

**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, 92<sup>nd</sup> Congress) as amended,

Permit No. MO-0128244

Owner: Ayers Oil Company  
Address: P.O. Box 229, Canton, MO 63435

Continuing Authority: Same as above  
Address: Same as above

Facility Name: Ayerco #44, Rocket Station  
Facility Address: 7233 Highway 36, Hannibal, MO 63401

Legal Description: NW ¼, SW ¼, Sec. 31, T57N, R5W, Marion County  
Latitude/Longitude: +3941301/-09130364

Receiving Stream: Unnamed tributary to Bear Creek (U)  
First Classified Stream and ID: Bear Creek (C) (00009)  
USGS Basin & Sub-watershed No.: (07110004-030002)


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– Gas station – Domestic Wastewater No-discharge System – SIC #4952– **No Certified Operator Required**  
Septic tank/lift station/single-cell storage lagoon/wastewater irrigation/sludge retained in septic tank/septage removed by contract hauler.  
Design population equivalent is 100.  
Design flow is 6,882 gallons per day (1-in-10 year design including net rainfall minus evaporation).  
Average design flow is 6,000 gallons per day (dry weather flows). Actual flow is 3,000 gallons per day.  
Design sludge production is 1.2 dry tons per 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.

August 21, 2009  
Effective Date

  
Mark N. Templeton, Director  
Missouri Department of Natural Resources

August 20, 2014  
Expiration Date

  
Irene Crawford  
Regional Director, Northeast Regional Office

**FACILITY DESCRIPTION** (continued)

Outfall #001 – Ayerco #44, Rocket Station.

**Receiving Stream Watershed:** a gaining stream setting that flows into an unnamed tributary to Bear Creek.

**Facility Type:**

No Discharge Storage and Irrigation System for year round flows into a gaining stream.

**Design Basis:**

	<b><u>Avg Annual</u></b>
Design dry weather flows:	6,000 gpd
Design with 1-in-10 year flows:	7,076 gpd
Design PE: 100	

**Storm Water Flows: (Marion County)**

Average Annual Rainfall.	39.0 inches	
1-in-10 Year Annual Rainfall.	50.7 inches	25-year-24-hour storm: 6 inches

**Storage Basin/Tank:**

Freeboard for basin: 1 foot  
Storage volume (minimum to maximum water levels) 826,454 gallons

