	20.0	30.0	---	1/week	2-cycle composite SBR
<b>Total Suspended Solids</b> [STORET: 00530]	Apr - May	250.2	20.0	30.0	---	1/week	2-cycle composite SBR
	Jun - Oct	187.7	15.0	22.5	---		
	Nov - Mar	375.3	30.0	45.0	---		
<b>Ammonia (NH<sub>3</sub>-N)</b> [STORET: 00610]	Apr - Oct	25.0	2.0	3.0	---	1/week <sup>a</sup>	2-cycle composite SBR
	Nov - Mar	51.3	4.1	---	9.9	3/week <sup>a, b</sup>	
<b>Dissolved Oxygen (DO)</b> [STORET: 00300]	Jun - Oct	---	5.0 Minimum			Daily	Grab
	Nov - May	---	6.0 Minimum				
<b>E. coli (CFU/100 ml)</b> [STORET: 51040]	May – Sep	---	126 <sup>c</sup>	---	406	2/week	Grab
<b>Total Residual Chlorine (TRC)</b> [STORET: 50060]	Year round	---	Instantaneous Maximum: No Measurable <sup>d</sup>			Daily	Grab
<b>pH (standard unit)</b> [STORET: 00400]	Year round	---	6.5 – 9.0			Daily	Grab
<b>Copper, total (µg/l)</b> [STORET: 01042]	Year round	---	---	---	Report <sup>e</sup>	1/month <sup>f</sup>	2-cycle composite SBR
<b>Lead, total (µg/l)</b> [STORET: 01051]	Year round	---	---	---	Report <sup>e</sup>	1/month <sup>f</sup>	2-cycle composite SBR

<sup>a</sup> Ammonia analysis shall also be performed concurrently with and on all samples collected for WET testing at Outfall 002 (see WET testing requirements in Permit Part I.B). Results from concurrent ammonia analyses for Outfall TX2 may be used in partial fulfillment of ammonia monitoring requirements at Outfall 002.

<sup>b</sup> In accordance with OAC 252:690-3-26, the permittee may request a reduction of the ammonia monitoring frequency from 3/week to 1/week when the permittee has completed twelve (12) consecutive reporting periods subject to toxicity based ammonia limits and the highest daily maximum concentration did not exceed 1.5 times the toxicity based monthly average limit and there were not exceedances of the monthly average or daily maximum limit for ammonia.

<sup>c</sup> Monthly data for E. coli is reported as geometric mean of all samples in that month.

<sup>d</sup> No measurable is defined as less than 0.1 mg/l.

<sup>e</sup> If any individual test result is less than the minimum quantification level (MQL) specified in Appendix B of OAC 252:690, a value of zero may be used for DMR calculations and reporting requirements.

<sup>f</sup> Effluent monitoring and reporting for total copper and total lead are required during the fourth year of the permit only.

**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 Locations:** Samples taken in compliance with permit limits and monitoring requirements specified above shall be taken at:

- All parameters, except for DO: at the flume located south of the chlorination basin, in the NE $\frac{1}{4}$ , SE $\frac{1}{4}$ , NW $\frac{1}{4}$  of Section 9, Township 1 South, Range 3 East, I.M., Murray County, Oklahoma.
- DO: at the end of the cascade aerator located immediately before Outfall 002, in the SE $\frac{1}{4}$ , NE $\frac{1}{4}$ , SE $\frac{1}{4}$  of Section 2, Township 1 South, Range 2 East, I.M., Murray County, Oklahoma.

**B. WHOLE EFFLUENT TOXICITY REPORTING AND MONITORING REQUIREMENTS (OUTFALL TX2)****1. Whole Effluent Toxicity 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 TX2 (functionally identical to Outfall 002). 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.

