

STATE OF MISSOURI

DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION



MISSOURI STATE OPERATING PERMIT

In compliance with the Missouri Clean Water Law, (Chapter 644 R.S. Mo. as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress) as amended,

Permit No.: MO-0134732

Owner: City of Berger
Owner's Address: 404 Rosalie, P.O Box 85, Berger, MO 63014

Continuing Authority: Same as above
Address: Same as above

Facility Name: City of Berger WWTF
Facility Address: East of Rosalie, Berger, MO 63014

Legal Description: NE ¼, SE ¼, SE ¼ Sec. 2, T45N, R4W, Franklin County
Latitude/Longitude: 384028.8/ -911952.5

Receiving Stream: Pryors Branch (U)
First Classified Stream and ID: Big Berger Creek (P) (1657)
USGS Basin & Sub-Watershed No.: (10300200-050003)

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein:

FACILITY DESCRIPTION

Outfall #001 - WWTF - SIC #4952-POTW
Septic Tank/ recirculating sand filter/sludge disposal is by contract hauler.
Design population equivalent is 300.
Design flow is 30,000 gallons per day.
Design sludge production is 2.1dry tons/year.

This permit authorizes only wastewater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas. This permit may be appealed in accordance with Section 644.051.6 of the Law.

January 8, 2010
Effective Date


Mark N. Templeton, Director, Department of Natural Resources

January 7, 2015
Expiration Date


Mike Struckhoff, Director, St. Louis Regional Office

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

| (OUTFALL NUMBER AND EFFLUENT PARAMETERS) | UNITS | FINAL EFFLUENT LIMITATIONS | | | MONITORING REQUIREMENTS | |
|---|-------|----------------------------|----------------|-----------------|-------------------------|--------------|
| | | DAILY MAXIMUM | WEEKLY AVERAGE | MONTHLY AVERAGE | MEASUREMENT FREQUENCY | SAMPLE TYPE |
| <u>Outfall #001</u> | | | | | | |
| Flow | MGD | * | | * | Once/month | 24 hour Est. |
| Biochemical Oxygen Demand ₅ ** | mg/L | | 45 | 30 | Once/month | Composite** |
| Total Suspended Solids** | mg/L | | 45 | 30 | Once/month | Composite** |
| Temperature | °C | * | | * | Once/month | Grab |
| pH – Units | SU | **** | | **** | Once/month | Grab |
| Ammonia as N (May 1-Oct 31) | mg/L | 4.4 | | 2.2 | Once/month | Grab |
| Ammonia as N (Nov 1-Apr-30) | mg/L | 5.6 | | 2.8 | Once/month | Grab |
| Oil & Grease | mg/L | 15 | | 10 | Once/month | Grab |

MONITORING REPORTS SHALL BE SUBMITTED **QUARTERLY**; THE FIRST REPORT IS DUE **July 28, 2010**. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

B. STANDARD CONDITIONS

IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED Parts I & III STANDARD CONDITIONS DATED October 1, 1980 and August 15, 1994, AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.

MO 780-0010 (8/91)

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (Continued)

- * Monitoring requirement only.
- ** The facility is required to meet a removal efficiency of 65 % or more.
- *** A composite sample made up from a minimum of four grab samples collected within a 24-hour period with a minimum of two hours between each grab sample.
- **** pH is measured in pH units and is not to be averaged. The pH is to be maintained between 6.0-9.0 pH units.

| C. INFLUENT MONITORING REQUIREMENTS | | Page 3 of 4 | |
|---|-------|--------------------------|-------------|
| | | PERMIT NUMBER MO-0134732 | |
| The facility is required to meet a removal efficiency of 65 % or more. The monitoring requirements shall become effective upon issuance and remain in effect until expiration of the permit. To determine removal efficiencies, the influent wastewater shall be monitored by the permittee as specified below: | | | |
| SAMPLING LOCATIONS AND PARAMETERS | UNITS | MONITORING REQUIREMENTS | |
| | | MEASUREMENT FREQUENCY | SAMPLE TYPE |
| <u>INFLUENT</u> | | | |
| Biochemical oxygen Demands | mg/L | once/quarter** | Composite* |
| Total Suspended Solids | mg/L | once/quarter** | Composite* |
| MONITORING REPORTS SHALL BE SUBMITTED <u>QUARTERLY</u> ; THE FIRST REPORT IS DUE July 28, 2010 | | | |

* A composite sample made up from a minimum of four grab samples collected within a 24 hour period with a minimum of 2 hours between each grab sample.

