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 RSMo, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress) as amended,

Permit No.	MO-0001121
Owner:	The Doe Run Resources Corporation d/b/a The Doe Run Company
Address:	1801 Park 270 Drive, #300, St. Louis, MO 63146
Continuing Authority:	Same as above
Address:	Same as above
Facility Name:	The Doe Run Company, Glover Facility
Facility Address:	42850 Highway 49, Annapolis, MO 63620
Legal Description:	See following page
UTM Coordinates:	See following page
Receiving Stream:	See following page
First Classified Stream and ID:	See following page
USGS Basin & Sub-watershed No.:	See following page

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

FACILITY DESCRIPTION

Inactive primary lead smelter; SIC # 1031; NAICS # 212230. The facility acts as a material transfer station, transferring lead, copper and zinc concentrates, slag, and lead acid batteries via truck. Sludge is disposed by contract hauler. This facility does not require a certified wastewater operator per 10 CSR 20-9.030 as this facility is privately owned. Domestic wastewater is managed by sending to an extended aeration plant onsite.

This permit authorizes only wastewater and stormwater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas.

March 1, 2022
Effective Date

April 1, 2023
Modification Date

September 30, 2026
Expiration Date

John Hoke, Director, Water Protection Program

FACILITY DESCRIPTION (CONTINUED)

OUTFALL #001 – Domestic Wastewater
Internal monitoring point, discharge from the sanitary waste extended aeration plant with chlorine disinfection

Legal Description:	SW¼, SW¼, Sec.2, T32N, R3E, Iron County
UTM Coordinates:	X = 704209, Y = 4150690
Receiving Waterbody:	Tributary to Scoggins Branch
First Classified Waterbody and ID:	Scoggins Branch (C)
USGS Basin & Sub-watershed No.:	Upper St. Francis (08020202-0301)
Design Flow:	0.03 MGD
Average Flow:	0.0014 MGD

OUTFALL #003 – Process Wastewater
Stormwater runoff, truck wash water, process water, slag pile leachate, and treated sanitary water from outfall #001 is captured in a holding basin and then treated in a wastewater plant with a design capacity of 0.32 MGD. Total design flow into the storage basin is 650,000 GPD. The treatment consists of the following processes: 1. pH adjustment, 2. Sedimentation, 3. Clarification, 4. Filtration, 5. Sludge thickening/dewatering. Filtering and recycling also occur. Facility's operations currently include concentrate transloading.

Legal Description:	NW¼, SW¼, Sec.11, T32N, R3E, Iron County
UTM Coordinates:	X = 704080, Y = 4150658
Receiving Waterbody:	Scoggins Branch
First Classified Waterbody and ID:	Scoggins Branch; (C) WBID# 3940
USGS Basin & Sub-watershed No.:	Upper St. Francis (08020202-0301
Design Flow:	0.32 MGD
Average Flow:	0.22 MGD

OUTFALL #006 – Emergency spillway of process wastewater and stormwater; settling
Discharge from this outfall in the absence of a chronic or catastrophic storm event is prohibited and a violation of the terms of this permit.

Legal Description:	NW¼, SW¼, Sec.11, T32N, R3E, Iron County
UTM Coordinates:	X = 704157, Y = 4150627
Receiving Waterbody:	Scoggins Branch
First Classified Waterbody and ID:	Scoggins Branch; (C) WBID# 3940
USGS Basin & Sub-watershed No.:	Upper St. Francis (08020202-0301

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

OUTFALL #001 *Domestic Wastewater*	**TABLE A-1** **FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

The facility is authorized to discharge from outfall(s) as specified. The final effluent limitations shall become effective on **March 1, 2022** and remain in effect until expiration of the permit. Discharges shall be controlled, limited and monitored by the facility as specified below:

EFFLUENT PARAMETERS	UNITS	FINAL EFFLUENT LIMITATIONS		MONITORING REQUIREMENTS	
		DAILY MAXIMUM	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
LIMIT SET: Q					
PHYSICAL					
Flow	MGD	*	*	once/quarter	24 hr. total
CONVENTIONAL					
Biochemical Oxygen Demand – 5 day	mg/L	45	30	once/quarter	grab
pH †	SU	6.0 to 9.0	6.0 to 9.0	once/quarter	grab
Total Suspended Solids	mg/L	45	30	once/quarter	grab

MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE JULY 28, 2022.
THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (CONTINUED)

OUTFALL #003 *Process Wastewater*	**TABLE A-2** **FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

The facility is authorized to discharge from outfall(s) as specified. The final effluent limitations shall become effective on **March 1, 2022** and remain in effect until expiration of the permit. Discharges shall be controlled, limited, and monitored by the facility as specified below:

EFFLUENT PARAMETERS	UNITS	FINAL EFFLUENT LIMITATIONS		MONITORING REQUIREMENTS	
		DAILY MAXIMUM	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
LIMIT SET: M					
PHYSICAL					
Flow	MGD	*	*	once/month	24 hr. total
Hardness as CaCO3	mg/L	*	*	once/month	grab
CONVENTIONAL					
pH †	SU	6.5 to 9.0	6.5 to 9.0	once/month	grab
Total Suspended Solids	mg/L	30	20	once/month	grab
METALS					
Cadmium, Total Recoverable	µg/L	2.75	1.0	once/month	grab
Copper, Total Recoverable	µg/L	32.2	10.5	once/month	grab
Lead, Total Recoverable	µg/L	20.8	10.4	once/month	grab
Selenium, Total Recoverable €	µg/L	8.8	2.9	once/month	grab
Thallium, Total Recoverable £	µg/L	14.1	6.3	once/month	grab
Zinc, Total Recoverable	µg/L	405.9	202.3	once/month	grab
MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE APRIL 28, 2022. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.					
LIMIT SET: Q					
CONVENTIONAL					
Chlorine, Total Residual‡	µg/L	18.8 (ML 130)	6.0 (ML 130)	once/quarter ◊	grab
E. coli ǂ	#100 ml	630	126	once/quarter ◊	grab
Ammonia as N	mg/L	*	*	once/quarter ◊	grab
OTHER					
Chloride	mg/L	*	*	once/quarter ◊	grab
Sulfate	mg/L	*	*	once/quarter ◊	grab
Chloride plus Sulfate	mg/L	1000	-	once/quarter ◊	calculated
MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE JULY 28, 2022. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.					
LIMIT SET: A					
OTHER					
Mercury, Total Recoverable	µg/L	2	1	once/year	grab
Whole Effluent Toxicity, Acute -See Special Condition #1	TU_a	0.3 (ML1.0)	-	once/year	grab
Whole Effluent Toxicity, Chronic -See Special Condition #1	TU_c	1.7	-	once/year	grab
MONITORING REPORTS SHALL BE SUBMITTED ANNUALLY; THE FIRST REPORT IS DUE JANUARY 28, 2023. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.					

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (CONTINUED)

OUTFALL #006 *Emergency Only*	**TABLE A-3** **FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**					
The facility is authorized to discharge from outfall(s) as specified. The final effluent limitations shall become effective on **Effective Date** and remain in effect until expiration of the permit. Discharges shall be controlled, limited and monitored by the facility as specified below:						
EFFLUENT PARAMETERS	UNITS	FINAL LIMITATIONS		BENCH-MARKS	MONITORING REQUIREMENTS	
		DAILY MAXIMUM	MONTHLY AVERAGE		MEASUREMENT FREQUENCY	SAMPLE TYPE
LIMIT SET: U						
PHYSICAL						
Flow	MGD	*			once/day ¥	24 Hr Est.
Precipitation	inches	*			once/day ¥	24 Hr Total
CONVENTIONAL						
Chlorine, Total Residual‡	µg/L	19 (ML 130)			once/day ¥	grab
pH †	SU	6.5-9.0			once/day ¥	grab
Total Suspended Solids	mg/L	*			once/day ¥	grab
METALS						
Cadmium, Total Recoverable	µg/L	11.7			once/day ¥	grab
Copper, Total Recoverable	µg/L	32.2			once/day ¥	grab
Lead, Total Recoverable	µg/L	373			once/day ¥	grab
Mercury, Total Recoverable	µg/L	*			once/day ¥	grab
Selenium, Total Recoverable	µg/L	*			once/day ¥	grab
Thallium, Total Recoverable	µg/L	*			once/day ¥	grab
Zinc, Total Recoverable	µg/L	*			once/day ¥	grab
NUTRIENTS						
Ammonia as N	mg/L	*			once/day ¥	grab
OTHER						
Chloride	mg/L	*			once/day ¥	grab
Sulfate	mg/L	*			once/day ¥	grab
Chloride plus Sulfate	mg/L	1000			once/day ¥	grab
MONITORING REPORTS SHALL BE SUBMITTED BY THE 28TH DAY OF THE MONTH FOLLOWING DISCHARGE CESSATION.						

¥ The facility must sample at least once each day a discharge occurs. The facility will report the highest result by the 28th day of the month at the end of each quarter.

* Monitoring and reporting requirement only

‡ Chlorine, Total Residual. This permit contains a Total Residual Chlorine (TRC) limit.

(a) This effluent limit is below the minimum quantification level of the most sensitive EPA approved CLTRC methods. The Department has determined the current acceptable minimum level (ML) for total residual chlorine to be 130 µg/L when using the DPD Colorimetric Method #4500 – CL G. from Standard Methods for the Examination of Waters and Wastewater. The facility will conduct analyses in accordance with this method, or equivalent, and report actual analytical values. Measured values greater than or equal to the minimum quantification level of 130 µg/L will be considered violations of the permit and values less than the minimum quantification level of 130 µg/L will be considered to be in compliance with the permit limitation. The minimum quantification level does not authorize the discharge of chlorine in excess of the effluent limits stated in the permit.

(b) Disinfection is required year-round unless the permit specifically states "Final limitations and monitoring requirements for *E. coli* are applicable only during the recreational season from April 1 through October 31." If the permit does not require disinfection during the non-recreational months, do not chlorinate in those months.

(c) Do not chemically dechlorinate if it is not needed to meet the permit limits.

ǂ *E. coli*: final limitations and monitoring requirements are applicable only during the recreational season from April 1 through October 31. The monthly average limit for *E. coli* is expressed as a geometric mean.

† pH: the facility will report the minimum and maximum values; pH is not to be averaged.

€ This permit establishes effluent limitations for total recoverable selenium which are below the most commonly used analytical methods detection limits. However, 40 CFR 136 indicates effluent characteristics can be effectively quantified using EPA approved method 200.9 or 3113B. These methods have detection limits of 0.6 µg/L and 2 µg/L respectively; either may be used to determine compliance with this permit. Additionally, if monitoring only, the facility must choose one of the above methods to attain compliance with Standard Conditions Part I §A No. 4.

£ This permit establishes effluent limitations for total recoverable thallium which are below the most commonly used analytical methods detection limits. However, 40 CFR 136 indicates effluent characteristics can be effectively quantified using EPA approved method 200.9 or 200.8/3120B. These methods have detection limits of 0.7 µg/L and 1 µg/L respectively; either may be used to determine compliance with this permit. Additionally, if monitoring only, the facility must choose one of the above methods to attain compliance with Standard Conditions Part I §A No. 4.

◊ Quarterly sampling

MINIMUM QUARTERLY SAMPLING REQUIREMENTS

QUARTER	MONTHS	*E. COLI*, TOTAL RESIDUAL CHLORINE (TRC)	ALL OTHER PARAMETERS	REPORT IS DUE
First	January, February, March	Not required to sample.	Sample at least once during any month of the quarter	April 28th
Second	April, May, June	Sample at least once during any month of the quarter	Sample at least once during any month of the quarter	July 28th
Third	July, August, September	Sample at least once during any month of the quarter	Sample at least once during any month of the quarter	October 28th
Fourth	October	Sample once during October	Sample at least once during any month of the quarter	January 28th
	November, December	No sample required		

B. STANDARD CONDITIONS

In addition to specified conditions stated herein, this permit is subject to the attached Part I standard conditions dated August 1, 2014, respectively, and hereby incorporated as though fully set forth herein.

C. SPECIAL CONDITIONS

1. Acute and Chronic Whole Effluent Toxicity (WET) tests shall be conducted as follows:
   (a) Freshwater Species and Test Methods: Species and short-term test methods for estimating the chronic toxicity of NPDES effluents are found in the most recent edition of *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms (EPA/821/R-02/013; Table IA, 40 CFR Part 136).* The permittee shall concurrently conduct 7-day, static, renewal toxicity tests with the following species:
      - The fathead minnow, *Pimephales promelas* (Survival and Growth Test Method 1000.0).
      - The daphnid, *Ceriodaphnia dubia* (Survival and Reproduction Test Method 1002.0).
   (b) Chemical and physical analysis of the upstream control sample and effluent sample shall occur immediately upon being received by the laboratory, prior to any manipulation of the effluent sample beyond preservation methods consistent with federal guidelines for WET testing that are required to stabilize the sample during shipping. Where upstream receiving water is not available or known to be toxic, other approved control water may be used.
   (c) The facility shall also report the results for acute toxicity.
   (d) Test conditions must meet all test acceptability criteria required by the EPA Method used in the analysis.
   (e) The Allowable Effluent Concentration (AEC) is 100%, the dilution series is: 100%, 50%, 25%, 12.5%, and 6.25%.
   (f) All chemical and physical analysis of the effluent sample performed in conjunction with the WET test shall be performed at the 100% effluent concentration.

C. SPECIAL CONDITIONS (CONTINUED)

(g) The facility must submit a full laboratory report for all toxicity testing. The report must include a quantification of acute toxic units (TUa = 100/LC50) and chronic toxic units (TU_c = 100/IC_{25}) reported according to the *Methods for Measuring the Chronic Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* chapter on report preparation and test review. The Lethal Concentration 50 Percent (LC_{50}) is the effluent concentration that would cause death in 50 percent of the test organisms at a specific time. The 25 percent Inhibition Effect Concentration (IC_{25}) is the toxic or effluent concentration that would cause 25 percent reduction in mean young per female or in growth for the test populations.

(h) Accelerated Testing Trigger: If the regularly scheduled acute WET test exceeds the TU_a limit, the permittee shall conduct accelerated follow-up WET testing as prescribed in the following conditions. Results of the follow-up accelerated WET testing shall be reported in TU_a. This permit requires the following additional toxicity testing if any one test result exceeds a TU_a limit.

(1) A multiple dilution test shall be performed for both test species within 60 calendar days of becoming aware the regularly scheduled WET test exceeded a TU_a limit, and once every two weeks thereafter until one of the following conditions are met:

i. Three consecutive multiple-dilution tests are below the TU_a limit. No further tests need to be performed until next regularly scheduled test period.

ii. A total of three multiple-dilution tests exceed the TU_a limit.

(2) Follow-up tests do not negate an initial test result.

(3) The permittee shall submit a summary of all accelerated WET test results for the test series along with complete copies of the laboratory reports as received from the laboratory within 14 calendar days of the availability of the third test exceeding a TU_a limit.