**Chronic Whole Effluent Toxicity Reporting and Monitoring Requirements (Outfall TX2)**

Effluent Characteristic			Reporting/Monitoring Requirements <sup>a</sup>		
Test	Critical Dilution <sup>b</sup>	Parameter	7-day Min	Testing Frequency <sup>c</sup>	Sample Type
Routine Testing	<i>Ceriodaphnia dubia</i> , 7-day chronic NOEC static renewal, freshwater	Pass/Fail Survival [TLP3B]	Report	1/quarter	24-hr comp
		NOECL Survival [TOP3B]	Report		
		% Mortality at Critical Dilution [TJP3B]	Report		
		Pass/Fail Reproduction [TGP3B]	Report		
		NOECS Reproduction [TPP3B]	Report		
		% Coeff of Variation [TQP3B]	Report		
	<i>Pimephales promelas</i> (Fathead minnow), 7-day chronic NOEC static renewal, freshwater	Pass/Fail Survival [TLP6C]	Report	1/quarter	24-hr comp
		NOECL Survival [TOP6C]	Report		
		% Mortality at Critical Dilution [TJP6C]	Report		
		Pass/Fail Reproduction [TGP6C]	Report		
		NOECS Reproduction [TPP6C]	Report		
		% Coeff of Variation [TQP6C]	Report		

<sup>a</sup> See Part II, Section E, Whole Effluent Toxicity Limit, for additional monitoring and reporting conditions.

<sup>b</sup> All chronic WET testing shall use the dilution series specified in Part II, Section E, Item 1.

<sup>c</sup> Quarterly reporting periods commence with the effective date of the permit. A valid WET test shall be reported for each species 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 E, Item 2.a).

*C. dubia* 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 \_\_\_\_\_.

**Chronic Whole Effluent Toxicity Limit and Monitoring Requirements (Outfall TX2)**

Effluent Characteristic	Reporting/Monitoring Requirements <sup>a</sup>		
	7-day Min	Testing Frequency <sup>b</sup>	Sample Type
Whole Effluent Toxicity Limit <i>Ceriodaphnia dubia</i> (lowest lethal NOEC <sub>L</sub> and/or sublethal NOEC <sub>S</sub> ) [STORET 51710]	100%	1/quarter	24-hr comp
Whole Effluent Toxicity Limit <i>Pimephales promelas</i> (lowest lethal NOEC <sub>L</sub> and/or sublethal NOEC <sub>S</sub> ) [STORET 51714]	100%	1/quarter	24-hr comp

<sup>a</sup> See Part II, Section E, Whole Effluent Toxicity Limit, for additional monitoring and reporting conditions.

<sup>b</sup> 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 E, Item 2.a).

Whole effluent toxicity reporting and monitoring requirements apply beginning the effective date of the permit. Compliance with the Whole Effluent Toxicity Limit is required beginning the effective date of the permit.

**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 Chronic Whole Effluent Toxicity (WET) Testing**

Concurrent analyses of ammonia and pH are required for each individual effluent sample collected for chronic 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 Chronic WET Tests Reporting Requirements (Outfall TX2)**

Effluent Characteristic	Concentration			Monitoring Requirements	
	Daily Min	Monthly Avg	Daily Max	Monitoring Frequency	Sample Type
Ammonia, (NH <sub>3</sub> -N) (mg/l) <sup>a</sup> [STORET 00610]	Report	Report	Report	1/quarter	24-hr comp
pH (std units) <sup>a</sup> [STORET 00400]	Report	N/A	Report	1/quarter	Measured in each composite effluent sample, including static renewals, just prior to first use

<sup>a</sup> 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 002.

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 (NH<sub>3</sub>-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 002.

**3. Sampling Location**

Samples taken in compliance with the monitoring requirements specified above for Outfall TX2 shall be taken at the end of the cascade aerator located immediately before Outfall 002, in the SE¼, NE¼, SE¼ of Section 2, Township 1 South, Range 2 East, I.M., Murray County, Oklahoma.

**C. BACKGROUND MONITORING REQUIREMENT (MONITORING POINT 999)**

Beginning the effective date of the permit, the permittee shall monitor and report the background level of hardness for one year and report as follows:

**Background Monitoring Requirements**

Pollutant	Concentration (mg/l unless otherwise specified)	Monitoring Requirements	
		Frequency <sup>a</sup>	Type Sample
Hardness	Report	1/month	Grab

<sup>a</sup> Background monitoring is required during the fourth year of the permit only.