** Monitor once per Quarter during the months of February, May, August and November.

C. SPECIAL CONDITIONS

1. This permit may be reopened and modified, or alternatively revoked and reissued, to:
 - a. Comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a) (2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
 - (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
 - (2) controls any pollutant not limited in the permit.
 - b. Incorporate new or modified effluent limitations or other conditions, if the result of a waste load allocation study, toxicity test or other information indicates changes are necessary to assure compliance with Missouri’s Water Quality Standards.
 - c. Incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri’s list of waters of the state not fully achieving the state’s water quality standards, also called the 303(d) list.

The permit as modified or reissued under this paragraph shall also contain any other requirements of the Clean Water Act then applicable.
2. All outfalls must be clearly marked in the field.
3. Permittee will cease discharge by connection to areawide wastewater treatment system within 90 days of notice of its availability.
4. Changes in Discharges of Toxic Substances.
The permittee shall notify the Director as soon as it knows or has reason to believe:
 - a. That any activity has occurred or will occur which would result in the discharge of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"
 - (1) One hundred micrograms per liter (100 µg/L);
 - (2) Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,5 dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
 - (3) Five (5) times the maximum concentration value reported for the pollutant in the permit application;
 - (4) The level established in Part A of the permit by the Director.
 - b. That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant, which was not reported in the permit application.
 - c. That the effluent limit established in part A of the permit will be exceeded.
5. Report as no-discharge when a discharge does not occur during the report period.
6. Water Quality Standards.
 - a. Discharges to waters of the state shall not cause a violation of water quality standards rule under 10 CSR 20-7.031, including both specific and general criteria.
 - b. General Criteria. The following general water quality criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:

C. SPECIAL CONDITIONS (continued)

- (1) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses;
- (2) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;
- (3) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;
- (4) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;
- (5) There shall be no significant human health hazard from incidental contact with the water;
- (6) There shall be no acute toxicity to livestock or wildlife watering;
- (7) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community;
- (8) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247.

7. Sludge and Biosolids Use For Domestic Wastewater Treatment Facilities

- (a) Permittee shall comply with the pollutant limitations, monitoring, reporting, and other requirements in accordance with the attached permit Standard Conditions.
- (b) If sludge is not removed by a contract hauler, permittee is authorized to land apply biosolids. Permit Standard Conditions, Part III shall apply to the land application of biosolids. The department may require submittal of a biosolids management plan for department review and approval as determined appropriate on a case-by-case basis.

8. The permittee shall comply with any applicable requirements listed in 10 CSR 20-8 and 10 CSR 20-9, unless the facility has received written notification that the Department has approved a modification to the requirements. The monitoring frequencies contained in this permit shall not be construed by the permittee as a modification of the monitoring frequencies listed in 10 CSR 20-9. If a modification of the monitoring frequencies listed in 10 CSR 20-9 is needed, the permittee shall submit a written request to the department for review and, if deemed necessary, approval.

Missouri Department of Natural Resources
Statement of Basis
City of Berger WWTF
NPDES #: MO-0134732
Franklin County

A Statement of Basis (Statement) gives pertinent information regarding the applicable regulations and rational for the development of the NPDES Missouri State Operating Permit (operating permit). This Statement includes Wasteload Allocations, Water Quality Based Effluent Limitations, and Reasonable Potential Analysis calculations as well as any other calculations that effect the effluent limitations of this operating permit. This Statement does not pertain to operating permits that include sewage sludge land application plans and variance procedures, and does not include the public comment process for this operating permit.

A Statement is not an enforceable part of an operating permit.

Facility Information

Facility Type: Proposed extended aeration package plant to serve a 37 lot subdivision. Design flow is projected to be 0.013690 MGD.

Facility SIC Code(s): 4952

Facility Description: Septic tank, Recirculating sand filter, contract sludge hauling.