**Days of Storage**

**Storage Capacity:**

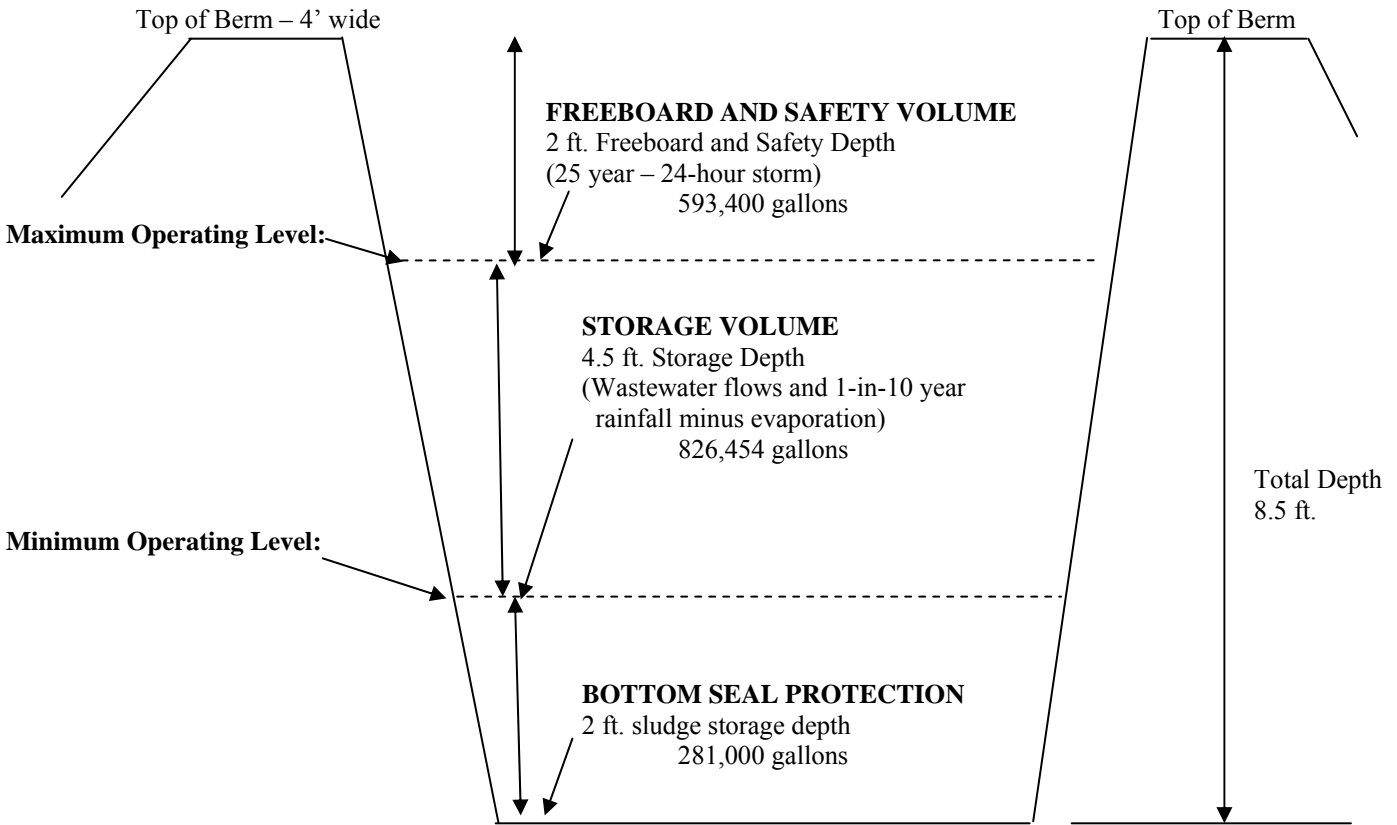
	<b><u>Avg Annual</u></b>
Design for Dry weather Flows:	137.7days
Design with 1-in 10 year flows:	116.8 days

**Land Application:**

Irrigation Volume/year: 249,479 gallons at design loading (including 1-in-10 year flows)  
Irrigation areas: 1.4 acres at design loading (2.0 acres total available)  
Application rates: 0.09 inch/hour; 1.0 inch/day; 3.0 inches/week; 40 inches/year  
Field slopes: less than 5 percent  
Equipment type: Sprinklers  
Vegetation: grass land  
Application rate is based on: hydraulic loading rate up to 24 inches per acre per year; additional irrigation should utilize the plant available nitrogen loading rate.

LAGOON PROFILE

Cell #1



<u>Lagoon Dimensions:</u>	<u>Surface Area</u>	<u>Depth from Bottom</u>	<u>Pump down depth (from berm)</u>
Center Line Top Berm:	35,344 sq. ft.	by 8.5 feet depth	
Inside Top Berm:	33,124 sq. ft.	by 8.5 feet depth	
Freeboard & Safety Vol:	30,976 sq. ft.	by 6.5 feet depth	2.0 foot
Maximum operating level:		6.5 feet depth	2.0 foot
Minimum operating level:		2.0 feet depth	6.5 feet
Aerobic BOD design basis:		3.0 feet depth	
Storage volume (minimum to maximum water levels): 826,454 gallons			
Berm top width: 6 feet		Berm runoff area (Centerline to emergency spillway): 4,368 sq. ft.	
1-in-10 year annual storm water flows into lagoon (R-E): 52,523 cu. ft. (392,871 gallons)			

<b>A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS</b>					PAGE NUMBER 4 of 7	
					PERMIT NUMBER MO-0128244	
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 PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Outfall #001 - Land Application Operational Monitoring (Notes 1, 2 & 3)						
Lagoon Freeboard	feet	*			once/month	measured
Rainfall	inches	*			daily	total
Outfall #001 – Irrigated Wastewater (Note 3)						
Irrigation Period	hours	*			daily	total
Volume Irrigated	gallons	*			daily	total
Application Area	acres	*			daily	total
Application Rate	inches	*			daily	total
MONITORING REPORTS SHALL BE SUBMITTED <u>ANNUALLY</u> ; THE FIRST REPORT IS DUE <u>JANUARY 28, 2010</u> .						
<b>B. STANDARD CONDITIONS</b>						
IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED <u>Parts I &amp; III STANDARD CONDITIONS DATED October 1, 1980 and August 15, 1994</u> , AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.						