Background monitoring samples are to be taken from within the channel of Dry Sandy Creek at a location immediately upstream from, but not affected by, the discharge from Outfall 002. Upon completion of the one-year background monitoring requirement for hardness as listed above, the permittee must submit a summary

report, including copies of the laboratory reports. The background monitoring summary report is due three (3) months after completion of the required one year monitoring.

#### **D. SANITARY SEWER OVERFLOWS**

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

#### **E. 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 15<sup>th</sup> 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](mailto: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 disposal practices shall comply with the Federal regulations for landfills, biosolids/sewage sludge, and solid waste disposal established at 40 CFR Part 257, 503, and the DEQ rules governing Sludge Management (OAC 252:515 and OAC 252:606) as applicable.
2. The sludge disposal shall also comply with the requirements of the amended Sludge Disposition Plan approved by the Department of Environmental Quality on February 7, 2013 that allows the permittee to landfill biosolids/sewage sludge at the Southern Oklahoma Regional Disposal Landfill (Landfill Permit No. 3510007), which is located in the NE ¼ of Section 24, Township 4 South, Range 2 East, I.M., Carter County, Oklahoma.
3. The permittee is required to maintain all records relevant to sewage biosolids/sewage sludge disposal for a period of five years. These records shall be made available to the ODEQ upon request.
4. The permittee shall give 120 days prior notice to DEQ of any change planned in the biosolids/sewage sludge disposal practice.
5. The permittee shall also comply with all applicable biosolids/sewage sludge requirements in Part IV of this permit.

**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 re-use 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. CHRONIC WHOLE EFFLUENT TOXICITY TESTING (OUTFALL TX2)**

### **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 *Ceriodaphnia dubia* 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):	002
REPORTED ON DMR AS OUTFALL(S):	TX2
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.

*Ceriodaphnia dubia* chronic static renewal 7-day survival and reproduction test, Method 1002.0, EPA-821-R02-013 (October 2002), or most recent update thereof. A minimum of ten (10) replicates consisting of a single (1) organism each must be used in the control and in each effluent dilution of this test. This test should be terminated when 60% of the surviving females in the control produce three broods or at the end of eight days, whichever comes first. If this criterion is not met at the end of 8 days, the test must be repeated.

*Pimephales promelas* (Fathead minnow) chronic static renewal 7-day larval survival and growth test, Method 1000.0, EPA-821-R-02-013 (October 2002), or most recent update thereof. A minimum of five (5) replicates with eight (8) organisms per replicate must be used in the control and in each effluent dilution of this test.

- b. Chronic lethal effect test failure - The NOEC<sub>L</sub> (No Observed Lethal Effect Concentration) is defined as the greatest effluent dilution at and below which lethality (toxicity) that is statistically different from the control (0% effluent) at the 95% confidence level does not occur. Chronic lethal test failure (chronic NOEC<sub>L</sub> test) is defined as a demonstration of a statistically significant lethal (toxic) effect at test completion to a test species at or below the critical dilution.
- c. Chronic sublethal effect test failure – The NOEC<sub>S</sub> (No Observed Sublethal Effect Concentration) is defined as the greatest effluent dilution at and below which sublethality (toxicity: inhibited reproduction in the *Ceriodaphnia dubia* test or inhibited growth in the Fathead minnow test) that is statistically different from the control (0% effluent) at the 95% confidence level does not occur. Chronic sublethal test failure (chronic NOEC<sub>S</sub> test) is defined as a demonstration of a statistically significant sublethal effect at test completion to a test species at or below the critical dilution.
- d. 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 the testing frequency stated above is less than monthly and the effluent fails the lethal and/or sublethal endpoint at or below the critical dilution, the permittee shall be considered in violation of this permit limit and the frequency for the affected species will increase to monthly until such time as compliance with the No Observed Effect Concentration (NOEC: lethal and sublethal) effluent limitation is demonstrated for a period of three consecutive months, at which time the permittee may return to the testing frequency stated in Part I of this permit. The increased frequency of 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.
- e. 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.