(i) TIE/TRE Trigger: The following shall apply upon the exceedance of the TU_a limit in three accelerated follow-up WET tests. The permittee should contact the Department within 14 calendar days from availability of the test results to ascertain as to whether a TIE or TRE is appropriate. If the permittee does not contact the Department upon the third follow up test exceeding a TU_a limit, a toxicity identification evaluation (TIE) or toxicity reduction evaluation (TRE) is automatically triggered. The permittee shall submit a plan for conducting a TIE or TRE within 60 calendar days of the date of the automatic trigger or the Department's direction to perform either a TIE or TRE. The plan shall be based on EPA Methods and include a schedule for completion. This plan must be approved by the Department before the TIE or TRE is begun.

2. Outfall #006: 40 CFR 440.131(b) *Storm exemption for facilities permitted to discharge.* If, as a result of precipitation or snowmelt, a source with an allowable discharge under 40 CFR part 440 has an overflow or excess discharge of effluent which does not meet the limitations of 40 CFR part 440, the source may qualify for an exemption from such limitations with respect to such discharge if the following conditions are met:

(a) The facility is designed, constructed and maintained to contain the maximum volume of wastewater which would be generated by the facility during a 24-hour period without an increase in volume from precipitation and the maximum volume of wastewater resulting from a 10-year, 24-hour precipitation event or treat the maximum flow associated with these volumes. In computing the maximum volume of wastewater which would result from a 10-year, 24-hour precipitation event, the facility must include the volume which would result from all areas contributing runoff to the individual treatment facility.

(b) The facility takes all reasonable steps to maintain treatment of the wastewater and minimize the amount of overflow.

(c) The facility complies with the notification requirements of §122.60 (g) and (h). The storm exemption is designed to provide an affirmative defense to an enforcement action. Therefore, the operator has the burden of demonstrating to the appropriate authority that the above conditions have been met.

3. Spills, Overflows, and Other Unauthorized Discharges.

(a) Any spill, overflow, or other discharge(s) not specifically authorized are unauthorized discharges.

(b) Should an unauthorized discharge cause or permit any contaminants to discharge or enter waters of the state, the unauthorized discharge must be reported to the regional office as soon as practicable but no more than 24 hours after the discovery of the discharge. If the spill or overflow needs to be reported after normal business hours or on the weekend, the facility must call the Department's 24 hour spill line at 573-634-2436.

4. Any discharge not meeting permitted limits may be pumped and hauled to an accepting wastewater treatment facility, or otherwise properly disposed.

5. Electronic Discharge Monitoring Report (eDMR) Submission System. The NPDES Electronic Reporting Rule, 40 CFR Part 127, reporting of effluent monitoring data and any report required by the permit (unless specifically directed otherwise by the permit), shall be submitted via an electronic system to ensure timely, complete, accurate, and nationally consistent set of data for the NPDES program. The eDMR system is currently the only Department-approved reporting method for this permit unless specified elsewhere in this permit, or a waiver is granted by the Department. The facility must register in the Department's eDMR system through the Missouri Gateway for Environmental Management (MoGEM) before the first report is due. All reports uploaded into the system shall be reasonably named so they are easily identifiable, such as "WET Test Chronic Outfall 003 Jan 2023", or "Outfall004-DailyData-Mar2025".

C. SPECIAL CONDITIONS (CONTINUED)

6. Stormwater Pollution Prevention Plan (SWPPP).
The facility's SIC code or description is found in 40 CFR 122.26(b)(14) and/or 10 CSR 20-6.200(2) and hence shall implement a Stormwater Pollution Prevention Plan (SWPPP) which must be prepared and implemented upon permit effective date. The SWPPP must be kept on-site and not sent to the Department unless specifically requested. The SWPPP must be reviewed and updated annually or if site conditions affecting stormwater change. The facility shall select, install, use, operate, and maintain the Best Management Practices prescribed in the SWPPP in accordance with the concepts and methods described in: *Developing Your Stormwater Pollution Prevention Plan, A Guide for Industrial Operators*, (EPA 833-B-09-002 March 2021) https://www.epa.gov/sites/production/files/2021-03/documents/swppp_guide_industrial_2021_030121.pdf The purpose of the SWPPP and the Best Management Practices (BMPs) listed herein is the prevention of pollution of waters of the state. A deficiency of a BMP means it was ineffective at providing the necessary protections for which it was designed. Corrective action describes the steps the facility took to eliminate the deficiency.
The SWPPP must include:
   (a) A listing of specific contaminants and their control measures (BMPs) and a narrative explaining how BMPs are implemented to control and minimize the amount of contaminants potentially entering stormwater.
   (b) A map with all outfalls and structural BMPs marked.
   (c) A schedule for at least once per month site inspections and brief written reports. The inspection report must include precipitation information for the entire period since last inspection, as well as observations and evaluations of BMP effectiveness. A BMP is considered to be disrupted if it is rendered ineffective as a result of damage or improper maintenance. Categorization of a deficiency is reliant on the length of time required to correct each disrupted BMP. Corrective action after discovering a disrupted BMP must be taken as soon as possible. Throughout coverage under this permit, the facility must perform ongoing SWPPP review and revision to incorporate any site condition changes.
      (1) Operational deficiencies are disrupted BMPs which the facility is able to and must correct within 7 calendar days.
      (2) Minor structural deficiencies are disrupted BMPs which the facility is able to and must correct within 14 calendar days.
      (3) Major structural deficiencies (deficiencies projected to take longer than 14 days to correct) are disrupted BMPs which must be reported as an uploaded attachment through the eDMR system with the DMRs. The initial report shall consist of the deficiency noted, the proposed remedies, the interim or temporary remedies (including proposed timing of the placement of the interim measures), and an estimate of the timeframe needed to wholly complete the repairs or construction. If required by the Department, the facility shall work with the regional office to determine the best course of action. The facility should consider temporary structures to control stormwater runoff. The facility shall correct the major structural deficiency as soon as reasonably achievable.
      (4) All actions taken to correct the deficiencies shall be included with the written report, including photographs, and kept with the SWPPP. Additionally, corrective action of major structural deficiencies shall be reported as an uploaded attachment through the eDMR system with the DMRs.
      (5) BMP failure causing discharge through an unregistered outfall is considered an illicit discharge and must be reported in accordance with Standard Conditions Part I.
      (6) Inspection reports must be kept on site with the SWPPP and maintained for a period of five (5) years. These must be made available to Department personnel upon request. Electronic versions of the documents and photographs are acceptable.
   (d) A provision for designating an individual to be responsible for environmental matters and a provision for providing training to all personnel responsible for supervising housekeeping, material handling (including but not limited to loading and unloading), storage, and staging of all operational, maintenance, storage, and cleaning areas.

7. Site-wide minimum Best Management Practices (BMPs). At a minimum, the facility shall adhere to the following:
   (a) Provide good housekeeping practices on the site to keep trash from entry into waters of the state. Dumpsters should remain closed when not in use.
   (b) Prevent the spillage or loss of fluids, oil, grease, fuel, etc. from vehicle maintenance, equipment cleaning, warehouse activities, and other areas, to prevent the contamination of stormwater from these substances.
   (c) Provide collection facilities and arrange for proper disposal of waste products including but not limited to petroleum waste products, and solvents.
   (d) Store all paint, solvents, petroleum products, petroleum waste products (except fuels), and storage containers (such as drums, cans, or cartons) so these materials are not exposed to stormwater or provide other prescribed BMPs such as plastic lids and/or portable spill pans to prevent the commingling of stormwater with container contents. Commingled water may not be discharged under this permit. Provide spill prevention control, and/or management sufficient to prevent any spills of these pollutants from entering waters of the state. Any containment system used to implement this requirement shall be constructed of materials compatible with the substances contained and shall also prevent the contamination of groundwater. Spill records should be retained on-site.

C. SPECIAL CONDITIONS (CONTINUED)

(e) Ensure adequate provisions are provided to prevent surface water intrusion into the wastewater storage basin and to divert stormwater runoff around the wastewater storage basin.
(f) Provide sediment and erosion control sufficient to prevent or minimize sediment loss off of the property, and to protect embankments from erosion.

8. Proper and continued operation and maintenance pursuant to 40 CFR 122.41(e). At all times the facility shall properly operate, maintain, and control all systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

9. Petroleum Secondary Containment.
   (a) Solids, sludges, and soluble debris shall not be allowed to accumulate in the secondary containment.
   (b) The secondary containment area shall be routinely checked for signs for leaks, spills, and releases of petroleum.
      (1) All petroleum captured in the secondary containment area shall be expeditiously removed and the source of the product determined.
      (2) Leaks or otherwise compromised equipment shall be promptly addressed or repaired.
   (c) Before releasing water accumulated in petroleum secondary containment areas, the water and area must be examined for hydrocarbon odor and presence of sheen to protect the general criteria found at 10 CSR 20-7.031(4).
      (1) Following treatment and before release, the water shall be tested for oil and grease, benzene, toluene, ethylbenzene, and xylene using 40 CFR part 136 methods. All pollutant levels must be below the most protective, applicable standards for the receiving stream, found in 10 CSR 20-7.031 Table A before discharge is authorized.
      (2) Non-impacted stormwater, free from hydrocarbon odor and presence of sheen, should be drained from the secondary containment as soon as reasonable after a precipitation event.
      (3) Impacted stormwater can only be drained from the secondary containment either (1) after removal of the odor and/or sheen utilizing appropriate methods (e.g., booms, absorbent pads, filters, etc.) or (2) if the water is directed for disposal in accordance with legally approved methods, such as being sent to an accepting wastewater treatment facility.
      (4) If subpart (a) and (b) above have not been complied with, impacted stormwater shall be directed for disposal in accordance with legally approved methods, such as being sent to an accepting wastewater treatment facility.
   (d) The drainage area around the secondary containment area shall be included in the regular SWPPP inspection for signs of vegetative stress or other indicia of petroleum storage.
   (e) The area below the outlet of the secondary containment area must be maintained in a manner that minimizes soil washout, such as with stabilized vegetation, rip rap, or by releasing accumulated water slowly.
   (f) Records of all testing and treatment of water accumulated in secondary containment shall be available on demand to the Department. Electronic records retention is acceptable.

10. The full implementation of this operating permit, which includes implementation of any applicable schedules of compliance, shall constitute compliance with all applicable federal and state statutes and regulations in accordance with 644.051.16 RSMo for permit shield, and the CWA §402(k) for toxic substances. This permit may be reopened and modified, or alternatively revoked and reissued to comply with any applicable effluent standard or limitation issued or approved under CWA §§301(b)(2)(C) and (D), §304(b)(2), and §307(a)(2), if the effluent standard or limitation so issued or approved contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or controls any pollutant not already limited in the permit. This permit may be modified, revoked and reissued, or terminated for cause, including determination new pollutants found in the discharge not identified in the application for the new or revised permit. The filing of a request by the facility for a permit modification, termination, notice of planned changes, or anticipated non-compliance does not stay any permit condition.

11. All outfalls must be clearly marked in the field.

12. Report no discharge when a discharge does not occur during the report period. It is a violation of this permit to report no-discharge when a discharge has occurred.

13. Reporting of Non-Detects.
   (a) Compliance analysis conducted by the facility or any contracted laboratory shall be conducted in such a way the precision and accuracy of the analyzed result can be enumerated. See sufficiently sensitive test method requirements in Standard Conditions Part I, §A, No. 4 regarding proper testing and detection limits used for sample analysis. For the purposes of this permit, the definitions in 40 CFR 136 apply; method detection limit (MDL) and laboratory-established reporting limit (RL) are used interchangeably in this permit. The reporting limits established by the laboratory must be below the lowest effluent limits established for the specified parameter (including any parameter's future limit after an SOC) in the permit unless the permit provides for an ML.
   (b) The facility shall not report a sample result as "non-detect" without also reporting the MDL. Reporting "non-detect" without also including the MDL will be considered failure to report, which is a violation of this permit.

C. SPECIAL CONDITIONS (CONTINUED)

(c) For the daily maximum, the facility shall report the highest value; if the highest value was a non-detect, use the less than "<" symbol and the laboratory's highest method detection limit (MDL) or the highest reporting limit (RL); whichever is higher (e.g. <6).
(d) When calculating monthly averages, zero shall be used in place of any value(s) not detected. Where all data used in the average are below the MDL or RL, the highest MDL or RL shall be reported as "<#" for the average as indicated in item (c).

14. Failure to pay fees associated with this permit is a violation of the Missouri Clean Water Law (644.055 RSMo).

15. All records required by this permit may be maintained electronically per 432.255 RSMo. These records should be maintained in a searchable format.

16. Changes in Discharges of Toxic Pollutant.
In addition to the reporting requirements under 40 CFR 122.41, all existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Director per 40 CFR 122.42(a)(1) and (2) as soon as recognizing:
(a) An activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, 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;
(3) Five hundred micrograms per liter (500 µg/L) for 2,4-dinitrophenol and for 2-methyl-4, 6-dinitrophenol;
(4) One milligram per liter (1 mg/L) for antimony;
(5) Five (5) times the maximum concentration value reported for the pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or
(6) The notification level established by the Department in accordance with 40 CFR 122.44(f).
(b) Any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
(1) Five hundred micrograms per liter (500 µg/L);
(2) One milligram per liter (1 mg/L) for antimony;
(3) Ten (10) times the maximum concentration value reported for the pollutant in the permit application in accordance with 40 CFR 122.21(g)(7).
(4) The level established by the Director in accordance with 40 CFR 122.44(f).
(c) Authorization of new or expanded pollutant discharges may be required under a permit modification or renewal, and may require an antidegradation review.

17. This permit does not authorize the facility to accept, treat, or discharge wastewater from other sources unless explicitly authorized herein. If the facility would like to accept, treat, or discharge wastewater from another activity or facility, the permit must be modified to include external wastewater pollutant sources in the permit.

18. Renewal Application Requirements.
(a) This facility shall submit an appropriate and complete application to the Department no less than 180 days prior to the expiration date listed on page 1 of the permit.
(b) Application materials shall include complete Form A, and Form C, and Form D. If the form names have changed, the facility should ensure they are submitting the correct forms as required by regulation.
(c) Sampling for all parameters on Form D is required by law for all process wastewater at this facility.
(d) The facility may use the electronic submission system to submit the application to the Program, if available.

D. LAND DISTURBANCE

The permittee will not be required to procure a separate general permit (MO-RA000000) for land disturbance activities which discharge through outfalls authorized in this permit. If land disturbance activities discharge to any location other than through a permitted outfall, a separate MORA general permit is required. The general permit does not cover disturbance of contaminated soils, so a modification of this site specific permit may be required. For land disturbance activities which discharge through outfalls authorized in this permit, the permittee shall select, install, use, operate and maintain appropriate BMPs for the permitted site. The following manuals are acceptable resources for the selection of appropriate BMPs. *Developing Your Stormwater Pollution Prevention Plan: A Guide for Construction Sites*, (Document number EPA 833-R-06-004) published by the United States Environmental Protection Agency (USEPA) in May 2007. This manual as well as other information, including examples of construction SWPPPs, is available at the USEPA internet site at https://www3.epa.gov/npdes/pubs/industrial_swppp_guide.pdf; and the latest version of *Protecting Water Quality: A field guide to erosion, sediment and stormwater best management practices for development sites in Missouri*, published by the Missouri Department of Natural Resources. This manual is available on the Department's internet site as: http://www.dnr.mo.gov/env/wpp/wpcp-guide.htm.