MO 780-0010 (8/91)

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

\* Monitoring requirement only.

Note 1 – **No-discharge facility requirements.** Wastewater shall be stored and land applied during suitable conditions so that there is no discharge from the lagoon or irrigation site. An emergency discharge may occur when excess wastewater has accumulated above feasible irrigation rates due to precipitation exceeding the 1-in-10-year, 365-day rainfall or the 25-year, 24-hour storm event.

Note 2 - Lagoon freeboard shall be reported as lagoon water level in feet below the overflow level. See Special Conditions for Wastewater Irrigation System requirements.

Note 3 - Records shall be maintained and submitted in an annual report, which shall be submitted by January 28th of each year for the previous calendar year period using report forms approved by the Department. This report is in addition to the operational and irrigated wastewater monitoring requirements listed in Table A and shall include the following:

- (a) Record of maintenance and repairs performed during the year, average number of times per month the facility is checked to see if it is operating properly, and description of any unusual operating conditions encountered during the year;
- (b) The number of days the lagoon has discharged during the year, the discharge flow, the reasons discharge occurred and effluent analysis performed; and
- (c) A summary of the irrigation operations including monthly freeboard, the number of days of irrigation for each month, the total acres used, crops grown, crop yields per acre, the application rate in inches/acre per day and for the year, and the monthly and annual precipitation received at the facility; and a summary of any testing results for irrigated wastewater and/or soils.

C. SPECIAL CONDITIONS

1. **Emergency Discharge.** Outfall 001 may only discharge if rainfall exceeds the 1 in 10 year (Data taken from the Missouri Climate Atlas) or the 24 hour, 25 year (Data taken from NRCS Urban Hydrology for Small Watersheds) rainfall events. **Discharge for any other reason shall constitute a permit violation and shall be recorded in accordance with Standard Conditions, Part 1, Section B.2.b.** Monitoring shall take place once per day while discharging. Test results are due on the 28<sup>th</sup> day of the month after the cessation of the discharge. Permittee shall monitor for the constituents listed at the top of the next page.

C. SPECIAL CONDITIONS (continued)

Constituent	Units
Flow	MGD
Biochemical Oxygen Demand <sub>5</sub>	mg/L
Total Suspended Solids	mg/l
Total Ammonia Nitrogen	mg/L
Temperature	°C
pH – Units	Standard Units

2. Outfalls must be marked in field and on the topographic site map submitted with the permit application.
3. Permittee will cease discharge by connection to areawide wastewater treatment system within 90 days of notice of its availability.
4. 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:
    - (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.
5. 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.
6. 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. Permittee shall notify the department at least 180 days prior to the planned removal 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.
7. Lagoons and earthen basins shall have a liner that is designed, constructed and maintained. If operating records indicate excessive percolation, the department may require corrective action as necessary to eliminate excess leakage.