- f. 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 chronic test failure apply:

- a. When there is a lethal and/or sublethal effect test failure for *Ceriodaphnia dubia* and/or *Pimephales promelas* during routine testing, at least three additional monthly tests for *Ceriodaphnia dubia* and/or *Pimephales promelas* are required (Part II, Section E.1.d 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 80%.
  - (2) The mean number of *Ceriodaphnia dubia* neonates produced per surviving female in the control (0% effluent) must be 15 or more.
  - (3) Sixty (60) percent of the surviving *Ceriodaphnia dubia* females in the control must produce three broods.
  - (4) The mean dry weight of surviving Fathead minnow larvae at the end of the 7 days in the control (0% effluent) must be 0.25 mg per larva or greater.
  - (5) The percent coefficient of variation between replicates shall be 40% or less in the control (0% effluent) for the young of surviving females in the *Ceriodaphnia dubia* reproduction test and for the survival and growth endpoints of the Fathead minnow test.
  - (6) The percent coefficient of variation between replicates shall be 40% or less in the critical dilution, unless significant lethal or sublethal effects are exhibited for the young of surviving females in the

*Ceriodaphnia dubia* reproduction test and for the growth and survival endpoints of the Fathead minnow test.

- (7) As documented at test termination, no more than forty (40) percent of the *Ceriodaphnia dubia* test organisms in any replicate of any effluent dilution or in any replicate of the control (0% effluent) shall be male.
- (8) The Percent Minimum Significant Difference (PMSD) shall be in the range of 13-47 for *Ceriodaphnia dubia* reproduction. If the test PMSD is less than 13, 13 may be substituted for the PMSD.
- (9) The PMSD shall be in the range of 12-30 for Fathead minnow growth. If the test PMSD is less than 12, 12 may be substituted for the PMSD.

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:
  - (1) The statistical analyses in the *Ceriodaphnia dubia* survival test, used to determine if there is a significant difference between the control and the critical dilution shall be Fisher's Exact Test as described in EPA-821-R-02-013 or most recent update thereof.
  - (2) The statistical analyses in the *Ceriodaphnia dubia* reproduction test and the Fathead minnow larval survival and growth test, used to determine if there is a significant difference between the control and the critical dilution shall be in accordance with the methods for determining the No Observed Effect Concentration (NOEC) as described in EPA-821-R-02-013 or most recent update thereof.
  - (3) If the conditions of test acceptability are met in Item 3.a above and the percent survival of the test organism is equal to or greater than 80% in the critical dilution concentration and all lower dilution concentrations, the test shall be considered to be a passing test, and the permittee shall report an  $NOEC_L$  of not less than the critical dilution for the DMR reporting requirements found in Item 4 below.
- 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 three 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 requirements specified 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 first composite sample shall be used to initiate each test. The permittee must initiate the toxicity test within 36 hours after the collection of the last portion of the first composite sample. Collection of the second and third composite samples must be timed so as to permit an approximately equal use distribution of the three composite samples for daily static renewals. The permittee must collect the composite samples so that the maximum holding time for any effluent sample shall not exceed 72 hours. 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 third composite sample, the permittee must ensure that the second 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. The 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 TX2 in accordance with the Report Preparation Section of EPA-821-R-02-013 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 15<sup>th</sup> 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](mailto:deqreporting@deq.ok.gov).

- b. A valid test for *Ceriodaphnia dubia* and/or *Pimephales promelas* (excluding retests) at TX2 must be reported on the DMR for each reporting period specified in Part I of this permit. DMRs must be received by the 15<sup>th</sup> day of the month following the end of the testing period. The full report for the test (see Item 4.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 TX2A. Quarterly testing at TX2Q shall continue; the facility may substitute a monthly test from TX2A 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 and/or sublethal test result as the 7-day minimum and the *C. dubia* [51710] and/or *P. promelas* [51714] result.
- c. If any test results in anomalous NOEC<sub>L</sub> or NOEC<sub>S</sub> finding (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 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.