E. NOTICE OF RIGHT TO APPEAL

If you were adversely affected by this decision, you may be entitled to pursue an appeal before the administrative hearing commission (AHC) pursuant to 621.250 and 644.051.6 RSMo. To appeal, you must file a petition with the AHC within thirty days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed; if it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC. Any appeal should be directed to:

Administrative Hearing Commission
U.S. Post Office Building, Third Floor
131 West High Street, P.O. Box 1557
Jefferson City, MO 65102-1557
Phone: 573-751-2422
Fax: 573-751-5018
Website: https://ahc.mo.gov

MISSOURI DEPARTMENT OF NATURAL RESOURCES
STATEMENT OF BASIS
MO-0001121
DOE RUN, GLOVER FACILITY

This Statement of Basis (Statement) gives pertinent information regarding modification(s) to the above listed operating permit. A Statement is not an enforceable part of a Missouri State Operating Permit.

Part I – Facility Information

Facility Type and Description: The facility currently employs up to 7 people acting as a material transfer station, transferring and temporarily storing lead, copper, or zinc concentrates and lead-acid batteries destined for recycling. Stormwater runoff from capped and vegetated slag piles on the site is now deemed non-contact, non-industrial and may be allowed to flow into area streams.

Outfall #001 is an internal monitoring point, the discharge from the extended aeration wastewater treatment plant (WWTF). It includes flows from employee hand washing and respirator wash and employee showers. This WWTF has a design population equivalent of 300 with a design flow of 30,000 gallons per day and an average flow of 1,400 gallons per day. The design sludge production is 6.0 dry tons per year, with sludge disposal via a contract hauler. The discharge from the plant then flows to outfall #003, the main wastewater treatment facility for metals treatment. Outfall #003 is a combination of stormwater, process water, and sanitary wastewater at what is known as the main wastewater treatment facility. All of these waters flow into the stormwater tanks of the main wastewater treatment facility. These tanks discharge in series to the 10.5 million gallon retention pond. Water in the retention pond is treated at the main wastewater treatment facility for discharge. The treatment process consists of pH adjustment with sodium hydroxide, sedimentation, clarification, filtration, and sludge thickening/dewatering. Total design flow into the retention pond is 638,000 gallons per day. Outfall #006 is an emergency discharge from the retention pond at the main wastewater treatment facility. The flow from this discharge is dependent on precipitation.

Part II – Modification Rationale

This operating permit is hereby modified to reflect the removal of E. Coli monitoring at Outfall #006. After issuance of the most recent Missouri State Operating Permit, which was effective on March 1, 2022, the facility experienced several overflow events, which triggered sampling requirements at Outfall #006. Tests for E. Coli by method SM 9223B require a very short hold time (6 hours). The overflows do not always occur during a time/day in which it is possible to get the sample to a lab within appropriate hold times. The hold times for every Outfall #006 overflow sample taken in the recreational season of 2022 have been exceeded.

The permit also requires that scheduled quarterly samples for E. Coli are taken from Outfall #003, the water treatment plant discharge. After reviewing the Outfall #003 results from 2020, 2021, and 2022 to date, and the recent Outfall #006 samples, it appears there is not a need to continue to sample the emergency overflows for E. Coli. Results have consistently been below the permit limits for Outfall #003 at both Outfall #003 and Outfall #006.

No other changes were made at this time.

PART III – EFFLUENT LIMIT DETERMINATIONS

OUTFALL #006 – EMERGENCY SPILLWAY

EFFLUENT LIMITATIONS TABLE:

PARAMETERS	UNIT	DAILY MAXIMUM LIMIT	BENCH-MARK	PREVIOUS PERMIT LIMITS	MINIMUM SAMPLING FREQUENCY	REPORTING FREQUENCY	SAMPLE TYPE
PHYSICAL							
FLOW	MGD	*	-	*/*	ONCE/DAY	ONCE/QUARTER	24 HR. ESTIMATE
PRECIPITATION	inches	*	-	NEW	ONCE/DAY	ONCE/QUARTER	24 HR. TOTAL
CONVENTIONAL							
CHLORINE, TOTAL RESIDUAL	µg/L	19	-	NEW	ONCE/DAY	ONCE/QUARTER	GRAB
E. COLI	REMOVED						
pH †	SU	6.5-9.0	-	*/*	ONCE/DAY	ONCE/QUARTER	GRAB
TSS	mg/L	*	-	*/*	ONCE/DAY	ONCE/QUARTER	GRAB
METALS							
CADMIUM, TR	µg/L	11.7	-	*/*	ONCE/DAY	ONCE/QUARTER	GRAB
COPPER, TR	µg/L	32.2	-	*/*	ONCE/DAY	ONCE/QUARTER	GRAB
LEAD, TR	µg/L	373	-	*/*	ONCE/DAY	ONCE/QUARTER	GRAB
MERCURY, TR	µg/L	*	-	*/*	ONCE/DAY	ONCE/QUARTER	GRAB
SELENIUM, TR	µg/L	*	-	NEW	ONCE/DAY	ONCE/QUARTER	GRAB
THALLIUM, TR	µg/L	*	-	NEW	ONCE/DAY	ONCE/QUARTER	GRAB
ZINC, TR	µg/L	*	-	*/*	ONCE/DAY	ONCE/QUARTER	GRAB
NUTRIENTS							
AMMONIA AS N	mg/L	*	*	NEW	ONCE/DAY	ONCE/QUARTER	GRAB
OTHER							
CHLORIDE	mg/L	*	-	NEW	ONCE/DAY	ONCE/QUARTER	GRAB
SULFATE	mg/L	*	-	NEW	ONCE/DAY	ONCE/QUARTER	GRAB
CHLORIDE + SULFATE	mg/L	1000	-	NEW	ONCE/DAY	ONCE/QUARTER	GRAB

* monitoring and reporting requirement only
† report the minimum and maximum pH values; pH is not to be averaged
new parameter not established in previous state operating permit
TR total recoverable

DERIVATION AND DISCUSSION OF LIMITS:

PHYSICAL:

Flow
In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each outfall is needed to ensure compliance with permitted effluent limitations. If the facility is unable to obtain effluent flow, then it is the responsibility of the facility to inform the Department, which may require the submittal of an operating permit modification. The facility will report the total flow in millions of gallons per day (MGD), monthly/quarterly monitoring continued from previous permit. The facility reported from 0.0011 to 0.268 MGD in the last permit term.

Precipitation
The facility shall report the precipitation occurring which caused the discharge, should a discharge occur.

CONVENTIONAL:

Chlorine, Total Residual (TRC)
The RP analysis for outfall #003 has found reasonable potential to contribute to pollution of waters of the state for this parameter. The water quality based effluent limitations are calculated below.

Acute WLA: Ce = ((0.495113152 cfsDF + 0 cfsZID) * 19 – (0 cfsZID * 0 background)) / 0.495113152 cfsDF = 19

Escherichia coli (E. coli)
Removed per 2022 Modification.

pH
6.5 to 9.0 SU. The Water Quality Standard at 10 CSR 20-7.031(5)(e) states water contaminants shall not cause pH to be outside the range of 6.5 to 9.0 standard pH units. Technology based limitations are less stringent; WQS are implemented as this facility adjusts the pH of the wastewater during treatment in the system

Total Suspended Solids (TSS)
Daily monitoring only when a chronic or catastrophic storm event occurs. Discharge permissible only under circumstances listed in special condition #2.

METALS:

Cadmium, Total Recoverable.
The RP analysis for outfall #003 has found reasonable potential to contribute to pollution of waters of the state for this parameter. The categorical effluent limit in 40 CFR 440.102(b) requires a cadmium maximum daily concentration of 0.10 mg/L (100 µg/L). The water quality based effluent limitations are calculated below, and are more protective than the categorical effluent limits. (Table A2 of 10 CSR 20-7, pg.34)

Acute AQL: e^(1.0166 * ln213 – 3.062490) * (1.136672 – ln213 *0.041838) = 9.935 µg/L [at hardness 213]
TR Conversion: AQL/Translator = 9.935 / 0.85 = 11.688 [at hardness 213]

Copper, Total Recoverable.
The RP analysis for outfall #003 has found reasonable potential to contribute to pollution of waters of the state for this parameter. The categorical effluent limit in 40 CFR 440.102(b) requires a copper maximum daily concentration of 0.30 mg/L (300 µg/L). The water quality based effluent limitations are calculated below, and are more protective than the categorical effluent limits. (Table A2 of 10 CSR 20-7, pg.34)

Acute AQL: e^(0.9422 * ln213 – 1.700300) * (0.960) = 27.393 µg/L [at hardness 213]
TR Conversion: AQL/Translator = 27.393 / 0.85 = 32.227 [at hardness 213]

Lead, Total Recoverable.
The RP analysis for outfall #003 has found reasonable potential to contribute to pollution of waters of the state for this parameter. The categorical effluent limit in 40 CFR 440.102(b) requires a copper maximum daily concentration of 0.60 mg/L (600 µg/L). The water quality based effluent limitations are calculated below, and are more protective than the categorical effluent limits. (Table A2 of 10 CSR 20-7, pg.34)

Acute AQL: e^(1.273 * ln213 – 1.460448) * (1.46203 – ln213 * 0.145712) = 145.478 µg/L [at hardness 213]
TR Conversion: AQL/Translator = 145.478 / 0.39 = 373.022 [at hardness 213]

Mercury, Total Recoverable.
Daily monitoring only when a chronic or catastrophic storm event occurs. Discharge permissible only under circumstances listed in special condition #2.

Selenium, Total Recoverable
Daily monitoring only when a chronic or catastrophic storm event occurs. Discharge permissible only under circumstances listed in special condition #2.

Thallium, Total Recoverable
Daily monitoring only when a chronic or catastrophic storm event occurs. Discharge permissible only under circumstances listed in special condition #2.

Zinc, Total Recoverable.
Daily monitoring only when a chronic or catastrophic storm event occurs. Discharge permissible only under circumstances listed in special condition #2.

OTHER:

Chloride
Daily monitoring only when a chronic or catastrophic storm event occurs. Discharge permissible only under circumstances listed in special condition #2.

Sulfate
Daily monitoring only when a chronic or catastrophic storm event occurs. Discharge permissible only under circumstances listed in special condition #2.

Chloride Plus Sulfate
The RP analysis for outfall #003 has found reasonable potential to contribute to pollution of waters of the state for this parameter. The water quality based effluent limitations are calculated below.

Acute WLA: Ce = ((0.495 cfsDF + 0 cfsZID) * 1000 – (0 cfsZID * 0 background)) / 0.495 cfsDF = 1000

Part IV – 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.

PUBLIC NOTICE:
The Department shall give public notice that a draft permit has been prepared and its issuance is pending. Additionally, public notice will be issued if a public hearing is to be held because of a significant degree of interest in and water quality concerns related to a draft permit. No public notice is required when a request for a permit modification or termination is denied; however, the requester and permittee must be notified of the denial in writing. The Department must issue public notice of a pending operating permit or of a new or reissued statewide general permit. The public comment period is the length of time not less than 30 days following the date of the public notice which interested persons may submit written comments about the proposed permit. For persons wanting to submit comments regarding this proposed operating permit, then please refer to the Public Notice page located at the front of this draft operating permit. The Public Notice page gives direction on how and where to submit appropriate comments.

✓ The Public Notice period for this operating permit starts January 27, 2023 and ends February 27, 2023.

DATE OF STATEMENT OF BASIS: DECEMBER 27, 2022

COMPLETED BY:

KYLE O'ROURKE, ENVIRONMENTAL SPECIALIST
MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
OPERATING PERMITS SECTION - DOMESTIC WASTEWATER UNIT
(573) 526-1289
Kyle.O'Rourke@dnr.mo.gov

MISSOURI DEPARTMENT OF NATURAL RESOURCES
FACT SHEET
FOR THE PURPOSE OF RENEWAL OF
MO-0001121
DOE RUN, GLOVER FACILITY

The Federal Water Pollution Control Act (Clean Water Act (CWA) §402 Public Law 92-500 as amended) established the National Pollutant Discharge Elimination System (NPDES) permit program. This program regulates the discharge of pollutants from point sources into the waters of the United States, and the release of stormwater from certain point sources. All such discharges are unlawful without a permit (§301 of the Clean Water Act). After a permit is obtained, a discharge not in compliance with all permit terms and conditions is unlawful. Missouri State Operating Permits (MSOPs) are issued by the Director of the Missouri Department of Natural Resources (Department) under an approved program, operating in accordance with federal and state laws (Federal Clean Water Act and Missouri Clean Water Law 644 RSMo as amended). MSOPs may also cover underground injection, non-discharging facilities, and land application facilities. Permits are issued for a period of five (5) years unless otherwise specified for less.

As per [40 CFR Part 124.8(a)] and [10 CSR 20-6.020(1)(A)2.] a factsheet shall be prepared to give pertinent information regarding applicable regulations, rationale for the development of limitations and conditions, and the public participation process for the Missouri State Operating Permit (MSOP or permit) listed below. A factsheet is not an enforceable part of a permit.