OUTFALL(S) TABLE:

| OUTFALL | DESIGN FLOW (CFS) | TREATMENT LEVEL | EFFLUENT TYPE | DISTANCE TO CLASSIFIED SEGMENT (MI) |
|---------|-------------------|-----------------|---------------|-------------------------------------|
| ### | 0.04642 | Tertiary | Domestic | 3.2 |

Receiving Stream Information

Please mark the correct designated waters of the state categories of the receiving stream.

- Missouri or Mississippi River [10 CSR 20-7.015(2)]: Yes ; No
- Lake or Reservoir [10 CSR 20-7.015(3)]: Yes ; No
- Losing [10 CSR 20-7.015(4)]: Yes ; No
- Metropolitan No-Discharge [10 CSR 20-7.015(5)]: Yes ; No
- Special Stream [10 CSR 20-7.015(6)]: Yes ; No
- Subsurface Water [10 CSR 20-7.015(7)]: Yes ; No
- All Other Waters [10 CSR 20-7.015(8)]: Yes ; No

10 CSR 20-7.031 Missouri Water Quality Standards, the department defines the Clean Water Commission water quality objectives in terms of "water uses to be maintained and the criteria to protect those uses." The receiving stream and/or 1st classified receiving stream's beneficial water uses to be maintained are located in the Receiving Stream Table located below in accordance with [10 CSR 20-7.031(3)].

RECEIVING STREAM(S) TABLE:

| WATERBODY NAME | CLASS | WBID | DESIGNATED USES* | 8-DIGIT HUC | EDU** |
|------------------|-------|------|--------------------------|-------------|------------------------|
| Pryors Branch | U | ---- | General Criteria, losing | 10300200 | Interior River Valleys |
| Big Berger Creek | P | 1657 | LWW, AQL | | |

* - Irrigation (IRR), Livestock & Wildlife Watering (LWW), Protection of Warm Water Aquatic Life and Human Health-Fish Consumption (AQL), Cool Water Fishery (CLF), Cold Water Fishery (CDF), Whole Body Contact Recreation (WBC), Secondary Contact Recreation (SCR), Drinking Water Supply (DWS), Industrial (IND).
 ** - Ecological Drainage Unit

RECEIVING STREAM(S) LOW-FLOW VALUES TABLE:

| RECEIVING STREAM (U, C, P) | LOW-FLOW VALUES (CFS) | | |
|----------------------------|-----------------------|------|-------|
| | 1Q10 | 7Q10 | 30Q10 |
| Pryors Branch (U) | 0.0 | 0.0 | 0.0 |
| Big Berger Creek (P) | 0.1 | 0.1 | 1.0 |

MIXING CONSIDERATIONS:

Mixing Zone: Not Allowed [10 CSR 20-7.031(4)(A)4.B.(I)(a)].

Zone of Initial Dilution: Not Allowed [10 CSR 20-7.031(4)(A)4.B.(I)(b)].

RECEIVING STREAM MONITORING REQUIREMENTS:

No receiving water monitoring requirements recommended at this time.

Rationale and Derivation of Effluent Limitations & Permit Conditions**ALTERNATIVE EVALUATIONS FOR NEW FACILITIES:**

As per [10 CSR 20-7.015(4)(A)], discharges to losing streams shall be permitted only after other alternatives including land application, discharges to a gaining stream and connection to a regional wastewater treatment facility have been evaluated and determined to be unacceptable for environmental and/or economic reasons.

Not Applicable ;

The facility does not discharge to a Losing Stream as defined by [10 CSR 20-2.010(36)] & [10 CSR 20-7.031(1)(N)]. Due to economical hardship and land restrictions other alternatives were ruled out.

ANTI-BACKSLIDING:

A provision in the Federal Regulations [CWA §303(d)(4); CWA §402(c); CFR §122.44(I)] that requires a reissued permit to be as stringent as the previous permit with some exceptions.

- This is a new facility; therefore, backsliding does not apply.

ANTIDegradation:

Policies which ensure protection of water quality for a particular water body where the water quality exceeds levels necessary to protect fish and wildlife propagation and recreation on and in the water. This also includes special protection of waters designated as outstanding natural resource waters. Antidegradation requirements are consistent with 40 CFR 131.12 that outlines methods used to assess activities that may impact the integrity of a water and protect existing uses. This policy may compel the state to maintain a level of water quality above those mandated by criteria.