C. SPECIAL CONDITIONS (continued)

8. Wastewater Irrigation System.

- (a) Discharge Reporting. Any unauthorized discharge from the lagoon or irrigation system shall be reported to the department as soon as possible but always within 24 hours. Discharge is allowed only as described in the Facility Description and Effluent Limitations sections of this permit.
- (b) Lagoon Operating Levels - No-discharge Systems. The minimum and maximum operating water levels for the storage lagoon shall be clearly marked. Each lagoon shall be operated so that the maximum water elevation does not exceed one foot below the Emergency Spillway except due to exceedances of the 1-in-10 year, 365-day or 25-year, 24-hour storm events according to National Weather Service data. Wastewater shall be land applied whenever feasible based on soil and weather conditions and permit requirements. Storage lagoon(s) shall be lowered to the minimum operating level prior to each winter by November 30.
- (c) Emergency Spillway. Lagoons and earthen storage basins should have an emergency spillway to protect the structural integrity of earthen structures during operation at near full water levels and in the event of overflow conditions. The spillway shall be at least one foot below top of berm. The department may waive the requirement for overflow structures on small existing basins.
- (d) General Irrigation Requirements. The wastewater irrigation system shall be operated so as to provide uniform distribution of irrigated wastewater over the entire irrigation site. A complete ground cover of vegetation shall be maintained on the irrigation site unless the system is approved for row crop irrigation. Wastewater shall be land applied only during daylight hours. The wastewater irrigation system shall be capable of irrigating the annual design flow during an application period of less than 100 days or 800 hours per year.
- (e) Saturated/Frozen Conditions. There shall be no irrigation during ground frost, frozen, snow covered, or saturated soil conditions, or when precipitation is imminent or occurring.
- (f) Buffer Zones. There shall be no irrigation within 300 feet of any down gradient pond, lake, sinkhole, losing stream or water supply withdrawal; 100 feet of gaining streams or tributaries; 150 feet of dwelling or public use areas; or 50 feet of the property line.
- (g) Public Access Restrictions. Public access shall not be allowed to public use area irrigation sites when application is occurring.
- (h) Operation and Maintenance Manual. The permittee shall develop, maintain and implement an Operation and Maintenance (O&M) Manual that includes all necessary items to ensure the operation and integrity of the waste handling and land application systems. Copies of the O&M Manual and subsequent revisions shall be submitted to Regional Office for review and approval. The O&M Manual shall be reviewed and updated at least every five years.
- (i) Equipment Checks during Irrigation. The irrigation system and application site shall be visually inspected at least once/4 hours, and at a minimum of once per day if irrigating less than 4 hours, during wastewater irrigation to check for equipment malfunctions and runoff from the irrigation site.
- (j) Nitrogen Loading Rates. Wastewater irrigation rates shall not exceed a nitrogen application rate of 150 pounds total nitrogen per acre per year, and the applied wastewater shall not exceed ten (10) mg/l of nitrate nitrogen as N. Hydraulic application rates exceeding 24 inches per acre per year shall calculate nitrogen loading rates and include results in the annual report. The calculation procedures are as follows:  $(\text{Total N}) \times (0.226) \times (\text{inches per acre irrigated}) = \text{pounds total N per acre}$ . Where  $\text{Total N} = [\text{Total Kjeldahl Nitrogen (TKN) as N}] + [\text{Nitrate Nitrogen as N}]$ . If the applied wastewater exceeds 150 pounds total nitrogen per acre/year, the permittee must reduce the application rates or submit a revised permit application to request use of the Plant Available Nitrogen (PAN) method based on crop nitrogen requirements for harvested crops, along with calculations to show the amount of plant-available nitrogen provided and the amount of nitrogen that will be utilized by the vegetation to be grown. PAN availability factors for surface application are:  $[\text{Ammonia N} \times 0.6] + [\text{Nitrate N} \times 0.9] + [\text{Organic N} \times 0.6] = \text{PAN}$ . If the applied wastewater exceeds ten (10) mg/l of nitrate nitrogen as N, then the facility shall submit a revised permit application to request use of the Plant Available Nitrogen (PAN) method based on crop nitrogen requirements for harvested crops, along with calculations to show the amount of plant-available nitrogen provided and the amount of nitrogen that will be utilized by the vegetation to be grown.

9. Land Application Sites. To add additional land application sites, the permittee shall document that the new land application site(s) meet the setback requirements referenced in Special Conditions #7 (f). Additionally, the O&M Manual shall be updated to include the additional land application site(s) and a copy of the updated sections of the O&M Manual shall be submitted to the Northeast Regional Office in accordance with Special Condition #7 (h).

C. SPECIAL CONDITIONS (continued)

10. 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.

D. ADDITIONAL CONDITIONS

1. Permit Transfer -This permit may be transferred to a new owner by submitting an “Application for Transfer of Operating Permit” signed by the seller and buyer of the facility, along with the appropriate modification fee.
2. Permit Renewal Requirements -Unless this permit is terminated, the permittee shall submit an application for the renewal of this permit no later than six (6) months prior to the permit’s expiration date. Failure to apply for renewal may result in termination of this permit and enforcement action to compel compliance with this condition and the Missouri Clean Water Law.
3. Termination -In order to terminate this permit, the permittee shall notify the department by submitting Form J, included with the State Operating Permit. The permittee shall complete Form J and mail it to the department at the address noted in the cover letter of this permit. Proper closure of any storage structure is required prior to permit termination. A closure plan shall be submitted to the department and approved prior to initiating closure activities.
4. Duty Of Compliance - The permittee shall comply with all conditions of this permit. Any noncompliance with this permit constitutes a violation of Chapter 644, Missouri Clean Water Law, and 10 CSR 20-6. Noncompliance may result in enforcement action, termination of this authorization, or denial of the permittee's request for renewal.