PART I. FACILITY INFORMATION

Facility Type: Industrial: Major, Primary, Categorical; < 1 MGD
SIC Code(s): 1031
NAICS Code(s): 212230
Application Date: 03/31/2021
Modification Date: 04/01/2021
Expiration Date: 09/30/2021
Last Inspection: 12/08/2020

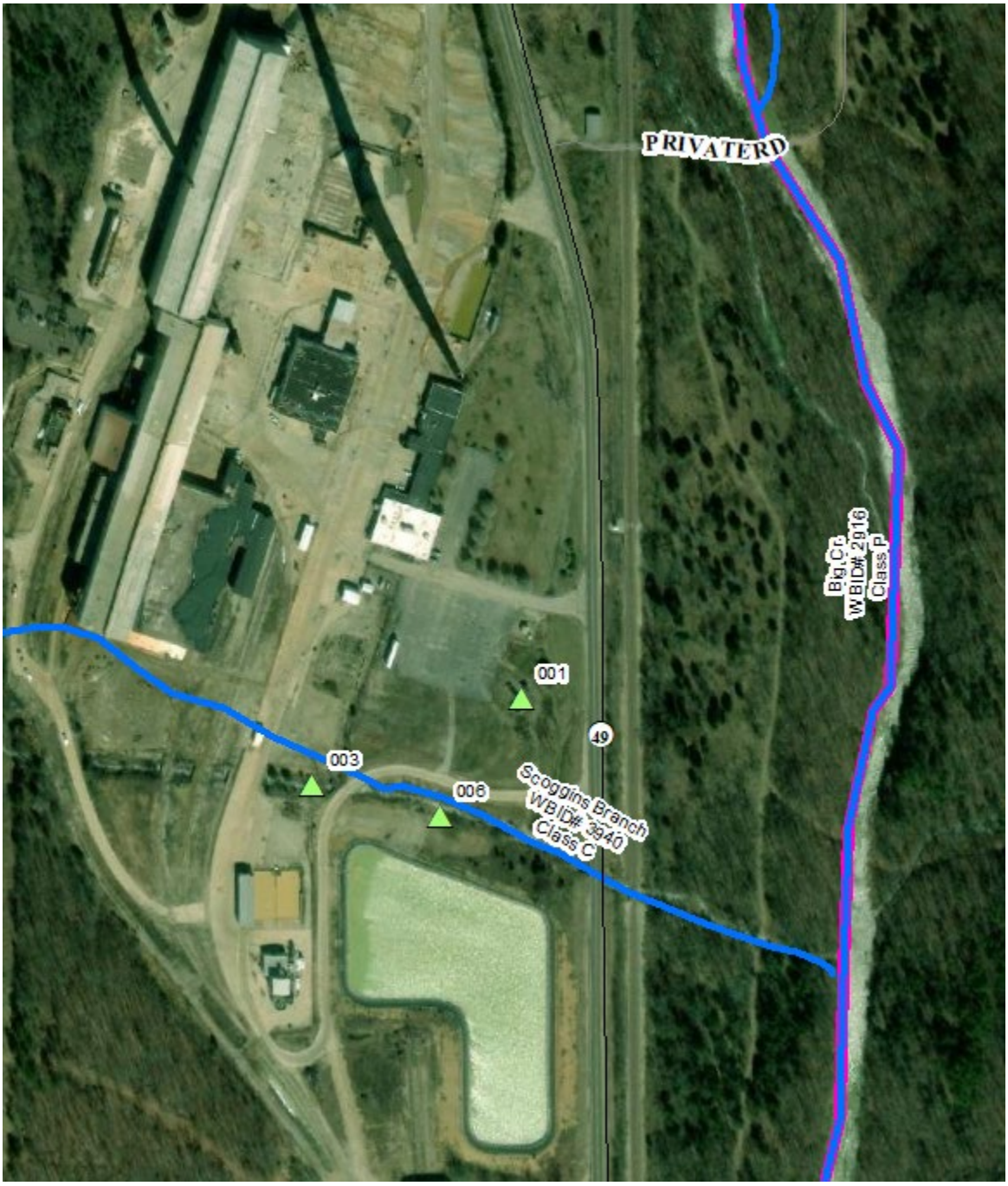
FACILITY DESCRIPTION:
The facility currently employs up to 7 people acting as a material transfer station, transferring and temporarily storing lead, copper, or zinc concentrates and lead-acid batteries destined for recycling. Stormwater runoff from capped and vegetated slag piles on the site is now deemed non-contact, non-industrial and may be allowed to flow into area streams.

Outfall #001 is an internal monitoring point, the discharge from the extended aeration wastewater treatment plant (WWTF). It includes flows from employee hand washing and respirator wash and employee showers. This WWTF has a design population equivalent of 300 with a design flow of 30,000 gallons per day and an average flow of 1,400 gallons per day. The design sludge production is 6.0 dry tons per year, with sludge disposal via a contract hauler. The discharge from the plant then flows to outfall #003, the main wastewater treatment facility for metals treatment. Outfall #003 is a combination of stormwater, process water, and sanitary wastewater at what is known as the main wastewater treatment facility. All of these water flow into the stormwater tanks of the main wastewater treatment facility. These tanks discharge in series to the 10.5 million gallon retention pond. Water in the retention pond is treated at the main wastewater treatment facility for discharge. The treatment process consists of pH adjustment with sodium hydroxide, sedimentation, clarification, filtration, and sludge thickening/dewatering. Total design flow into the retention pond is 638,000 gallons per day. Outfall #006 is an emergency discharge from the retention pond at the main wastewater treatment facility. The flow from this discharge is dependent on precipitation.

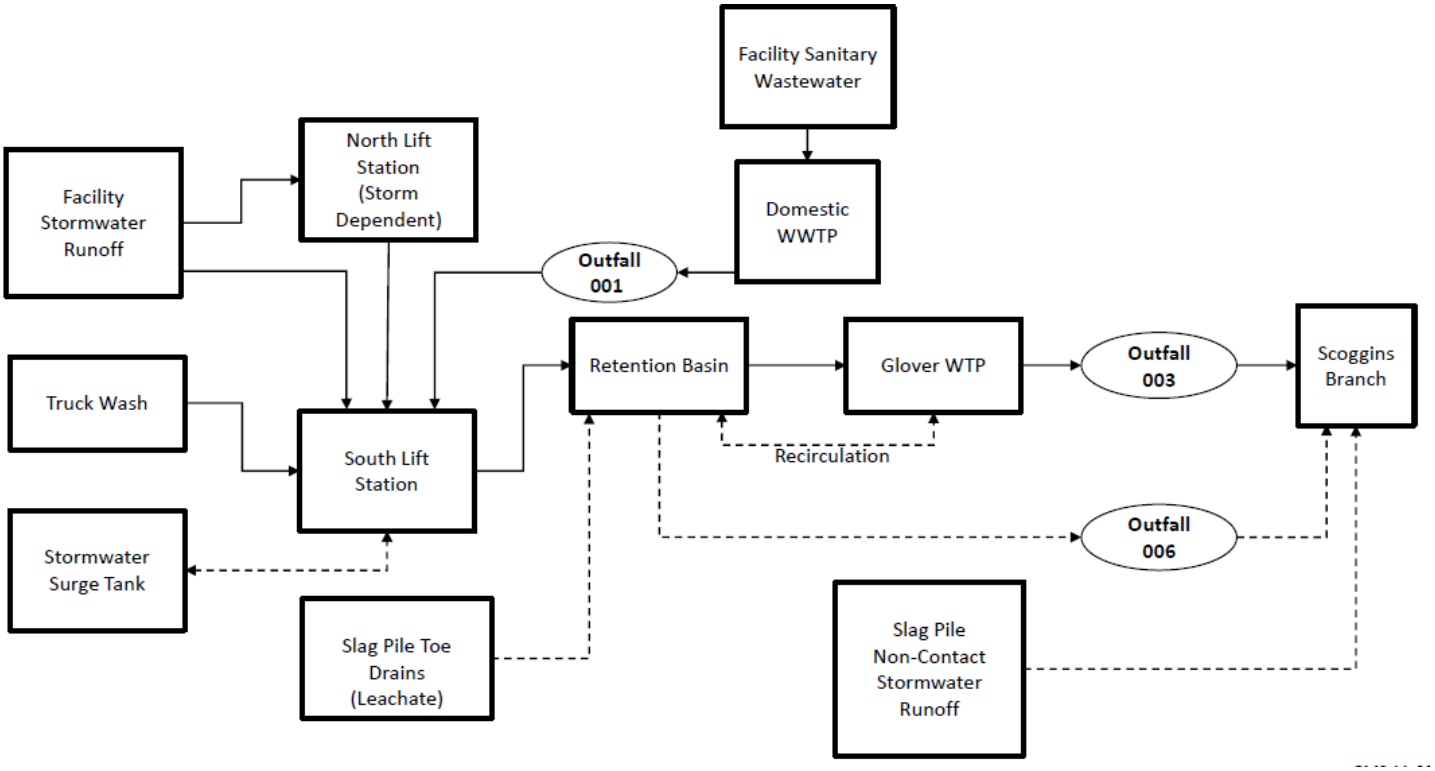
PERMITTED FEATURES TABLE:

OUTFALL	AVERAGE FLOW	DESIGN FLOW	TREATMENT LEVEL	EFFLUENT TYPE
#001	0.02 MGD	0.03 MGD	Aeration/Disinfection	Domestic Wastewater (Internal Monitoring Point)
#003	0.22 MGD	0.32 MGD	Precipitation, Coagulation, Flocculation, Filtration	Process wastewater, stormwater, truck wash water, domestic wastewater from outfall #001
#006	0 MGD	0 MGD	Physical Settling	Emergency Spillway

FACILITY MAP:



WATER FLOW DIAGRAM:



FACILITY PERFORMANCE HISTORY & COMMENTS:
The electronic discharge monitoring reports were reviewed for the last permit term. Exceedances were noted for the following parameters. Cadmium had one exceedance of the daily maximum limit of 2.7 µg/L and three exceedances of the monthly average limit of 1.1 µg/L. Lead had three exceedances of the daily maximum limit of 20.8 µg/L and seven exceedances of the monthly average limit of 7.9 µg/L. pH limits were exceeded once in February of 2021 with a pH of 9.06 SU. Thallium had one exceedance of the monthly average limit of 6.3 µg/L. Total Suspended Solids had one exceedance of the monthly average limit of 20 mg/L. The acute WET test limit of 1 TU was exceeded twice, once during a quarterly test and once during accelerated testing. Zinc had one exceedance of the daily maximum limit of 242.2 µg/L while also exceeding the monthly average limit of 72.5 µg/L.

The facility experienced an upset condition on March 4, 2021 as a result of an inoperable solids wasting line to the filter press and related clarifier bed turbulence (reported to DNR in a March 22, 2021 email). An effluent sample at Outfall 003 was collected on March 4th during this upset condition resulting in exceedances of permit limits. Effluent sample results collected the morning of March 5th at Outfall 003 were within permit limitations. The effluent sample on March 4th is considered an outlier and not representative of typical operating conditions.

CONTINUING AUTHORITY:
The Missouri Secretary of State continuing authority charter number for this facility is F00232995; this number was verified by the permit writer to be associated with the facility and precisely matches the continuing authority reported by the facility. The charter number expires

OTHER ENVIRONMENTAL PERMITS:
In accordance with 40 CFR 122.21(f)(6), the facility reported other environmental permits currently held by this facility. This facility has the following permits:
USACE Permit – MVS-2018-676
MMWM Permit – MM-003T
Land Disturbance Permit – MORA17110
RCRA Haz-Waste EPA Generator ID – MOD048833875

PART II. RECEIVING WATERBODY INFORMATION

RECEIVING WATERBODY TABLE:

OUTFALL	WATERBODY NAME	CLASS	WBID	DESIGNATED USES	DISTANCE TO SEGMENT	12-DIGIT HUC
#003 & #006	Scoggins Branch	C	3940	GEN, HHP, IRR, LWW, SCR, WBC-B, WWH (ALP)	0.0 mi	08020202-0301 Upper St. Francis
#003 and #006	Big Creek	P	2916	GEN, HHP, IRR, LWW, SCR, WBC-A, WWH (ALP)	0.3 mi	

Classes are representations of hydrologic flow volume or lake basin size as defined in 10 CSR 20-7.031(1)(F). L1: Lakes with drinking water supply - wastewater discharges are not permitted to occur to L1 watersheds per 10 CSR 20-7.015(3)(C); L2: major reservoirs; L3: all other public and private lakes; P: permanent streams; C: streams which may cease flow in dry periods but maintain pools supporting aquatic life; E: streams which do not maintain surface flow; and W: wetlands. Losing streams are defined in 10 CSR 20-7.031(1)(O) and are designated on the losing stream dataset or determined by the Department to lose 30% or more of flow to the subsurface.

WBID: Waterbody Identification Number: Missouri Use Designation Dataset per 10 CSR 20-7.031(1)(Q) and (S) as 100K Extant-Remaining Streams or newer; data can be found as an ArcGIS shapefile on MSDIS at ftp://msdis.missouri.edu/pub/Inland_Water_Resources/MO_2014_WQS_Stream_Classifications_and_Use_shp.zip; New C streams described on the dataset per 10 CSR 20-7.031(2)(A)3 as 100K Extent Remaining Streams.

HUC: Hydrologic Unit Code https://water.usgs.gov/GIS/huc.html

Designated Uses:
10 CSR 20-7.031(1)(C)1: **ALP** – Aquatic Life Protection (formerly AQL); current uses are defined to ensure the protection and propagation of fish shellfish and wildlife, further subcategorized as: WWH – Warm Water Habitat; CLH – Cool Water Habitat; CDH – Cold Water Habitat; EAH – Ephemeral Aquatic Habitat; MAH – Modified Aquatic Habitat; LAH – Limited Aquatic Habitat. This permit uses ALP effluent limitations in 10 CSR 20-7.031 Table A1-B3 for all habitat designations unless otherwise specified.
10 CSR 20-7.031(1)(C)2: Recreation in and on the water
WBC is Whole Body Contact recreation where the entire body is capable of being submerged;
WBC-A – whole body contact recreation supporting swimming uses and has public access;
WBC-B – whole body contact recreation not included in WBC-A;
SCR = Secondary Contact Recreation (like fishing, wading, and boating)
10 CSR 20-7.031(1)(C)3 to 7:
HHP (formerly HHF) – Human Health Protection as it relates to the consumption of fish and drinking of water;
IRR – irrigation for use on crops utilized for human or livestock consumption, includes aquifers per 10 CSR 20-7.031(6)(A);
LWW – Livestock and Wildlife Watering (current narrative use is defined as LWP = Livestock and Wildlife Protection), includes aquifers per 10 CSR 20-7.031(6)(A);
DWS – Drinking Water Supply, includes aquifers per 10 CSR 20-7.031(6)(A);
IND – industrial water supply
10 CSR 20-7.031(1)(C)8 to 11: Wetlands (10 CSR 20-7.031 Tables A1-B3) do not have corresponding habitat use criteria for these defined uses: WSA – storm- and flood-water storage and attenuation; WHP – habitat for resident and migratory wildlife species; WRC – recreational, cultural, educational, scientific, and natural aesthetic values and uses; WHC – hydrologic cycle maintenance.
10 CSR 20-7.015(7) and 10 CSR 20-7.031(6): **GRW** = Groundwater

Other Applicable Criteria:
10 CSR 20-7.031(4): **GEN** – general criteria; acute toxicity criteria applicable to all waters even those lacking designated uses
10 CSR 20-7.031(5)(N)6: **NNC** – lake numeric nutrient criteria apply
Water Quality Standards Search https://apps5.mo.gov/mocwis_public/waterQualityStandardsSearch.do

WATERS OF THE STATE DESIGNATIONS:

Waters of the state are divided into seven categories per 10 CSR 20-7.015(1)(B)1 through 7. The applicable water of the state category is listed below. Missouri's technology-based effluent regulations are found in [10 CSR 20-7.015] and are implemented in 10 CSR 20-7.015(2) through (8). When implementing technology regulations, considerations are made for the facility type, discharge type, and category of waters of the state. Effluent limitations may not be applicable to certain waters of the state, facility type, or discharge type. In these cases, effluent limitations may be based on a best professional judgment evaluation. The best professional judgment evaluation will take site specific conditions into consideration; including facility type, the receiving water body classification, and type of discharge. Stormwater discharges and land application sites are not directly subject to limitations found in 10 CSR 20-7.015, but may be subject to limitations determined by the best professional judgment evaluation. Effluent limitation derivations are discussed in PART IV: EFFLUENTS LIMITS DETERMINATIONS.