Applicable, but deferred ;

As per [10 CSR 20-7.031(2)(D)], the three (3) levels of protection provided by the antidegradation policy in subsections (A), (B), and (C) of this section shall be implemented according to procedures developed by the department. On April 20, 2007, the Missouri Clean Water Commission approved *Missouri Antidegradation Rule and Implementation Procedure* (Antidegradation Rule), which is applicable to new or upgraded/expanded facilities. The implementation of the Antidegradation Rule will be implemented upon promulgation, which is tentatively scheduled for August 2008.

APPLICABLE PERMIT PARAMETERS:

Effluent parameters for conventional, non-conventional, and toxic pollutants have been obtained from the previous NPDES operating permit for this facility, technology based effluent limits, water quality based effluent limits, and from appropriate sections of the renewal application.

COMPLIANCE AND ENFORCEMENT:

Action taken by the department to resolve violations of the Missouri Clean Water Law, its implementing regulations, and/or any terms and condition of an operating permit.

Not Applicable ;

The permittee/facility is not under enforcement action and is considered to be in compliance with the Missouri Clean Water Law, its implementing regulations, and/or any terms and condition of an operating permit.

PRETREATMENT PROGRAM:

The reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutant properties in wastewater prior to or in lieu of discharging or otherwise introducing such pollutants into a Publicly Owned Treatment Works [40 CFR §403.3(q)].

At this time, the permittee is not required to implement and enforce a Pretreatment Program.

REASONABLE POTENTIAL ANALYSIS (RPA):

Limitations must control all pollutants or pollutant parameters that are or may be discharged at a level which will cause, have reasonable potential to cause, or contribute to an excursion above the Missouri Water Quality Standards.

A RPA was not conducted for this facility.

REMOVAL EFFICIENCY:

Removal efficiency is one method by which the Federal Regulations define Secondary Treatment and Equivalent to Secondary Treatment, which applies to Biochemical Oxygen Demand 5-day (BOD₅) and Total Suspended Solids (TSS) for domestic wastewater sources.

The facility is required to meet a removal efficiency of 65 % or more.

SANITARY SEWER OVERFLOWS (SSOs), AND INFLOW & INFILTRATION (I&I):

Collection systems are a critical element in the successful performance of the wastewater treatment process. Under certain conditions, poorly designed, built, managed, operated, and/or maintained systems can pose risks to public health, the environment, or both. Causes of SSOs include, but are not limited to, the following: high levels of I&I during wet weather; blockages; structural, mechanical, or electrical failures; collapsed or broken sewer pipes; insufficient conveyance capacity; and vandalism. Effective and continuous management, operation, and maintenance, as well as ensuring adequate capacity and rehabilitation when necessary are critical to maintaining collection system capacity and performance while extending the life of the system.

This facility is not required to develop or implement a program for maintenance and repair of the collection system; however, it is a violation of Missouri State Environmental Laws and Regulations to allow untreated wastewater to discharge to waters of the state.

SCHEDULE OF COMPLIANCE (SOC):

A schedule of remedial measures included in a permit, including an enforceable sequence of interim requirements (actions, operations, or milestone events) leading to compliance with the Missouri Clean Water Law, its implementing regulations, and/or the terms and conditions of an operating permit.

This permit does not contain a compliance schedule since it is a proposed new facility.

STORM WATER POLLUTION PREVENTION PLAN (SWPPP):

A plan to schedule activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the state. The plan may include, but is not limited to, treatment requirements, operating procedures, and practices to control facility site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

At this time, the permittee is not required to develop and implement a SWPPP.

WASTELOAD ALLOCATIONS (WLA) FOR LIMITS:

As per [10 CSR 20-2.010(78)], the amount of pollutant each discharger is allowed by the department to release into a given stream after the department has determined to total amount of pollutant that may be discharged into that stream without endangering its water quality.

Applicable ;

Wasteload allocations were calculated where applicable using water quality criteria or water quality model results and the dilution equation below:

$$C = \frac{(Cs \times Qs) + (Ce \times Qe)}{(Qe + Qs)} \quad \text{(EPA/505/2-90-001, Section 4.5.5)}$$

- Where C = downstream concentration
- Cs = upstream concentration
- Qs = upstream flow
- Ce = effluent concentration
- Qe = effluent flow

Chronic wasteload allocations were determined using applicable chronic water quality criteria (CCC: criteria continuous concentration) and stream volume of flow at the edge of the mixing zone (MZ). Acute wasteload allocations were determined using applicable water quality criteria (CMC: criteria maximum concentration) and stream volume of flow at the edge of the zone of initial dilution (ZID).