This permit authorizes only the activities described in this permit. Compliance with this permit may not be considered a shield from compliance with any local ordinance, State Regulation or State Law.

**Missouri Department of Natural Resources**  
**Statement of Basis**  
**Ayerco #44, Rocket Station**  
**MO-0128244**

A Statement of Basis (Statement) gives pertinent information regarding the applicable regulations and rationale 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.

**Part I – Facility Information**

Facility Type: NON-POTW - Domestic Wastewater No Discharge Irrigation System  
Facility SIC Code(s): #4952

Facility Description: No Discharge Storage and Irrigation System for annual flows into a gaining stream. System consists of septic tank/lift station/single-cell storage lagoon/wastewater irrigation/sludge retained in septic tank/septage removed by contract hauler. Design population equivalent is 100. Design flow is 6,882 gallons per day (1-in-10 year design including net rainfall minus evaporation). Average design flow is 6,000 gallons per day (dry weather flows). Actual flow is 3,000 gallons per day. Design sludge production is 1.2 dry tons per year. Land application rate is based on hydraulic loading rate, up to 24 inches per acre per year; additional irrigation should utilize the plant available nitrogen loading rate.

**OUTFALL(S) TABLE:**

OUTFALL	DESIGN FLOW (GPD)	TREATMENT LEVEL	EFFLUENT TYPE	DISTANCE TO CLASSIFIED SEGMENT (MI)
#001	6,882	Tertiary- lagoon with land application	Domestic Wastewater	~ 6.9

Water Quality of the Receiving Water Body: There have been no “Stream Surveys” or “Low Flow Studies” conducted at this facility. A Basin Inventory conducted in 2004 states, “No outfall, some distance to waters of the state, little potential for problems with continued good maintenance.”

Comments: The facility was not found to be in compliance when it was last inspected on July 16, 2008. Compliance issues included failure to submit complete Annual Operations Reports; failure to apply for permit renewal at least 180 days prior to expiration of current permit; failure to provide proper warning signs on all sides of the perimeter fence; failure to provide proper freeboard; failure to maintain inner berm slopes and deep rooted vegetation was growing on the berms.

The facility description has been changed from a partial irrigation facility to a no discharge facility because a file review of the facility’s engineering reports indicate the facility was not built to discharge, therefore any discharges must be reported as a by-pass unless meeting the requirements for an emergency discharge.

**Part II A – Operator Certification Requirements**

As per [10 CSR 20-9.020(2)(A)], this facility is not required to have a certified operator.

**Part II B– Operational Monitoring**

As per [10 CSR 20-9.010(4)], this facility is not required to conduct operational monitoring as defined in [10 CSR 20-9.010(5)(A)]. Land application operational monitoring is required.

**Part III – Receiving Stream Information**

**APPLICABLE DESIGNATIONS OF WATERS OF THE STATE:**

As per Missouri’s Effluent Regulations [10 CSR 20-7.015], the waters of the state are divided into the below listed seven (7) categories. Each category lists effluent limitations for specific parameters, which are presented in each outfall’s Effluent Limitation Table and further discussed in the Derivation & Discussion of Limits section.



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

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 1<sup>st</sup> 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**
Unnamed tributary to Bear Creek	U	N/A	General Criteria	07110004	Central Plains/ Cuivre/ Salt
Bear Creek	C	00009	LWW, AQL, WBC***		

\* - 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), Groundwater (GRW).  
 \*\* - Ecological Drainage Unit  
 \*\*\* - UAA has not been conducted.  
 N/A – Not applicable.

**Part IV – Rationale and Derivation of Effluent Limitations & Permit Conditions**

**ANTI-BACKSLIDING:**

A provision in the Federal Regulations [CWA §303(d)(4); CWA §402(c); 40 CFR Part 122.44(I)] that requires a reissued permit to be as stringent as the previous permit with some exceptions.