✓ All other waters; identified at 10 CSR 20-7.015(B)7 and 10 CSR 20-7.015(8)

EXISTING WATER QUALITY & IMPAIRMENTS:

The receiving waterbody(s) segment(s), upstream, and downstream confluence water quality was reviewed. The USGS https://waterdata.usgs.gov/nwis/sw or the Department's quality data database was reviewed. https://apps5.mo.gov/mocwis_public/wqa/waterbodySearch.do and https://apps5.mo.gov/wqa/ The Department's quality data database was reviewed. https://apps5.mo.gov/mocwis_public/wqa/waterbodySearch.do and https://apps5.mo.gov/wqa/ Impaired waterbodies which may be impacted by discharges from this facility were determined. Impairments include waterbodies on the 305(b) or 303(d) list and those waterbodies or watersheds under a TMDL. https://dnr.mo.gov/water/what-were-doing/water-planning/quality-standards-impaired-waters-total-maximum-daily-loads/tmdls Section 303(d) of the federal Clean Water Act requires each state identify waters not meeting water quality standards and for which adequate water pollution controls have not been required. https://dnr.mo.gov/water/what-were-doing/water-planning/quality-standards-impaired-waters-total-maximum-daily-loads/impaired-waters 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 impaired waters not addressed by normal water pollution control programs. A TMDL is a calculation of the maximum amount of a given pollutant a water body can absorb before its water quality is affected; hence, the purpose of a TMDL is to determine the pollutant loading a specific waterbody can assimilate without exceeding water quality standards. If a water body is determined to be impaired as listed on the §303(d) list, then a watershed management plan or TMDL for that watershed may be developed. The TMDL shall include the WLA calculation.

- ✓ A TMDL was developed by the Missouri Department of Natural Resources to address dissolved cadmium, lead, and zinc for Big Creek (WBID # 2916) and was approved by U.S. EPA on February 17, 2006.
- ✓ This facility is considered to be the source of the above listed pollutants and is considered to contribute to the impairment. The Big Creek TMDL prescribes the following dissolved metal limits:

METAL	TMDL CHRONIC EFFLUENT CONCENTRATION
Cadmium, Dissolved	0.5 µg/L
Lead, Dissolved	5.0 µg/L
Zinc, Dissolved	213 µg/L

https://dnr.mo.gov/env/wpp/tmdl/docs/2916-big-ck-tmdl.pdf

WATERBODY MONITORING REQUIREMENTS:

- ✓ No waterbody monitoring requirements are recommended at this time.

WATERBODY MIXING CONSIDERATIONS:

For all wastewater outfalls, mixing zone and zone of initial dilution are not allowed per 10 CSR 20-7.031(5)(A)4.B.(I)(a) and (b), as the base stream flow does not provide dilution to the effluent.

PART III. RATIONALE AND DERIVATION OF PERMIT CONDITIONS

ANTIBACKSLIDING:
Federal Regulations [CWA §303(d)(4); CWA §402(c); 40 CFR Part 122.44(l)] require a reissued permit to be as stringent as the previous permit with some exceptions. Backsliding (a less stringent permit limitation) is only allowed under certain conditions.

- ✓ Limitations in this operating permit reissuance conform to the anti-backsliding provisions of CWA §402(o), and 40 CFR 122.44.
  - ✓ 40 CFR 122.44(l)(i)(B)(1); information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) which would have justified the application of a less stringent effluent limitation.
    - Daily maximum effluent limitations for total residual chlorine were revised based on water quality standards. The raised effluent limitations provided in this permit are expected to remain protective of the receiving stream's uses to be maintained.
    - The RPA showed no reasonable potential for zinc to cause or contribute to exceedances of water quality standards. TMDL limits are more protective than the categorical effluent limits and shall be implemented in this permit.

ANTIDEGRADATION REVIEW:
Process water discharges with new, altered, or expanding flows, the Department is to document, by means of antidegradation review, if the use of a water body's available assimilative capacity is justified. In accordance with Missouri's water quality regulations for antidegradation [10 CSR 20-7.031(3)], degradation may be justified by documenting the socio-economic importance of a discharge after determining the necessity of the discharge. Facilities must submit the antidegradation review request to the Department prior to establishing, altering, or expanding discharges. See https://dnr.mo.gov/document-search/antidegradation-implementation-procedure
Per [10 CSR 20-7.015(4)(A)], new discharges to losing streams shall be permitted only after other alternatives including land application, discharges to a gaining stream, or 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 has not submitted information proposing expanded or altered process water discharge; no further degradation proposed therefore no further review necessary.

BEST MANAGEMENT PRACTICES:
Minimum site-wide best management practices are established in this permit to ensure all facilities are managing their sites equally to protect waters of the state from certain activities which could cause negative effects in receiving water bodies. While not all sites require a SWPPP because the SIC codes are specifically exempted in 40 CFR 122.26(b)(14), these best management practices are not specifically included for stormwater purposes. These practices are minimum requirements for all industrial sites to protect waters of the state. If the minimum best management practices are not followed, the facility may violate general criteria [10 CSR 20-7.031(4)]. Statutes are applicable to all permitted facilities in the state, therefore pollutants cannot be released unless in accordance with 644.011 and 644.016 (17) RSMo.

COST ANALYSIS FOR COMPLIANCE (CAFCOM):
Pursuant to 644.145 RSMo, when incorporating a new requirement for discharges from publicly owned facilities, or when enforcing provisions of this chapter or the CWA, pertaining to any portion of a publicly owned facility, the Department shall make a finding of affordability on the costs to be incurred and the impact of any rate changes on ratepayers upon which to base such permits and decisions, to the extent allowable under this chapter and the CWA. This process is completed through a CAFCom. Permits not including new requirements may be deemed affordable.

- ✓ The Department is not required to complete a cost analysis for compliance because the facility is not publicly owned.

CHANGES IN DISCHARGES OF TOXIC POLLUTANT:
This special condition reiterates the federal rules found in 40 CFR 122.44(f) for technology treatments and 122.42(a)(1) for all other toxic substances. In these rules, the facility is required to report changes in amounts of toxic substances discharged. Toxic substances are defined in 40 CFR 122.2 as "…any pollutant listed as toxic under section 307(a)(1)" or, in the case of "sludge use or disposal practices," any pollutant identified in regulations implementing section 405(d) of the CWA." Section 307 of the clean water act then refers to those parameters listed in 40 CFR 401.15 and any other toxic parameter the Department determines is applicable for reporting under these rules in the permit. The facility should also consider any other toxic pollutant in the discharge as reportable under this condition and must report all increases to the Department as soon as discovered in the effluent. The Department may open the permit to implement any required effluent limits pursuant to CWA §402(k) where sufficient data was not supplied within the application but was supplied at a later date by either the permittee or other resource determined to be representative of the discharge, such as sampling by Department personnel.

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 facility is not currently under Water Protection Program enforcement action.

DISCHARGE MONITORING REPORTING – ELECTRONIC (EDMR) SUBMISSION SYSTEM:
The U.S. Environmental Protection Agency (EPA) promulgated a final rule on October 22, 2015, to modernize Clean Water Act reporting for municipalities, industries, and other facilities by requiring electronic data reporting. To comply with the federal rule, the Department is requiring all facilities to submit discharge monitoring data and reports online. To review historic data, the Department's database has a publically facing search engine, available at https://apps5.mo.gov/mocwis_public/dmrDisclaimer.do

Registration and other information regarding MoGEM can be found at https://dnr.mo.gov/mogem. Information about the eDMR system can be found at https://dnr.mo.gov/env/wpp/edmr.htm.The first user shall register as an Organization Official and the association to the facility must be approved by the Department. To access the eDMR system, use: https://apps5.mo.gov/mogems/welcome.action For assistance using the eDMR system, contact edmr@dnr.mo.gov or call 855-789-3889 or 573-526-2082. To assist the facility in entering data into the eDMR system, the permit describes limit sets designators in each table in Part A of the permit. Facility personnel will use these identifiers to ensure data entry is being completed appropriately. For example, M for monthly, Q for quarterly, A for annual, and others as identified.

Per 40 CFR 127.15 and 127.24, permitted facilities may request a temporary waiver for up to 5 years or a permanent waiver from electronic reporting from the Department. To obtain an electronic reporting waiver, a facility must first submit an eDMR Waiver Request form available on the Department's web page. A request must be made for each operating permit. An approved waiver is not transferable. The Department must review and notify the facility within 120 calendar days of receipt if the waiver request has been approved or rejected [40 CFR 124.27(a)]. During the Department review period as well as after a waiver is granted, the facility must continue submitting a hard-copy of any reports required by their permit. The Department will enter data submitted in hard-copy from those facilities allowed to do so, and electronically submit the data to the EPA on behalf of the facility.

✓ This facility has not been granted a waiver, nor would this facility qualify for a waiver.

DOMESTIC WASTEWATER, SLUDGE, AND BIOSOLIDS:
Domestic wastewater is defined as wastewater originating primarily from the sanitary conveyances of bathrooms and kitchens. Domestic wastewater excludes stormwater, wash water, animal waste, process and ancillary wastewater.

✓ Applicable; this facility uses an extended aeration plant which the Department of Natural Resources must authorize in accordance with 19 CSR 20-3.060(6)(D) as Department of Health and Senior Services rules only provide for the use of a lagoon for single residences.

Sewage sludge is solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a treatment works; including but not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment process; and material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screening generated during preliminary treatment of domestic sewage in a treatment works. Biosolids are solid materials resulting from domestic wastewater treatment meeting federal and state criteria for productive use (i.e. fertilizer) and after having pathogens removed.
Additional information: http://extension.missouri.edu/main/DisplayCategory.aspx?C=74 (WQ422 through WQ449).

✓ Not applicable, the facility holds all domestic sludge in a tank until a third party removes it. This also applies to facilities using chemical toilets.

EFFLUENT LIMITATIONS:
Two general types of effluent limitations, technology-based effluent limits (TBELs) and water quality based effluent limits (WQBELs) are reviewed. Permits are required to establish the most stringent or most protective limit. If the TBEL or WQBEL does not provide adequate protection for the receiving water, then the other must be used per 10 CSR 20-7.015(9)(A) or 40 CFR 122.44(b)(1). See WASTELOAD ALLOCATION below which describes how WQBEL wasteload allowances are established under the permit. Effluent limitations derived and established for this permit are based on current operations of the facility. Any flow through the outfall is considered a discharge and must be sampled and reported as provided in the permit. Daily maximums and monthly averages are required per 40 CFR 122.45(d)(1) for continuous discharges (not from a POTW).

FEDERAL EFFLUENT LIMITATION GUIDELINES:
Effluent Limitation Guidelines, or ELGs, are found at 40 CFR 400-499. These are limitations established by the EPA based on the SIC code and the type of work a facility is conducting. Most ELGs are for process wastewater and some address stormwater. Effluent guidelines are not always established for every pollutant present in a point source discharge. In many instances, EPA promulgates effluent guidelines for an indicator pollutant. Industrial facilities complying with the effluent guidelines for the indicator pollutant will also control other pollutants (e.g. pollutants with a similar chemical structure). For example, EPA may choose to regulate only one of several metals present in the effluent from an industrial category, and compliance with the effluent guidelines will ensure similar metals present in the discharge are adequately controlled. All are technology based limitations which must be met by the applicable facility at all times. Should Reasonable Potential be established for any particular parameter, and water-quality derived effluent limits are more protective of the receiving water's quality, the WQS will be used as the limiting factor in accordance with 40 CFR 122.44(d) and 10 CSR 20-7.015(9)(A).

✓ The facility has an associated Effluent Limit Guideline (ELG) at 40 CFR 440J applicable to the wastewater discharge at this site, and is applied under 40 CFR 125.3(a). See Part IV: EFFLUENT LIMITS DETERMINATION. The current operations of the facility appropriate to 40 CFR 440J as the facility is technically considered a mill due to the concentrate transloading occurring defined at 40 CFR 440.132(f). "…A mill includes all ancillary operations and structures necessary to clean, concentrate, or otherwise process metal ore, such as ore and gangue storage areas and loading facilities." The permittee is not operating the smelter at this facility and this permit does not authorize smelter operations.

§440.102 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology (BPT).

✓ 40 CFR 440.102(b) The concentration of pollutants discharged from mills which employ the froth flotation process alone or in conjunction with other processes, for the beneficiation of copper ores, lead ores, zinc ores, gold ores, or silver ores, or any combination of these ores shall not exceed:

EFFLUENT CHARACTERISTIC	EFFLUENT LIMITATIONS	
	MAXIMUM FOR ANY 1 DAY	AVERAGE OF DAILY VALUES FOR 30 CONSECUTIVE DAYS
pH	6.0 to 9.0 SU	6.0 to 9.0 SU
Total Suspended Solids	30 mg/L	20 mg/L

§440.103 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).

✓ 40 CFR 440.103(b) The concentration of pollutants discharged from mills that use the froth-flotation process alone, or in conjunction with other processes, for the beneficiation of copper, lead, zinc, gold, silver, or molybdenum ores or any combination of these ores shall not exceed:

EFFLUENT CHARACTERISTIC	EFFLUENT LIMITATIONS	
	MAXIMUM FOR ANY 1 DAY	AVERAGE OF DAILY VALUES FOR 30 CONSECUTIVE DAYS
Cd – cadmium	0.10 mg/L	0.05 mg/L
Cu – copper	0.30 mg/L	0.15 mg/L
Hg – mercury	0.002 mg/L	0.001 mg/L
Pb – lead	0.6 mg/L	0.3 mg/L
Zn – zinc	1.0 mg/L	0.5 mg/L

GENERAL CRITERIA CONSIDERATIONS:

In accordance with 40 CFR 122.44(d)(1), effluent limitations shall be placed into permits for pollutants determined to cause, have reasonable potential to cause, or to contribute to, an excursion above any water quality standard, including narrative water quality criteria. In order to comply with this regulation, the permit writer has completed a reasonable potential determination on whether discharges have reasonable potential to cause, or contribute to an excursion of the general criteria listed in 10 CSR 20-7.031(4). In instances where reasonable potential exists, the permit includes limitations to address the reasonable potential. In discharges where reasonable potential does not exist, the permit may include monitoring to later determine the discharge's potential to impact the narrative criteria. Additionally, 644.076.1 RSMo, as well as Part I §D – Administrative Requirements of Standard Conditions included in this permit state it shall be unlawful for any person to cause or allow any discharge of water contaminants from any water contaminant or point source located in Missouri in violation of §§644.006 to 644.141 of the Missouri Clean Water Law or any standard, rule, or regulation promulgated by the commission. See Part IV for specific determinations.

GROUNDWATER MONITORING:

Groundwater is a water of the state according to 644.016(27) RSMo, is subject to regulations at 10 CSR 20-7.015(7) and 10 CSR 20-7.031(6), and must be protected accordingly.

✓ This facility is not required to monitor groundwater for the water protection program.

LAND APPLICATION:

Land application, or surficial dispersion of wastewater and/or sludge, is performed by facilities as an alternative to discharging. Requirements for these types of operations are found in 10 CSR 20-6.015; authority to regulate these activities is from 644.026 RSMo.

✓ Not applicable; this permit does not authorize operation of a surficial land application system to disperse wastewater or sludge.

LAND DISTURBANCE:
Land disturbance, sometimes called construction activities, are actions which cause disturbance of the root layer or soil; these include clearing, grading, and excavating of the land. 40 CFR 122.26(b)(14) and 10 CSR 20-6.200(3) requires permit coverage for these activities. Coverage is not required for facilities when only providing maintenance of original line and grade, hydraulic capacity, or to continue the original purpose of the facility.