Water quality based maximum daily and average monthly effluent limitations were calculated using methods and procedures outlined in USEPA's "Technical Support Document For Water Quality-based Toxics Control" (EPA/505/2-90-001).

WLA MODELING:

Not Applicable ;

A WLA study was either not submitted or determined not applicable by department staff.

WHOLE EFFLUENT TOXICITY (WET) TEST:

As per [10 CSR 20-7.031(1)(CC)], a toxicity test conducted under specified laboratory conditions on specific indicator organism; and as per [40 CFR §122.2], the aggregate toxic effect of an effluent measured directly by a toxicity test.

Not Applicable ;

At this time, the permittee is not required to conduct WET test for this facility.

Outfall #001 – Main Facility Outfall

EFFLUENT LIMITATIONS TABLE:

| PARAMETER | UNIT | BASIS FOR LIMITS | DAILY MAXIMUM | WEEKLY AVERAGE | MONTHLY AVERAGE | MODIFIED | PREVIOUS PERMIT LIMITATIONS |
|-------------------------------|--|------------------|---------------|----------------|-----------------|----------|-----------------------------|
| FLOW | GPD | 1 | * | | * | NA | N/A |
| BOD ₅ | MG/L | 1 | | 45 | 30 | NA | N/A |
| TSS | MG/L | 1 | | 45 | 30 | NA | N/A |
| pH (S.U.) | SU | 1 | 6 – 9 | | 6 – 9 | NA | N/A |
| TEMPERATURE (°C) | °C | 1/8 | * | | * | NA | N/A |
| AMMONIA AS N (MAY 1 – OCT 31) | MG/L | 5 | 4.4 | | 2.2 | NA | N/A |
| AMMONIA AS N (NOV 1 – APR 30) | MG/L | 5 | 5.6 | | 2.8 | NA | N/A |
| OIL & GREASE | MG/L | 1/2 | 15 | | 10 | NA | N/A |
| MONITORING FREQUENCY | Please see Minimum Sampling and Reporting Frequency Requirements in the Derivation and Discussion Section below. | | | | | | |

*** Monitoring requirement only**

*** # of colonies/100mL; the Monthly Average for Fecal Coliform is a geometric mean.

**** Parameter not previously established in previous state operating permit.

N/A Not applicable

S Same as previous operating permit

Basis for Limitations Codes:

- | | |
|--|-----------------------------------|
| 1. State or Federal Regulation/Law | 6. Antidegradation Policy |
| 2. Water Quality Standard (includes RPA) | 7. Water Quality Model |
| 3. Water Quality Based Effluent Limits | 8. Best Professional Judgement |
| 4. Lagoon Policy | 9. TMDL or Permit in lieu of TMDL |
| 5. Ammonia Policy | 10. WET test Policy |

OUTFALL #001 – DERIVATION AND DISCUSSION OF LIMITS:

- **Biochemical Oxygen Demand (BOD₅).** Effluent limitations have been added.
- **Total Suspended Solids (TSS).** Effluent limitations have been added.
- **pH.** Effluent limitation has been added.
- **Total Ammonia Nitrogen, Temperature.** Monitoring requirement only. Monitoring for temperature and ammonia are included to determine whether “reasonable potential” to exceed water quality standards exists after the discharge begins.
- **Oil & Grease.** Effluent limitations have been added.
- **Total Ammonia Nitrogen.** Early Life Stages Present Total Ammonia Nitrogen criteria apply [10 CSR 20-7.031(4)(B)7.C. & Table B3]. Background total ammonia nitrogen = 0.01 mg/L. Avg. flow = Q = 0.0062 CFS

| Season | Temp (°C) | pH (SU) | Total Ammonia Nitrogen CCC (mg/L) | Total Ammonia Nitrogen CMC (mg/L) |
|--------|-----------|---------|--------------------------------------|--------------------------------------|
| Summer | 26 | 7.8 | 1.2 | 14.0 |
| Winter | 6 | 7.8 | 2.1 | 16.4 |

$$C_e = ((Q_e + Q_s)C - (Q_s * C_s)) / Q_e$$

Summer: May 1 – October 31, Winter: November 1 – April 30

Staff used a modified Feed Forward Reaction decay formula to allow degradation for ammonia prior to reaching the first classified water body:

$$[NH_3N]_t = [NH_3N]_{t=0} * e^{-kt}$$

Where

$[NH_3N]_t$ = ammonia concentration at confluence with classified segment.