*Ceriodaphnia dubia*

- (1) Parameter TLP3B: If the *Ceriodaphnia dubia* NOEC<sub>L</sub> for survival is less than the critical dilution, report a "1"; otherwise, report a "0".
- (2) Parameter TOP3B: Report the *Ceriodaphnia dubia* NOEC<sub>L</sub> value for survival.
- (3) Parameter TJP3B: Report the *Ceriodaphnia dubia* percent mortality in the critical dilution at test completion.
- (4) Parameter TGP3B: If the *Ceriodaphnia dubia* NOEC<sub>S</sub> for reproduction is less than the critical dilution, report a "1"; otherwise, report a "0".
- (5) Parameter TPP3B: Report the *Ceriodaphnia dubia* NOEC<sub>S</sub> value for reproduction.
- (6) Parameter TQP3B: Report the highest coefficient of variation (critical dilution or control) for *Ceriodaphnia dubia* reproduction.
- (7) Parameter 51710: Report the NOEC value (lowest of lethal and sublethal) for *Ceriodaphnia dubia*.

*Pimephales promelas* (Fathead Minnow)

- (1) Parameter TLP6C: If the Fathead minnow NOEC<sub>L</sub> for survival is less than the critical dilution, report a "1"; otherwise, report a "0".
  - (2) Parameter TOP6C: Report the Fathead minnow NOEC<sub>L</sub> value for survival.
  - (3) Parameter TJP6C: Report the Fathead minnow percent mortality in the critical dilution at test completion.
  - (4) Parameter TGP6C: If the Fathead minnow NOEC<sub>S</sub> for growth is less than the critical dilution, report a "1"; otherwise, report a "0".
  - (5) Parameter TPP6C: Report the Fathead minnow NOEC<sub>S</sub> value for growth.
  - (6) Parameter TQP6C: Report the highest coefficient of variation (critical dilution or control) for Fathead minnow survival and growth.
  - (7) Parameter 51714: Report the NOEC value (lowest of lethal and sublethal) for Fathead minnows.
- 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 15<sup>th</sup> day of the month following the end of the monthly period. Results of all required monthly tests shall be reported under TX2A 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 TX2A will not be activated.

- f. Whole effluent toxicity limit - The permittee shall report the lowest of either the NOEC<sub>L</sub> or NOEC<sub>S</sub> value across these species for the 7-day minimum under STORET No. *C. dubia* [51710], and/or *P. promelas* [51714] on the DMR for the reporting period in accordance with Part III of this permit.



**MINIMUM QUANTIFICATION LEVELS (MQLs)**

	<u>MQL (µg/l)</u>	<u>EPA METHOD</u>
<b><u>METALS AND CYANIDE</u></b>		
Antimony (Total) <sup>1</sup>	60	200.7
Arsenic (Total) <sup>1</sup>	0.5	206.5
		200.7 revision 4.4 (1994)
		200.8 revision 5.4 (1994)
		200.9 revision 2.2 (1994)
Beryllium (Total) <sup>1</sup>	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) <sup>1</sup>	10	200.7
Chromium (3+) <sup>1</sup>	10	200.7
Chromium (6+) <sup>1</sup>	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) <sup>1</sup>	0.05	245.1 revision 3.0 (1994)
Molybdenum (Total)	30	200.7
Nickel (Total) <sup>1</sup> [Freshwater]	10	200.7
Nickel (Total) [Marine]	5	200.8 revision 5.4 (1994)
		200.9 revision 2.2 (1994)
Selenium (Total) <sup>1</sup>	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) <sup>1</sup>	0.5	279.2 revision
Zinc (Total) <sup>1</sup>	20	200.7
Cyanide (Total) <sup>1</sup>	10	335.4
Phenols, (Total) <sup>1</sup>	10	604
<b><u>DIOXIN</u></b>		
2,3,7,8-Tetrachlorodibenzo- P-Dioxin (TCDD) <sup>2,4</sup>	0.00001	1613
<b><u>VOLATILE COMPOUNDS</u></b>		
Acrolein <sup>3</sup>	50	624.1
Acrylonitrile <sup>3</sup>	50	624.1