✓ Applicable; this permit provides coverage for land disturbance activities. These activities have SWPPP requirements and may be combined with the standard site SWPPP. Land disturbance BMPs should be designed to control the expected peak discharges, the University of Missouri has design storm events for the 25 year 24 hour storm; these can be found at: http://ag3.agebb.missouri.edu/design_storm/comparison_reports/20191117_25yr_24hr_comparison_table.htm; to calculate peak discharges, the website https://www.lmnoeng.com/Hydrology/rational.php has the rational equation to calculate expected discharge volume from the peak storm events.

MAJOR WATER USER:
Any surface or groundwater user with a water source and the equipment necessary to withdraw or divert 100,000 gallons (or 70 gallons per minute) or more per day combined from all sources from any stream, river, lake, well, spring, or other water source is considered a major water user in Missouri. https://dnr.mo.gov/water/business-industry-other-entities/reporting/major-water-users All major water users are required by law to register water use annually (Missouri Revised Statues Chapter 256.400 Geology, Water Resources and Geodetic Survey Section). https://dnr.mo.gov/document-search/frequently-asked-major-water-user-questions-pub2236/pub2236

✓ Applicable; this facility is a major water user and is registered with the state.

MODIFICATION REQUESTS:
Facilities have the option to request a permit modification from the Department at any time under RSMo 644.051.9. Requests must be submitted to the Water Protection Program with the appropriate forms and fees paid per 10 CSR 20-6.011. It is recommended facilities contact the permit writer early so the correct forms and fees are submitted, and the modification request can be completed in a timely fashion. Minor modifications, found in 40 CFR 122.63, are processed without the need for a public comment period. Major modifications, those requests not explicitly fitting under 40 CFR 122.63, do require a public notice period. Modifications to permits should be completed when: a new pollutant is found in the discharge; operational or functional changes occur which affect the technology, function, or outcome of treatment; the facility desires alternate numeric benchmarks; or other changes are needed to the permit.

Modifications are not required when utilizing or changing additives in accordance with the publication https://dnr.mo.gov/document-search/additive-usage-wastewater-treatment-facilities-pub2653/pub2653 nor are required when a temporary change or provisional discharge has been authorized by the regional office. While provisional discharges may be authorized by the regional office, they will not be granted for more than the time necessary for the facility to obtain an official modification from the Water Protection Program. Temporary provisional discharges due to weather events or other unforeseen circumstances may or may not necessitate a permit modification. The facility may ask for a Compliance Assistance Visit (CAV) from the regional office to assist in the decision-making process; CAVs are provided free to the permitted entity.

OIL/WATER SEPARATORS:
Oil water separator (OWS) tank systems are frequently found at industrial sites where process water and stormwater may contain oils and greases, oily wastewaters, or other immiscible liquids requiring separation. Food industry discharges typically require pretreatment prior to discharge to municipally owned treatment works. Per 10 CSR 26-2.010(2)(B), all oil water separator tanks must be operated according to manufacturer's specifications and authorized in NPDES permits per 10 CSR 26-2.010(2) or may be regulated as a petroleum tank. Sludge generated by OWS is a waste pursuant to 10 CSR 25-11.279 requiring specific management standards pursuant to self-implementing regulations of 40 CFR Part 279.

✓ Not applicable; the facility has not disclosed the use of any oil water separators they wish to include under the NPDES permit at this facility, therefore oil water separator tanks are not authorized by this permit.

OPERATOR CERTIFICATION REQUIREMENTS:
Operators or supervisors of operations at regulated domestic wastewater treatment facilities shall be certified in accordance with 10 CSR 20-9 and any other applicable state law or regulation.

✓ Not applicable; this facility is not required to have a certified operator. This permit does not cover domestic wastewater or the domestic wastewater population equivalent (PE) is less than two hundred (200) individuals. Additionally, this facility is not owned or operated by a municipality, public sewer district, county, public water supply district, or private sewer company regulated by the Public Service Commission, or operated by a state or federal agency. Private entities are exempted from the population equivalent requirement unless the Department has reason to believe a certified operator is necessary.

PERMIT SHIELD:
The permit shield provision of the Clean Water Act (Section 402(k)) and Missouri Clean Water Law (644.051.16 RSMo) provides that when a permit holder is in compliance with its NPDES permit or MSOP, it is effectively in compliance with certain sections of the Clean Water Act, and equivalent sections of the Missouri Clean Water Law. In general, the permit shield is a legal defense against certain enforcement actions, but is only available when the permittee is in compliance with its permit and satisfies other specific conditions, including having completely disclosed all discharges and all facility processes and activities to the Department at time of application. It is the permittee's responsibility to ensure that all potential pollutants, waste streams, discharges, and activities, as well as wastewater land application, storage, and treatment areas, are all fully disclosed to the Department at the time of application or during the draft permit review process. Subsequent requests for authorization to discharge additional pollutants, expanded or newly disclosed flows, or for authorization for previously unpermitted and undisclosed activities or discharges, will likely require an official permit modification, including another public participation process.

PRETREATMENT:
This permit does not regulate pretreatment requirements for facilities discharging to an accepting permitted wastewater treatment facility. If applicable, the receiving entity (the publicly owned treatment works - POTW) is to ensure compliance with any effluent limitation guidelines for pretreatment listed in 40 CFR Subchapter N per 10 CSR 20-6.100. Pretreatment regulations per 644.016 RSMo are limitations on the introduction of pollutants or water contaminants into publicly owned treatment works or facilities.

✓ Not applicable, this facility does not discharge industrial wastewater to a POTW. Domestic wastewater is not subject to pretreatment requirements.

REASONABLE POTENTIAL (RP):
Federal regulation [40 CFR Part 122.44(d)(1)(i)] requires effluent limitations for all pollutants that are (or may be) discharged at a level causing or have the reasonable potential to cause (or contribute to) an in-stream excursion above narrative or numeric water quality standards. If the permit writer determines any given pollutant has the reasonable potential to cause or contribute to an in-stream excursion above the WQS, the permit must contain effluent limits for that pollutant [40 CFR Part 122.44(d)(1)(iii)].
Applicable; an RPA was conducted on appropriate parameters and was conducted as per (TSD, EPA/505/2-90-001, Section 3.3.2). A more detailed version including calculations of this RPA is available upon request. See Wasteload Allocations (WLA) for Limits in this section.

Parameter:	Units	CMC Acute	CCC Chronic	Listing	Daily Max	Monthly Average	n#	CV	n Max	MF	RWC Acute	RWC Chronic	RP	n Min
Cadmium, TR	µg/L	11.69	1.36	AQL	2.51	0.95	38	1.120	2.7	2.75	7.42	7.42	Yes	0.044
Chloride + Sulfate	mg/L	1000	n/a	AQL	1000	n/a	13	0.428	603.3	2.09	1261.19	1261.19	Yes	168.6
Copper, TR	µg/L	32.23	21.10	AQL	32.23	10.52	38	1.962	22.8	4.09	93.27	93.27	Yes	0.26
Lead, TR	µg/L	373.02	14.55	AQL	26.64	10.47	38	1.024	23.8	2.58	61.51	61.51	Yes	0.22
Selenium, TR	µg/L	n/a	5	AQL	8.77	2.87	38	1.948	8.24	4.07	33.53	33.53	Yes	0.21
Thallium, TR	µg/L	n/a	6.3	HHP	14.05	6.30	38	0.754	10.2	2.121274	21.637	21.637	Yes	0.18
Total Residual Chlorine - warm	µg/L	19	11	AQL-Warm	18.8	6.0	10	2.173	34	13.87954	471.9045	471.9045	Yes	0.01
WET - Acute	TUa	0.3	n/a	AQL	0.3	n/a	14	0.309	2.26	1.69370811	3.827780328	3.827780328	Yes	1
WET - Chronic	TUc	0.3	1	AQL	1.7	n/a	13	2.266	60	11.24647149	669.17	669.1650538	Yes	1

Units are (µg/L) unless otherwise noted.

n/a	Not Applicable
n	number of samples; if the number of samples is 10 or greater, then the CV value must be used in the WQBEL for the applicable constituent.
CV	Coefficient of Variation (CV) is calculated by dividing the Standard Deviation of the sample set by the mean of the same sample set.
CCC	continuous chronic concentration
CMC	continuous maximum concentration
RWC	Receiving Water Concentration: concentration of a toxicant or the parameter in the receiving water after mixing (if applicable)
MF	Multiplying Factor; 99% confidence level and 99% probability basis
RP	Reasonable Potential: an effluent is projected or calculated to cause an excursion above a water quality standard based on a number of factors including, as a minimum, the four factors listed in 40 CFR 122.44(d)(1)(ii).

RENEWAL REQUIREMENTS:
The renewal special condition permit requirement is designed to guide the facility to prepare and include all relevant and applicable information in accordance with 10 CSR 20-6.010(7)(A)-(C), and if applicable, federal regulations. The special condition may not include all requirements and requests for additional information may be made at the time of permit renewal under 644.051.13(5) RSMo and 40 CFR 122.21(h). Prior to submittal, the facility must review the entire submittal to confirm all required information and data is provided; it is the facility's responsibility to discern if additional information is required. Failure to fully disclose applicable information with the application or application addendums may result in a permit revocation per 10 CSR 20-6.010(8)(A) and may result in the forfeiture of permit shield protection authorized in 644.051.16 RSMo. Forms are located at:
https://dnr.mo.gov/water/business-industry-other-entities/permits-certification-engineering-fees/wastewater

SAMPLING FREQUENCY JUSTIFICATION:
Sampling and reporting frequency was generally retained from previous permit. 40 CFR 122.45(d)(1) indicates all continuous discharges, such as wastewater discharges, shall be permitted with daily maximum and monthly average limits. Minimum sampling frequency for all parameters is annually per 40 CFR 122.44(i)(2).

SAMPLING TYPE JUSTIFICATION:
Sampling type was continued from the previous permit. The sampling types are representative of the discharges, and are protective of water quality. Discharges with altering effluent should have composite sampling; discharges with uniform effluent can have grab samples. Grab samples are usually appropriate for stormwater. Parameters which must have grab sampling are: pH, ammonia, *E. coli*, total residual chlorine, free available chlorine, hexavalent chromium, dissolved oxygen, total phosphorus, volatile organic compounds, and others. For further information on sampling and testing methods see 10 CSR 20-7.015(9)(D)2.

SCHEDULE OF COMPLIANCE (SOC):
A schedule of remedial measures included in a permit, including an enforceable sequence of interim requirements (actions, effluent limits, 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. SOCs are allowed under 40 CFR 122.47 and 10 CSR 20-7.031(11) providing certain conditions are met. An SOC is not allowed:

- For effluent limitations based on technology-based standards established in accordance with federal requirements, if the deadline for compliance established in federal regulations has passed in accordance with 40 CFR 125.3.
- For a newly constructed facility in most cases per 644.029 RSMo. Newly constructed facilities must meet all applicable effluent limitations (technology and water quality) when discharge begins. New facilities are required to install the appropriate control technologies as specified in a permit or antidegradation review. A SOC is allowed for a new water quality based effluent limit not included in a previously public noticed permit or antidegradation review, which may occur if a regulation changes during construction.
- To develop a TMDL, UAA, or other study associated with development of a site specific criterion. A facility is not prohibited from conducting these activities, but a SOC may not be specifically granted for conducting these activities.

In order to provide guidance in developing SOCs, and to attain a greater level of consistency, the Department issued a policy on development of SOCs on October 25, 2012. The policy provides guidance to permit writers on standard time frames for schedules for common activities, and guidance on factors to modify the length of the schedule.

✓ Not applicable; this permit does not contain a SOC. No SOC is allowed because the facility is already capable of meeting the new effluent limits.

SPILLS, OVERFLOWS, AND OTHER UNAUTHORIZED DISCHARGE REPORTING:
Per 260.505 RSMo, any emergency involving a hazardous substance must be reported to the Department's 24 hour Environmental Emergency Response hotline at (573) 634-2436 at the earliest possible moment after discovery. The Department may require the submittal of a written report detailing measures taken to clean up a spill. These reporting requirements apply whether or not the spill results in chemicals or materials leaving the permitted property or reaching waters of the state. This requirement is in addition to the noncompliance reporting requirement found in Standard Conditions Part I.
https://revisor.mo.gov/main/OneSection.aspx?section=260.500&bid=13989&hl=

Any other spills, overflows, or unauthorized discharges reaching waters of the state must be reported to the regional office during normal business hours, or after normal business hours, to the Department's 24 hour Environmental Emergency Response spill line at 573-634-2436.

SLUDGE – INDUSTRIAL:
Industrial sludge is solid, semi-solid, or liquid residue generated during the treatment of industrial process or non-process wastewater in a treatment works; including but not limited to, scum or solids removed in primary, secondary, or advanced wastewater treatment process; scum and solids filtered from water supplies and backwashed; and any material derived from industrial sludge. Industrial sludge could also be derived from lagoon dredging or other similar maintenance activities. Certain oil sludges, like those from oil water separators, are subject to self-implementing federal regulations under 40 CFR 279 for used oils.

- ✓ Applicable; sludge is removed by contract hauler, incinerated, stored in the lagoon, considered hazardous waste, etc. The permitted management strategy must be followed, see permit under FACILITY DESCRIPTION. If the permitted management strategy cannot be followed, the facility must obtain a permit modification.

STANDARD CONDITIONS:
The standard conditions Part I attached to this permit incorporate all sections of 10 CSR 20-6.010(8) and 40 CFR 122.41(a) through (n) by reference as required by law. These conditions, in addition to the conditions enumerated within the standard conditions should be reviewed by the facility to ascertain compliance with this permit, state regulations, state statues, federal regulations, and the Clean Water Act. Standard Conditions Part III, if attached to this permit, incorporate requirements dealing with domestic wastewater, domestic sludge, and land application of domestic wastes.

STORMWATER PERMITTING: LIMITATIONS AND BENCHMARKS:
Because of the fleeting nature of stormwater discharges, the Department, under the direction of EPA guidance, has determined monthly averages are capricious measures of stormwater-only discharges. The *Technical Support Document for Water Quality Based Toxics Control* (EPA/505/2-90-001; 1991) §3.1 indicates most procedures within the document apply only to water quality based approaches, not end-of-pipe technology-based controls. Hence, stormwater-only outfalls will generally only contain a maximum daily limit (MDL), a benchmark, or a monitoring requirement as dictated by site specific conditions, the BMPs in place, the BMPs proposed, past performance of the facility, and the receiving water's current quality.

Sufficient rainfall to cause a discharge for one hour or more from a facility would not necessarily cause significant flow in a receiving stream. Acute Water Quality Standards (WQSs) are based on one hour of exposure, and must be protected at all times. Therefore, industrial stormwater facilities with toxic contaminants present in the stormwater may have the potential to cause a violation of acute WQSs if toxic contaminants occur in sufficient amounts. In this instance, the permit writer may apply daily maximum limitations.

Conversely, it is unlikely for rainfall to cause a discharge for four continuous days from a facility; if this does occur however, the receiving stream will also likely sustain a significant amount of flow providing dilution. Most chronic WQSs are based on a four-day exposure with some exceptions. Under this scenario, most industrial stormwater facilities have limited potential to cause a violation of chronic water quality standards in the receiving stream.