$[NH_3N]_{t=0}$ = ammonia concentration at pipe = C_e

k = NH_3 oxidation per day ($k_{1,20}$) $\Xi_1^{(Temp-20)}$

$$k_{1,20} = 0.3(\text{day}^{-1})$$

$$\Xi_1 = \text{temperature correction factor} = 1.083$$

Ammonia degradation as function of distance = 0.5 mg/L/mile. Distance from discharge to beginning of classified stream=3.2 miles. Therefore 0.5mg/L/mile * 3.2 miles=1.6 mg/L. Added to Facility’s chronic and acute wasteload allocations (C_e in the dilution equation).

Summer

Ammonia as Nitrogen CCC = 1.2/1.2 = 1.0 mg/L

Ammonia as Nitrogen CMC = 14.0/1.2 = 11.7 mg/L

Winter

Ammonia as Nitrogen CCC = 2.1/1.2 = 1.8 mg/L

Ammonia as Nitrogen CMC = 16.4/1.2 = 13.7 mg/L

Summer

Chronic WLA: $C_e = 1.0 \text{ mg/L} + 1.6 \text{ mg/L} = 2.6 \text{ mg/L}$

Acute WLA: $C_e = 11.7 \text{ mg/L}$

$LTA_c = 2.36 \text{ mg/L} (0.527) = 1.4 \text{ mg/L}$

[CV = 0.6, 99th Percentile]

MDL = 1.4 mg/L (3.11) = **4.4 mg/L**

[CV = 0.6, 99th Percentile]

AML = 1.4 mg/L (1.55) = **2.2 mg/L**

[CV = 0.6, 95th Percentile, n = 30]

Winter

Chronic WLA: $C_e = 1.8 \text{ mg/L} + 1.6 \text{ mg/L} = 3.4 \text{ mg/L}$

Acute WLA: $C_e = 13.7 \text{ mg/L}$

$LTA_c = 3.4 \text{ mg/L} (0.527) = 1.8$

[CV = 0.6, 99th Percentile]

MDL = 1.8 mg/L (3.11) = **5.6 mg/L**

[CV = 0.6, 99th Percentile]

AML = 1.8 mg/L (1.55) = **2.8 mg/L**

[CV = 0.6, 95th Percentile, n = 30]

| Season | Maximum Daily Limit (mg/l) | Average Monthly Limit (mg/l) |
|--------|----------------------------|------------------------------|
| Summer | 4.4 | 2.2 |
| Winter | 5.6 | 2.8 |

- Minimum Sampling and Reporting Frequency Requirements.

| PARAMETER | SAMPLING FREQUENCY | REPORTING FREQUENCY |
|----------------------------------|--------------------|---------------------|
| FLOW | ONCE/MONTH | ONCE/QUARTER |
| BOD ₅ | ONCE/MONTH | ONCE/QUARTER |
| TSS | ONCE/MONTH | ONCE/QUARTER |
| PH (S.U.) | ONCE/MONTH | ONCE/QUARTER |
| TEMPERATURE (°C) | ONCE/MONTH | ONCE/QUARTER |
| AMMONIA AS N (MAY 1 – OCT 31) | ONCE/MONTH | ONCE/QUARTER |
| AMMONIA AS N (NOV 1 – APR 30) | ONCE/MONTH | ONCE/QUARTER |
| OIL & GREASE | ONCE/MONTH | ONCE/QUARTER |

Administrative Requirements

On the basis of preliminary staff review and the application of applicable standards and regulations, the Department, as administrative agent for the Missouri Clean Water Commission, proposes to issue a permit(s) subject to certain effluent limitations, schedules, and special conditions contained herein and within the operating permit. The proposed determinations are tentative pending public comment.

Date of Factsheet: December 18, 2007

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