**MINIMUM QUANTIFICATION LEVELS (MQLs)**

	<u>MQL (µg/l)</u>	<u>EPA METHOD</u>
Benzene <sup>3</sup>	10	624.1
Bromoform <sup>4</sup>	10	624.1
Carbon Tetrachloride <sup>4</sup>	10	624.1
Chlorobenzene <sup>4</sup>	10	624.1
Chlorodibromomethane <sup>4</sup>	10	624.1
Chloroethane	50	624.1
2-Chloroethylvinyl Ether <sup>3</sup>	10	624.1
Chloroform <sup>4</sup>	10	624.1
Dichlorobromomethane <sup>4</sup>	10	624.1
1,1-Dichloroethane <sup>4</sup>	10	624.1
1,2-Dichloroethane <sup>4</sup>	10	624.1
1,1-Dichloroethylene <sup>4</sup>	10	624.1
1,2-Dichloropropane <sup>4</sup>	10	624.1
1,3-Dichloropropylene <sup>4</sup>	10	624.1
Ethylbenzene <sup>4</sup>	10	624.1
Methyl Bromide [Bromomethane]	50	624.1
Methyl Chloride [Chloromethane]	50	624.1
Methylene Chloride <sup>4</sup>	20	624.1
1,1,2,2-Tetrachloroethane <sup>4</sup>	10	624.1
Tetrachloroethylene <sup>4</sup>	10	624.1
Toluene <sup>4</sup>	10	624.1
1,2-Trans-Dichloroethylene <sup>4</sup>	10	624.1
1,1,1-Trichloroethane <sup>4</sup>	10	624.1
1,1,2-Trichloroethane <sup>4</sup>	10	624.1
Trichloroethylene <sup>4</sup>	10	624.1
Vinyl Chloride <sup>4</sup>	10	624.1
<b><u>ACID COMPOUNDS</u></b>		
2-Chlorophenol <sup>4</sup>	20	625.1
2,4-Dichlorophenol <sup>4</sup>	20	625.1
2,4-Dimethylphenol <sup>1</sup>	20	625.1
4,6-Dinitro-o-Cresol [12 methyl 4,6-dinitrophenol] <sup>4</sup>	50	625.1
2,4-Dinitrophenol <sup>4</sup>	50	625.1
2-Nitrophenol <sup>4</sup>	20	625.1
4-Nitrophenol <sup>4</sup>	50	625.1
p-Chloro-m-cresol [4 chloro-3-methylphenol] <sup>1</sup>	20	625.1
Pentachlorophenol <sup>4</sup>	50	625.1
Phenol <sup>4</sup>	20	625.1
2,4,6-Trichlorophenol <sup>4</sup>	20	625.1