A standard mass-balance equation cannot be calculated for stormwater because stormwater flow and flow in the receiving stream cannot be determined for conditions on any given day or storm event without real-time ad-hoc monitoring. The amount of stormwater discharged from the facility will vary based on current and previous rainfall, soil saturation, humidity, detention time, BMPs, surface permeability, etc. Flow in the receiving stream will vary based on climatic conditions, size of watershed, area of surfaces with reduced permeability (houses, parking lots, and the like) in the watershed, hydrogeology, topography, etc. Decreased permeability may increase the stream flow dramatically over a short period of time (flash).

Numeric benchmark values are based on site specific requirements taking in to account a number of factors but cannot be applied to any process water discharges. First, the technology in place at the site to control pollutant discharges in stormwater is evaluated. The permit writer also evaluates other similar permits for similar activities. A review of the guidance forming the basis of Environmental Protection Agency's (EPA's) *Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity* (MSGP) may also occur. Because precipitation events are sudden and momentary, benchmarks based on state or federal standards or recommendations use the Criteria Maximum Concentration (CMC) value, or acute standard may also be used. The CMC is the estimate of the highest concentration of a material in surface water to which an aquatic community can be exposed briefly without resulting in an unacceptable effect. The CMC for aquatic life is intended to be protective of the vast majority of the aquatic communities in the United States. If a facility has not disclosed BMPs applicable to the pollutants for the site, the facility may not be eligible for benchmarks.

40 CFR 122.44(b)(1) requires the permit implement the most stringent limitations for each discharge, including industrially exposed stormwater; and 40 CFR 122.44(d)(1)(i) and (iii) requires the permit to include water-quality based effluent limitations where reasonable potential has been found. However, because of the non-continuous nature of stormwater discharges, staff are unable to perform statistical Reasonable Potential Analysis (RPA) under most stormwater discharge scenarios. Reasonable potential determinations (RPDs; see REASONABLE POTENTIAL above) using best professional judgment are performed.

Benchmarks require the facility to monitor, and if necessary, replace and update stormwater control measures. Benchmark concentrations are not effluent limitations. A benchmark exceedance, therefore, is not a permit violation; however, failure to take corrective action is a violation of the permit. Benchmark monitoring data is used to determine the overall effectiveness of control

measures and to assist the facility in knowing when additional corrective actions may be necessary to comply with the conditions of the permit.

BMP inspections typically occur more frequently than sampling. Sampling frequencies are based on the facility's ability to comply with the benchmarks and the requirements of the permit. Inspections should occur after large rain events and any other time an issue is noted; sampling after a benchmark exceedance may need to occur to show the corrective active taken was meaningful.

When a permitted feature or outfall consists of only stormwater, a benchmark may be implemented at the discretion of the permit writer, if there is no RP for water quality excursions.

✓ Not applicable; this facility does not have any stormwater-only outfalls.

STORMWATER POLLUTION PREVENTION PLAN (SWPPP):

Pursuant to 40 CFR 122.44(k), Best Management Practices (BMPs) must be used to control or abate the discharge of pollutants when: 1) Authorized under §304(e) of the Clean Water Act (CWA) for the control of toxic pollutants and hazardous substances from ancillary industrial activities; 2) Authorized under §402(p) of the CWA for the control of stormwater 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. A BMP may take the form of a numeric benchmark. In accordance with the EPA's *Developing Your Stormwater Pollution Prevention Plan, A Guide for Industrial Operators,* (EPA 833-B-09-002) published by the EPA in 2015 and again in 2021 https://www.epa.gov/sites/default/files/2021-03/documents/swppp_guide_industrial_2021_030121.pdf BMPs are measures or practices used to reduce the amount of pollution entering waters of the state from a permitted facility. BMPs may take the form of a process, activity, or physical structure. Additionally in accordance with the Stormwater 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. Additional information can be found in *Stormwater Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices* (EPA 832-R-92-006; September 1992).

Developing a SWPPP provides opportunities to employ appropriate BMPs to minimize the risk of pollutants being discharged during storm events. The following paragraph outlines the general steps the facility should take to determine which BMPs will work to achieve the benchmark values or limits in the permit. This section is not intended to be all encompassing or restrict the use of any physical BMP or operational and maintenance procedure assisting in pollution control. Additional steps or revisions to the SWPPP may be required to meet the requirements of the permit.

Areas which should be included in the SWPPP are identified in 40 CFR 122.26(b)(14). Once the potential sources of stormwater pollution have been identified, a plan should be formulated to best control the amount of pollutant being released and discharged by each activity or source. This should include, but is not limited to, minimizing exposure to stormwater, good housekeeping measures, proper facility and equipment maintenance, spill prevention and response, vehicle traffic control, and proper materials handling. Once a plan has been developed the facility will employ the control measures determined to be adequate to achieve the benchmark values discussed above. The facility will conduct monitoring and inspections of the BMPs to ensure they are working properly and re-evaluate any BMP not achieving compliance with permitting requirements. For example, if sample results from an outfall show values of TSS above the benchmark value, the BMP being employed is deficient in controlling stormwater pollution. Corrective action should be taken to repair, improve, or replace the failing BMP. This internal evaluation is required at least once per month but should be continued more frequently if BMPs continue to fail. If failures do occur, continue this trial and error process until appropriate BMPs have been established.

For new, altered, or expanded stormwater discharges, the SWPPP shall identify reasonable and effective BMPs while accounting for environmental impacts of varying control methods. The antidegradation analysis must document why no discharge or no exposure options are not feasible. The selection and documentation of appropriate control measures shall serve as an alternative analysis of technology and fulfill the requirements of antidegradation [10 CSR 20-7.031(3)]. For further guidance, consult the antidegradation implementation procedure (https://dnr.mo.gov/document-search/antidegradation-implementation-procedure).

Alternative Analysis (AA) evaluation of the BMPs is a structured evaluation of BMPs which are reasonable and cost effective. The AA evaluation should include practices designed to be: 1) non-degrading; 2) less degrading; or 3) degrading water quality. The glossary of AIP defines these three terms. The chosen BMP will be the most reasonable and effective management strategy while ensuring the highest statutory and regulatory requirements are achieved and the highest quality water attainable for the facility is discharged. The AA evaluation must demonstrate why "no discharge" or "no exposure" is not a feasible alternative at the facility. This structured analysis of BMPs serves as the antidegradation review, fulfilling the requirements of 10 CSR 20-7.031(3) Water Quality Standards and *Antidegradation Implementation Procedure* (AIP), §II.B.

If parameter-specific numeric benchmark exceedances continue to occur and the facility feels there are no practicable or cost-effective BMPs which will sufficiently reduce a pollutant concentration in the discharge to the benchmark values established in the permit, the facility can submit a request to re-evaluate the benchmark values. This request needs to include 1) a detailed explanation of why the facility is unable to comply with the permit conditions and unable to establish BMPs to achieve the benchmark values; 2) financial data of the company and documentation of cost associated with BMPs for review and 3) the SWPPP, which should contain adequate documentation of BMPs employed, failed BMPs, corrective actions, and all other required information. This will allow the Department to conduct a cost analysis on control measures and actions taken by the facility to determine cost-effectiveness of BMPs.

The request shall be submitted in the form of an operating permit modification, which includes an appropriate fee; the application is found at: https://dnr.mo.gov/water/business-industry-other-entities/permits-certification-engineering-fees/wastewater

✓ Applicable; a SWPPP shall be developed and implemented for this facility; see specific requirements in the SPECIAL CONDITIONS section of the permit.

SUFFICIENTLY SENSITIVE ANALYTICAL METHODS:

Please review Standard Conditions Part 1, §A, No. 4. The analytical and sampling methods used shall conform to the reference methods listed in 10 CSR 20-7.015 and/or 40 CFR 136 unless alternates are approved by the Department and incorporated within this permit. The facility shall use sufficiently sensitive analytical methods for detecting, identifying, and measuring the concentrations of pollutants. The facility shall ensure the selected methods are able to quantify the presence of pollutants in any given discharge at concentrations low enough to determine compliance with Water Quality Standards in 10 CSR 20-7.031 or effluent limitations unless provisions in the permit allow for other alternatives. The reporting limits established by the chosen laboratory must be below the lowest effluent limits established for the specified parameter (including any parameter's future limit after an SOC) in the permit unless the permit provides for an ML or if the facility provides a written rationale to the Department. It is the permittee's responsibility to ensure the laboratory has adequate equipment and controls in place to quantify the pollutant. Inflated reporting limits will not be accepted by the Department if the reporting limit is above the parameter value stipulated in the permit. A method is "sufficiently sensitive" when; 1) the method quantifies the pollutant below the level of the applicable water quality criterion or; 2) the method minimum level is above the applicable water quality criterion, but the amount of pollutant in a facility's discharge is high enough the method detects and quantifies the level of pollutant in the discharge, or 3) the method has the lowest minimum level of the analytical methods approved under 10 CSR 20-7.015 and or 40 CFR 136. These methods are also required for parameters listed as monitoring only, as the data collected may be used to determine if numeric limitations need to be established. A facility is responsible for working with their contractors to ensure the analysis performed is sufficiently sensitive.

UNDERGROUND INJECTION CONTROL (UIC):

The UIC program for all classes of wells in the State of Missouri is administered by the Missouri Department of Natural Resources and approved by EPA pursuant to §§1422 and 1425 of the Safe Drinking Water Act (SDWA) and 40 CFR 147 Subpart AA. Injection wells are classified based on the liquids which are being injected. Class I wells are hazardous waste wells which are banned by 577.155 RSMo; Class II wells are established for oil and natural gas production; Class III wells are used to inject fluids to extract minerals; Class IV wells are also banned by Missouri in 577.155 RSMo; Class V wells are shallow injection wells; some examples are heat pump wells and groundwater remediation wells. Domestic wastewater being disposed of sub-surface is also considered a Class V well. In accordance with 40 CFR 144.82, construction, operation, maintenance, conversion, plugging, or closure of injection wells shall not cause movement of fluids containing any contaminant into Underground Sources of Drinking Water (USDW) if the presence of any contaminant may cause a violation of drinking water standards or groundwater standards under 10 CSR 20-7.031, or other health based standards, or may otherwise adversely affect human health. If the director finds the injection activity may endanger USDWs, the Department may require closure of the injection wells, or other actions listed in 40 CFR 144.12(c), (d), or (e). In accordance with 40 CFR 144.26, the facility shall submit a Class V Well Inventory Form for each active or new underground injection well drilled, or when the status of a well changes, to the Missouri Department of Natural Resources, Geological Survey Program, P.O. Box 250, Rolla, Missouri 65402. The Class V Well Inventory Form can be requested from the Geological Survey Program or can be found at the following web address: https://dnr.mo.gov/document-search/class-v-well-inventory-form-mo-780-1774 Single family residential septic systems and non-residential septic systems used solely for sanitary waste and having the capacity to serve fewer than 20 persons a day are excluded from the UIC requirements (40 CFR 144.81(9)).

✓ Not applicable; the facility has not submitted materials indicating the facility will be performing UIC at this site.

VARIANCE:

Per the Missouri Clean Water Law §644.061.4, variances shall be granted for such period of time and under such terms and conditions as specified by the commission in its order. The variance may be extended by affirmative action of the commission. In no event shall the variance be granted for a period of time greater than is reasonably necessary for complying with the Missouri Clean Water Law §§644.006 to 644.141 or any standard, rule or regulation promulgated pursuant to Missouri Clean Water Law §§644.006 to 644.141. Thermal variances are regulated separately and are found under 644.

✓ Not applicable; this permit is not drafted under premise of a petition for variance.

WASTELOAD ALLOCATIONS (WLA) FOR LIMITS:

As per [10 CSR 20-2.010; definitions], the WLA is the maximum amount of pollutant each discharger is allowed to discharge into the receiving stream without endangering water quality. Only streams with available load allocations can be granted discharge allowances. Outfalls afforded mixing allocations provide higher limits as the receiving stream is able to accept more pollutant loading without causing adverse impacts to the environment or aquatic life.

✓ Applicable; wasteload allocations for toxic parameters were calculated using water quality criteria or water quality model results and by applying the dilution equation below. These equations are statistical equations (See Part III – REASONABLE POTENTIAL ANALYSIS) used to calculate the hypothetical or actual variability of the wastewater and the spreadsheet output obtains an effluent limit. Most toxic parameter's WLAs are calculated using the *Technical Support Document For Water Quality-Based Toxics Control* or "TSD" EPA/505/2-90-001; 3/1991, §4.5.5.

$$C = \frac{(Cs \times Qs) + (Ce \times Qe)}{(Qe + Qs)}$$

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

- ✓ For chloride, the Department uses TSD §5.4.1 for two-value steady state acute and chronic protection of aquatic life. It allows comparison of two independent WLAs (acute and chronic) to determine which is more limiting for a discharge. The WLA output provides two numbers for protection against two types of toxic effects, acute and chronic permit limitations resulting in a daily maximum and monthly average limit.
- ✓ Criteria maximum concentration (CMC) are the acute in-stream standards for a specific pollutant.
- ✓ Criteria continuous concentration (CCC) are the chronic in-stream standards for a specific pollutant.
- ✓ Acute wasteload allocations (WLAa) are designated as daily maximum limits (maximum daily limit: MDL)., were determined using applicable water quality criteria
- ✓ Chronic wasteload allocations (WLAc) are designated as monthly average limits (average monthly limit: AML) and are typically the most stringent limits applied. Facilities subject to average monthly limits are welcome to take additional samples in the month to meet any lower limit by averaging the results. When only one sample is taken in the month, the sample result is applied to both the daily maximum and monthly average.
- ✓ Mixing: when a stream's flow 7Q10 is above 0.1 cfs, (or lake width is sufficient) the discharge may be afforded mixing allowances. The mixing criteria for toxics are found at 10 CSR 20-7.031(5)(A)4 and a full explanation of mixing is found in Part II – WATERBODY MIXING CONSIDERATIONS.
- ✓ Number of Samples "n": effluent quality is determined by the underlying distribution of daily values, determined by the Long Term Average (LTA) associated with a particular Wasteload Allocation (WLA) and by the Coefficient of Variation (CV) of the effluent concentrations. Increasing or decreasing the monitoring frequency does not affect this underlying assumption which should be, at a minimum, targeted to comply with the values dictated by the WLA. Therefore, it is recommended the actual planned frequency of monitoring be used to determine the value of "n" for calculating the AML. However, in situations where monitoring frequency is once per month or less, a higher value for "n" must be assumed for AML derivation purposes. Thus, the statistical procedure being employed uses an assumed number of samples "n = 4". See additional information under Part III – REASONABLE POTENTIAL ANALYSIS

WASTELOAD ALLOCATION (WLA) MODELING:

Facilities may submit site specific studies to better determine the site specific wasteload allocations applied in permits.

- ✓ Applicable. A WLA study was submitted by Department staff. "Total Maximum Daily Load (TMDL) for Big Creek; Iron County, Missouri" approved 2/17/2006 enumerates several problems with the receiving streams. The USGS has documented elevated levels of cadmium in fish in Big Creek and have determined the Glover smelter to be the sole cause of this pollutant. The department conducted aquatic invertebrate studies which indicated an impairment- especially in mayflies, a group which is especially sensitive to elevated metals levels. The study determined Big Creek use that is impaired is the protection of warm water aquatic life.