- All limits in this statement are at least as protective as those previously established; therefore, backsliding does not apply.

- Backsliding proposed in this statement for the reissuance of this permit conform to the anti-backsliding provisions of Section 402(o) of the Clean Water Act, and 40 CFR Part 122.44.

**AREA-WIDE WASTE TREATMENT MANAGEMENT & CONTINUING AUTHORITY:**

As per [10 CSR 20-6.010(8)(A)10.], when a Continuing Authority under paragraph 10 CSR 20-6.010(3)(B)1. or 2. is expected to be available for connection within the next five (5) years, any operating permit issued to a permittee under this paragraph, located within the service area of the paragraph (3)(B)1. or 2. facility, shall contain the following special condition... This language is contained in Special Condition #3 of this operating permit.

**COMPLIANCE AND ENFORCEMENT:**

Enforcement is the action taken by the Water Protection Program (WPP) to bring an entity into compliance with the Missouri Clean Water Law, its implementing regulations, and/or any terms and conditions of an operating permit. The primary purpose of the enforcement activity in the WPP is to resolve violations and return the entity to compliance.

Not Applicable  - The permittee/facility is not currently under Water Protection Program enforcement action.

**REMOVAL EFFICIENCY:**

Removal efficiency is a method by which the Federal Regulations define Secondary Treatment and Equivalent to Secondary Treatment, which applies to Biochemical Oxygen Demand 5-day (BOD<sub>5</sub>) and Total Suspended Solids (TSS) for Publicly Owned Treatment Works (POTWs)/municipals. Please see the United States Environmental Protection Agency's (EPA) website for interpretation of percent removal requirements for National Pollutant Discharge Elimination System Permit Application Requirements for Publicly Owned Treatment Works and Other Treatment Works Treating Domestic Sewage at [www.epa.gov/fedrgstr/EPA-WATER/1999/August/Day-04/w18866.htm](http://www.epa.gov/fedrgstr/EPA-WATER/1999/August/Day-04/w18866.htm)

Not Applicable  - This wastewater treatment facility is not a POTW. Influent monitoring is not being required to determine percent removal.

**SANITARY SEWER OVERFLOWS (SSOs), BYPASSES, INFLOW & INFILTRATION (I&I) – PREVENTION/REDUCTION:**

Sanitary Sewer Systems (SSSs) are municipal wastewater collection system that convey domestic, commercial, and industrial wastewater, and limited amounts of infiltrated groundwater and storm water (i.e. I&I), to a POTW. SSSs are not designed to collect large amounts of storm water runoff from precipitation events.

Untreated or partially treated discharges from SSSs are commonly referred to as SSOs. SSOs have a variety of causes including blockages, line breaks, sewer defects that allow excess storm water and ground water to overload the system, lapses in sewer system operation and maintenance, inadequate sewer design and construction, power failures, and vandalism. A SSOs is defined as an untreated or partially treated sewage release from a SSS. SSOs can occur at any point in an SSS, during dry weather or wet weather. SSOs include overflows that reach waters of the state. SSOs also include overflows out of manholes and onto city streets, sidewalks, and other terrestrial locations. SSSs can back up into buildings, including private residences. When sewage backups are caused by problems in the publicly-owned portion of an SSS, they are considered SSOs.

Not Applicable  - 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.

Not Applicable  - This permit does not contain a SOC.

**STORM WATER POLLUTION PREVENTION PLAN (SWPPP):**

In accordance with 40 CFR 122.44(k) *Best Management Practices (BMPs)* to control or abate the discharge of pollutants when: (1) Authorized under section 304(e) of the Clean Water Act (CWA) for the control of toxic pollutants and hazardous substances from ancillary industrial activities; (2) Authorized under section 402(p) of the CWA for the control of storm water discharges; (3) Numeric effluent limitations are infeasible; or (4) the practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA.

In accordance with the EPA's *Storm Water Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices* [EPA 832-R-92-006] (Storm Water Management), BMPs are measures or practices used to reduce the amount of pollution entering (regarding this operating permit) waters of the state. BMPs may take the form of a process, activity, or physical structure.

Additionally in accordance with the Storm Water Management, a SWPPP is a series of steps and activities to (1) identify sources of pollution or contamination, and (2) select and carry out actions which prevent or control the pollution of storm water discharges.