**MINIMUM QUANTIFICATION LEVELS (MQLs)**

	<u>MQL (µg/l)</u>	<u>EPA METHOD</u>
		625.1
<b><u>BASE/NEUTRAL COMPOUNDS</u></b>		625.1
Acenaphthene <sup>4</sup>	20	625.1
Acenaphthylene <sup>4</sup>	20	625.1
Anthracene <sup>4</sup>	20	625.1
Benzidine <sup>3</sup>	50	625.1
Benzo(a)Anthracene <sup>4</sup>	20	625.1
Benzo(a)Pyrene <sup>4</sup>	20	625.1
3,4-Benzofluoranthene <sup>4</sup>	20	625.1
Benzo(ghi)Perylene	20	625.1
Benzo(k)Fluoranthene <sup>4</sup>	20	625.1
Bis(2-Chloroethoxy) Methane <sup>4</sup>	20	625.1
Bis(2-Chloroethyl) Ether <sup>4</sup>	20	625.1
Bis(2-Chloroisopropyl) Ether <sup>4</sup>	20	625.1
Bis(2-Ethylhexyl) Phthalate <sup>4</sup>	20	625.1
4-Bromophenyl Phenyl Ether <sup>4</sup>	20	625.1
Butylbenzyl Phthalate <sup>4</sup>	20	625.1
2-Chloronaphthalene <sup>4</sup>	20	625.1
4-Chlorophenyl Phenyl Ether <sup>4</sup>	20	625.1
Chrysene <sup>4</sup>	20	625.1
Dibenzo (a,h) Anthracene	20	625.1
1,2-Dichlorobenzene <sup>4</sup>	20	625.1
1,3-Dichlorobenzene <sup>4</sup>	20	625.1
1,4-Dichlorobenzene <sup>4</sup>	20	625.1
3,3'-Dichlorobenzidine	20	625.1
Diethyl Phthalate <sup>4</sup>	20	625.1
Dimethyl Phthalate <sup>4</sup>	20	625.1
Di-n-butyl Phthalate <sup>4</sup>	20	625.1
2,4-Dinitrotoluene <sup>4</sup>	20	625.1
2,6-Dinitrotoluene <sup>4</sup>	20	625.1
Di-n-octyl Phthalate <sup>4</sup>	20	625.1
1,2-Diphenylhydrazine <sup>3</sup>	20	625.1
Fluoranthene <sup>4</sup>	20	625.1
Fluorene <sup>4</sup>	20	625.1
Hexachlorobenzene <sup>4</sup>	10	625.1
Hexachlorobutadiene <sup>4</sup>	20	625.1
Hexachlorocyclopentadiene <sup>4</sup>	20	625.1
Hexachloroethane	20	625.1
Indeno (1,2,3-cd) Pyrene (2,3-o-phenylene pyrene)	20	625.1
Isophorone <sup>4</sup>	20	625.1
Naphthalene <sup>4</sup>	10	625.1

**MINIMUM QUANTIFICATION LEVELS (MQLs)**

	<u>MQL (µg/l)</u>	<u>EPA METHOD</u>
Nitrobenzene <sup>4</sup>	20	625.1
N-nitrosodimethylamine	50	625.1
N-nitrosodi-n-propylamine	20	625.1
N-nitrosodiphenylamine	20	625.1
Phenanthrene <sup>4</sup>	20	625.1
Pyrene <sup>4</sup>	20	625.1
1,2,4-Trichlorobenzene <sup>4</sup>	20	625.1

**PESTICIDES**

Aldrin <sup>1</sup>	0.05	608.3
Alpha-BHC <sup>1</sup>	0.05	608.3
Beta-BHC <sup>1</sup>	0.05	609
Gamma-BHC (Lindane) <sup>1</sup>	0.05	608.3
Delta-BHC <sup>1</sup>	0.05	608.3
Chlordane <sup>1</sup>	0.2	608.3
4,4'-DDT <sup>1</sup>	0.05	608.3
4,4'-DDE (p,p-DDX) <sup>1</sup>	0.05	608.3
4,4'-DDD (p,p-TDE) <sup>1</sup>	0.05	608.3
Dieldrin <sup>1</sup>	0.05	608.3
Alpha-endosulfan <sup>1</sup>	0.05	608.3
Beta-endosulfan <sup>1</sup>	0.05	608.3
Endosulfan sulfate <sup>1</sup>	0.05	608.3
Endrin <sup>1</sup>	0.05	608.3
Endrin aldehyde <sup>1</sup>	0.05	608.3
Heptachlor <sup>1</sup>	0.05	608.3
Heptachlor epoxide <sup>1</sup> (BHC-hexachlorocyclohexane)	0.05	608.3
PCB-1242 <sup>1</sup>	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 <sup>1</sup>	0.3	608.3

<sup>1</sup> Based on Contract Required Quantitation Level (CRQL) developed pursuant to 40 CFR Part 122

<sup>2</sup> Dioxin National Strategy

<sup>3</sup> No CRQL developed pursuant to 40 CFR Part 122 established

<sup>4</sup> 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