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

**WATER QUALITY STANDARDS:**

Per [10 CSR 20-7.031(3)], General Criteria shall be applicable to all waters of the state at all times including mixing zones. Additionally, [40 CFR 122.44(d)(1)] directs the department to establish in each NPDES permit to include conditions to achieve water quality established under Section 303 of the Clean Water Act, including State narrative criteria for water quality.

**WHOLE EFFLUENT TOXICITY (WET) TEST:**

A WET test is a quantifiable method of determining if a discharge from a facility may be causing toxicity to aquatic life by itself, in combination with or through synergistic responses when mixed with receiving stream water.

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

**303(d) LIST & TOTAL MAXIMUM DAILY LOAD (TMDL):**

Section 303(d) of the federal Clean Water Act requires that each state identify waters that are not meeting water quality standards and for which adequate water pollution controls have not been required. Water quality standards protect such beneficial uses of water as whole body contact (such as swimming), maintaining fish and other aquatic life, and providing drinking water for people, livestock and wildlife. The 303(d) list helps state and federal agencies keep track of waters that are impaired but not addressed by normal water pollution control programs.

A TMDL is a calculation of the maximum amount of a given pollutant that a body of water can absorb before its water quality is affected. If a water body is determined to be impaired as listed on the 303(d) list, then a watershed management plan will be developed that shall include the TMDL calculation

Not Applicable  - This facility does not discharge to a 303(d) listed stream.

## Part V – EFFLUENT LIMITS DETERMINATION

### Outfall #001 – Main Facility Outfall

#### EFFLUENT LIMITATIONS TABLE:

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
Bypass – (previously discharge from lagoon)***							
Flow	MGD	1	*			NO	S
Biochemical Oxygen Demand <sub>5</sub>	mg/L	1	*			YES	65/45
Total Suspended Solids	mg/L	1	*			YES	110/70
pH	SU	1	*			YES	≥ 6
Temperature	°C	1/8	*			N/A	**
Ammonia as N	mg/L	2/9	*			N/A	**
Land Application Operational Monitoring							
Lagoon Freeboard	feet	1	*			NO	S
Rainfall	inches	1	*			NO	S
Irrigated Wastewater							
Irrigation Period	hours	1	*			NO	S
Volume Irrigated	gallons	1	*			NO	S
Application Area	acres	1	*			NO	S
Application Rate	inches	1	*			NO	S
Monitoring Frequency	Please see Minimum Sampling and Reporting Frequency Requirements in the Derivation and Discussion Section below.						

\* - Monitoring requirement only

\*\* - Parameter was not established in previous state operating permit.

\*\*\* - Discharge for reasons other than those allowed in the permit will constitute a violation.

N/A – Not applicable

S – Same as previous operating permit

#### Basis for Limitations Codes:

- |  |                                    |
|--|------------------------------------|
| 1. State or Federal Regulation/Law       | 7. Antidegradation Policy          |
| 2. Water Quality Standard (includes RPA) | 8. Water Quality Model             |
| 3. Water Quality Based Effluent Limits   | 9. Best Professional Judgment      |
| 4. Lagoon Policy                         | 10. TMDL or Permit in lieu of TMDL |
| 5. Ammonia Policy                        | 11. WET test Policy                |
| 6. Dissolved Oxygen Policy               |                                    |

- **Flow.** In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each outfall is needed to assure compliance with permitted effluent limitations. If the permittee is unable to obtain effluent flow, then it is the responsibility of the permittee to inform the department, which may require the submittal of an operating permit modification.
- **Biochemical Oxygen Demand (BOD<sub>5</sub>).** Effluent limitations from the previous state operating permit have been reassessed and removed with the parameter only being monitored when a by-pass occurs because the facility is a no discharge system. A by-pass not meeting permit conditions is a violation.
- **Total Suspended Solids (TSS).** Effluent limitations from the previous state operating permit have been reassessed and removed with the parameter only being monitored when a by-pass occurs because the facility is a no discharge system. A by-pass not meeting permit conditions is a violation.

- **pH.** Effluent limitations from the previous state operating permit have been reassessed and removed with the parameter only being monitored when a by-pass occurs because the facility is a no discharge system. A by-pass not meeting permit conditions is a violation.
- **Temperature.** Monitoring requirement when a by-pass occurs because the facility is a no discharge system. A by-pass not meeting permit conditions is a violation.
- **Total Ammonia Nitrogen.** Monitoring requirement when a by-pass occurs because the facility is a no discharge system. A by-pass not meeting permit conditions is a violation.
- **Lagoon Freeboard.** Monitoring requirement only, retained from previous state operating permit. [10 CSR 20-6.015(4)(C)1.].
- **Irrigation Period.** Monitoring requirement only, retained from previous state operating permit. [10 CSR 20-6.015(4)(C)1.].
- **Volume Irrigated.** Monitoring requirement only, retained from previous state operating permit. [10 CSR 20-6.015(4)(C)1.].
- **Application Area.** Monitoring requirement only, retained from previous state operating permit. [10 CSR 20-6.015(4)(C)1.].
- **Application Rate.** Monitoring requirement only, retained from previous state operating permit. [10 CSR 20-6.015(4)(C)1.].
- **Rainfall.** Monitoring requirement only, retained from previous state operating permit. [10 CSR 20-6.015(4)(C)1.].
- **Minimum Sampling and Reporting Frequency Requirements.** Sampling and reporting frequency requirements have been increased from annually to quarterly for lagoon discharges to determine that the facility is meeting effluent limitations throughout the year. Monitoring frequency has been retained from previous state operating permit but reporting has been increased to coincide with the submittal of the lagoon discharge monitoring reports.

PARAMETER	SAMPLING FREQUENCY	REPORTING FREQUENCY
Bypass (Note 1)		
Flow	daily	once/month/occurrence
Biochemical Oxygen Demand <sub>5</sub>	daily	once/month/occurrence
Total Suspended Solids	daily	once/month/occurrence
pH	daily	once/month/occurrence
Temperature	daily	once/month/occurrence
Ammonia as N	daily	once/month/occurrence
Land Application Operational Monitoring (Note 3)		
Lagoon Freeboard	once/month	once/year
Rainfall	daily	once/year
Irrigated Wastewater (Note 3)		
Irrigation Period	daily	once/year
Volume Irrigated	daily	once/year
Application Area	daily	once/year
Application Rate	daily	once/year

Note 1 – **No-discharge facility requirements.** Wastewater shall be stored and land applied during suitable conditions so that there is no discharge from the lagoon or irrigation site. An emergency discharge may occur when excess wastewater has accumulated above feasible irrigation rates due to precipitation exceeding the 1-in-10-year, 365-day rainfall or the 25-year, 24-hour storm event.

**Discharge for any other reason shall constitute a permit violation and shall be recorded in accordance with Standard Conditions, Part 1, Section B.2.b.** Monitoring shall take place once per day while discharging. Test results are due on the 28<sup>th</sup> day of the month after the cessation of the discharge.

Note 3 - Records shall be maintained and submitted in an annual report, which shall be submitted by January 28th of each year for the previous calendar year period using report forms approved by the Department. This report is in addition to the operational and irrigated wastewater monitoring requirements listed in Table A and shall include the following:

- (a) Record of maintenance and repairs performed during the year, average number of times per month the facility is checked to see if it is operating properly, and description of any unusual operating conditions encountered during the year;
- (c) The number of days the lagoon has discharged during the year, the discharge flow, the reasons discharge occurred and effluent analysis performed; and
- (b) A summary of the irrigation operations including monthly freeboard, the number of days of irrigation for each month, the total acres used, crops grown, crop yields per acre, the application rate in inches/acre per day and for the year, and the monthly and annual precipitation received at the facility; and a summary of any testing results for irrigated wastewater and/or soils.

## **Part VI – 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 Statement of Basis:** April 23, 2009

**Date of Public Notice:** June 26, 2009

Submitted by:

Terrie Burch, Environmental Specialist  
Northeast Regional Office  
(660) 385-8000  
[terrie.burch@dnr.mo.gov](mailto:terrie.burch@dnr.mo.gov)

Reviewed by:

Lantz Tipton, Environmental Specialist  
Northeast Regional Office  
(660) 385-8000  
[lantz.tipton@dnr.mo.gov](mailto:lantz.tipton@dnr.mo.gov)

---

Terrie Burch

Date

---

Lantz Tipton

Date

TB/ad