WATER QUALITY STANDARD REVISION:

In accordance with 644.058 RSMo, the Department is required to utilize an evaluation of the environmental and economic impacts of modifications to water quality standards of twenty-five percent or more when making individual site-specific permit decisions.

- ✓ This operating permit does not contain requirements for a water quality standard changing twenty-five percent or more since the previous operating permit.

PART IV. EFFLUENT LIMIT DETERMINATIONS

OUTFALL #001 – DOMESTIC WASTEWATER

EFFLUENT LIMITATIONS TABLE:

PARAMETERS	UNIT	DAILY MAX	MONTHLY AVG.	PREVIOUS PERMIT LIMITS	MINIMUM SAMPLING FREQUENCY	REPORTING FREQUENCY	SAMPLE TYPE
PHYSICAL							
FLOW	MGD	*	*	SAME	ONCE/QUARTER	ONCE/QUARTER	24 HR. TOT
CONVENTIONAL							
BOD_5	mg/L	45	30	SAME	ONCE/QUARTER	ONCE/QUARTER	GRAB
pH †	SU	6.0-9.0	6.0-9.0	SAME	ONCE/QUARTER	ONCE/QUARTER	GRAB
TOTAL SUSPENDED SOLIDS (TSS)	mg/L	45	30	SAME	ONCE/QUARTER	ONCE/QUARTER	GRAB

* monitoring and reporting requirement only
† report the minimum and maximum pH values; pH is not to be averaged

DERIVATION AND DISCUSSION OF LIMITS:

PHYSICAL:

Flow
In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each outfall is needed to ensure compliance with permitted effluent limitations. If the facility is unable to obtain effluent flow, then it is the responsibility of the facility to inform the Department, which may require the submittal of an operating permit modification. The facility will report the total flow in millions of gallons per day (MGD), quarterly monitoring continued from previous permit. The facility reported 0.0001 to 0.08 MGD in the last permit term.

CONVENTIONAL:

Biochemical Oxygen Demand - 5 Day (BOD_5)
45 mg/L daily maximum, 30 mg/L monthly average per 10 CSR 20-7.015(8)(A)1 for all other waters. The facility reported from 1.2 to 3.5 mg/L in the last permit term. There are no water quality standards established in Missouri for this parameter; the permit writer has determined the technology limits are the most applicable limits to this discharge meeting requirements pursuant to 10 CSR 20-7.015(9)(A).

pH
6.0 to 9.0 SU. The permit writer has determined there is no reasonable potential to affect water quality therefore technology limitations for domestic wastewater are applied. The facility reported 7.3 to 8.14 SU in the last permit term. pH is a fundamental water quality indicator. Additionally, ammonia availability in wastewater is dependent on pH. Limitations in this permit will protect against aquatic organism toxicity, downstream water quality issues, human health hazard contact, and negative physical changes in accordance with the general criteria at 10 CSR 20-7.031(4) and the Clean Water Act's (CWA) goal of 100% fishable and swimmable rivers and streams.

Total Suspended Solids (TSS)
45 mg/L daily maximum, 30 mg/L monthly average per 10 CSR 20-7.015(8)(A)1 for all other waters. The facility reported from 1.2 to 18 mg/L in the last permit term. There are no water quality standards established in Missouri for this parameter; the permit writer has determined the technology limits are the most applicable limits to this discharge meeting requirements pursuant to 10 CSR 20-7.015(9)(A).

OUTFALL #003 – MAIN FACILITY OUTFALL

EFFLUENT LIMITATIONS TABLE:

PARAMETERS	UNIT	DAILY MAX	MONTHLY AVG.	PREVIOUS PERMIT LIMITS	MINIMUM SAMPLING FREQUENCY	REPORTING FREQUENCY	SAMPLE TYPE
PHYSICAL							
FLOW	MGD	*	*	SAME	ONCE/MONTH	ONCE/MONTH	24 HR. TOT
HARDNESS AS CACO3	mg/L	*	*	SAME	ONCE/MONTH	ONCE/MONTH	GRAB
CONVENTIONAL							
CHLORINE, TOTAL RESIDUAL‡	µg/L	18.8	6.0	17/8	ONCE/QUARTER	ONCE/QUARTER	GRAB
E.COLI	#/100mL	630	126	SAME	ONCE/QUARTER	ONCE/QUARTER	GRAB
PH †	SU	6.5-9.0	6.5-9.0	SAME	ONCE/MONTH	ONCE/MONTH	GRAB
TOTAL SUSPENDED SOLIDS (TSS)	mg/L	30	20	SAME	ONCE/MONTH	ONCE/MONTH	GRAB
METALS							
CADMIUM, TR	µg/L	2.75	1.0	2.7/1.1	ONCE/MONTH	ONCE/MONTH	GRAB
COPPER, TR	µg/L	32.2	10.5	300/150	ONCE/MONTH	ONCE/MONTH	GRAB
LEAD, TR	µg/L	20.8	10.4	20.8/7.9	ONCE/MONTH	ONCE/MONTH	GRAB
MERCURY, TR	µg/L	2	1	SAME	ONCE/YEAR	ONCE/YEAR	GRAB
SELENIUM, TR	µg/L	8.8	2.9	*/*	ONCE/MONTH	ONCE/MONTH	GRAB
THALLIUM, TR	µg/L	14.1	6.3	14.2/6.3	ONCE/MONTH	ONCE/MONTH	GRAB
ZINC, TR	µg/L	405.9	202.3	242.2/72.5	ONCE/MONTH	ONCE/MONTH	GRAB
NUTRIENTS							
AMMONIA AS N	mg/L	*	*	SAME	ONCE/QUARTER	ONCE/QUARTER	GRAB
OTHER							
CHLORIDE	mg/L	*	*	SAME	ONCE/QUARTER	ONCE/QUARTER	GRAB
SULFATE	mg/L	*	*	SAME	ONCE/QUARTER	ONCE/QUARTER	GRAB
CHLORIDE PLUS SULFATE	mg/L	1000	-	*/*	ONCE/QUARTER	ONCE/QUARTER	GRAB
WET TEST - ACUTE	TUa	0.3 (ML1.0)	-	SAME	ONCE/YEAR	ONCE/QUARTER	GRAB
WET TEST - CHRONIC	TUc	1.7	-	*/-	ONCE/YEAR	ONCE/QUARTER	GRAB

* monitoring and reporting requirement only
† report the minimum and maximum pH values; pH is not to be averaged
‡ An ML is established for TRC; see permit.
TR total recoverable

DERIVATION AND DISCUSSION OF LIMITS:

PHYSICAL:

Flow

In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each outfall is needed to ensure compliance with permitted effluent limitations. If the facility is unable to obtain effluent flow, then it is the responsibility of the facility to inform the Department, which may require the submittal of an operating permit modification. The facility will report the total flow in millions of gallons per day (MGD), quarterly monitoring continued from previous permit. The facility reported from 0.14 to 1.1 MGD in the last permit term.

Hardness as $CACO_3$

Monitoring only requirement. The facility has site-specific calculations for hardness dependent metals. Monitoring will determine the actual hardness of the effluent.

CONVENTIONAL:

Chlorine, Total Residual (TRC)
The facility reported from 10 to 50 µg/L in the last permit term. Total residual chlorine effluent limits of 18.8 µg/L daily maximum and 6.0 µg/L monthly average are recommended if chlorine is used as a disinfectant. There are no technology limits established for this parameter therefore water quality limits are the most protective. The effluent limits are calculated as follows, however, the Department has established an ML for this parameter; the ML is 130 µg/L, see note ‡ in the permit.

LTAa: WLAa * LTAa multiplier = 19 * 0.351602583217476 = 6.68044908113205 [CV: 0.537738142553915, 99th %ile]
LTAc: WLAc * LTAc multiplier = 11 * 0.56011642557626 = 6.16128068133886 [CV: 0.537738142553915, 99th %ile]
use most protective LTA: 6.16128068133886
Daily Maximum: MDL = LTA * MDL multiplier = 6.16128068133886 * 2.84412017354682 = 17.5234226806802 µg/L [CV: 0.538, 99th %ile]
Monthly Average: AML = LTA * AML multiplier = 6.16128068133886 * 1.49137167245844 = 9.1887594742142 µg/L [CV: 0.538, 95th %ile, n=4]

Escherichia coli (E. coli)
A daily maximum of 630 bacteria per 100 mL and a monthly geometric mean of 126 bacteria per 100 mL during the recreational season (April 1 through October 31) only, to protect Whole Body Contact (A) designated use of the second receiving stream, as per 10 CSR 20-7.031(5)(C). An effluent limit for both monthly average and daily maximum is required by 40 CFR 122.45(d). The geometric mean is calculated by multiplying all of the data points and then taking the n^{th} root of this product, where n = # of samples collected. For example: Five *E. coli* samples were collected with results of 1, 4, 5, 6, and 10 (#/100 mL). Geometric mean = 5^{th} root of (1)(4)(5)(6)(10) = 5^{th} root of 1,200 = 4.1 #/100 mL.

pH
6.5 to 9.0 SU – instantaneous grab sample. Water quality limits [10 CSR 20-7.031(5)(E)] are applicable to this outfall. pH is a fundamental water quality indicator. Additionally, metals leachability and ammonia availability in wastewater is dependent on pH. Limitations in this permit will protect against aquatic organism toxicity, downstream water quality issues, human health hazard contact, and negative physical changes in accordance with the general criteria at 10 CSR 20-7.031(4) and the Clean Water Act's (CWA) goal of 100% fishable and swimmable rivers and streams.

Total Suspended Solids (TSS)
Technology limits: 30 mg/L daily maximum and 20 mg/L monthly average per 40 CFR 440.102 BPT.

METALS:
Effluent limitations for total recoverable metals were developed using methods and procedures outlined in the *Technical Support Document For Water Quality-based Toxic Controls* (EPA/505/2-90-001) and *The Metals Translator: Guidance For Calculating a Total Recoverable Permit Limit From a Dissolved Criterion* (EPA 823-B-96-007). "Aquatic Life Protection" in 10 CSR 20-7.031 Tables A1 and A2, as well as general criteria protections in 10 CSR 20-7.031(4) apply to this discharge. The calculations applied site-specific values for hardness (213 mg/L) and dissolved metals translators based on the 2011 Dissolved Metals Translator Study provided by the permittee, and are reported in the calculations below. Additional use criterion (HHP, DWS, GRW, IRR, or LWW) may also be used, as applicable, to determine the most protective effluent limit for the receiving waterbody's class and uses.

METAL	CONVERSION FACTORS USING HARDNESS OF 213 MG/L	
	ACUTE	CHRONIC
Cadmium	0.85	0.85
Copper	0.85	0.85
Lead	0.39	0.39
Zinc	0.92	0.92

Cadmium, Total Recoverable
2.75 µg/L daily maximum; 1.0 µg/L monthly average. The facility reported from 0.11 to 2.2 µg/L for this parameter. Previous limits were 2.7 µg/L daily maximum; 1.1 µg/L monthly average based on a hardness of 213 mg/L. The categorical effluent limit in 40 CFR 440.102(b) requires a cadmium maximum daily concentration of 0.10 mg/L (100 µg/L) and a monthly average of 0.05 mg/L (50 µg/L). The water quality based effluent limitations are calculated below, and are more protective than the categorical effluent limitations.

Acute AQL: e^(1.0166 * ln213 – 3.062490) * (1.136672 – ln213 *0.041838) = 9.935 µg/L [at hardness 213]
Chronic AQL: e^(0.7977 * ln213 – 3.909) * (1.101672 – ln213*0.041838) = 1.267 µg/L [at hardness 213]

TR Conversion: AQL/Translator = 9.935 / 0.85 = 11.688 [at hardness 213]
TR Conversion: AQL/Translator = 1.267 / 0.85 = 1.491 [at hardness 213]
LTAa: WLAa * LTAa multiplier = 11.688 * 0.184 = 2.155 [CV: 1.12, 99th %ile]
LTAc: WLAc * LTAc multiplier = 1.491 * 0.34 = 0.507 [CV: 1.12, 99th %ile]
use most protective LTA: 0.507
Daily Maximum: MDL = LTA * MDL multiplier = 0.507 * 5.424 = 2.75 µg/L [CV: 1.12, 99th %ile]
Monthly Average: AML = LTA * AML multiplier = 0.507 * 2.06 = 1.04 µg/L [CV: 1.12, 95th %ile, n=4]

Copper, Total Recoverable

32.2 µg/L daily maximum; 10.5 µg/L monthly average. The facility reported from 0.26 to 22.8 µg/L for this parameter. The categorical effluent limit in 40 CFR 440.102(b) requires a copper maximum daily concentration of 0.30 mg/L (300 µg/L) and a monthly average of 0.15 mg/L (150 µg/L). The water quality based effluents are calculated below, and are more protective than the categorical effluent limits.

Acute AQL: e^(0.9422 * ln213 – 1.700300) * (0.960) = 27.393 µg/L [at hardness 213]
Chronic AQL: e^(0.8545 * ln213 – 1.702) * (0.960) = 17.088 µg/L [at hardness 213]
TR Conversion: AQL/Translator = 27.393 / 0.85 = 32.227 [at hardness 213]
TR Conversion: AQL/Translator = 17.088 / 0.85 = 20.104 [at hardness 213]
LTAa: WLAa * LTAa multiplier = 32.227 * 0.118 = 3.817 [CV: 1.962, 99th %ile]
LTAc: WLAc * LTAc multiplier = 20.104 * 0.207 = 4.171 [CV: 1.962, 99th %ile]
use most protective LTA: 3.817
Daily Maximum: MDL = LTA * MDL multiplier = 3.817 * 8.442 = 32.2 µg/L [CV: 1.962, 99th %ile]
Monthly Average: AML = LTA * AML multiplier = 3.817 * 2.755 = 10.5 µg/L [CV: 1.962, 95th %ile, n=4]

Lead, Total Recoverable

20.8 µg/L daily maximum; 10.4 µg/L monthly average. The facility reported from 0.22 to 17.97 µg/L for this parameter. The categorical effluent limit in 40 CFR 440.102(b) requires a lead maximum daily concentration of 0.60 mg/L (600 µg/L) and a monthly average of 0.30 mg/L (300 µg/L). The TMDL calculations are more protective than the water quality based effluent limitations, therefore shall be implemented.

Water Quality Calculations:

Acute AQL: e^(1.273 * ln213 – 1.460448) * (1.46203 – ln213 * 0.145712) = 145.478 µg/L [at hardness 213]
Chronic AQL: e^(1.273 * ln213 – 4.704797) * (1.46203 – ln213 * 0.145712) = 5.673 µg/L [at hardness 213]
TR Conversion: AQL/Translator = 145.478 / 0.39 = 373.022 [at hardness 213]
TR Conversion: AQL/Translator = 5.673 / 0.39 = 14.546 [at hardness 213]
LTAa: WLAa * LTAa multiplier = 373.022 * 0.2 = 74.462 [CV: 1.024, 99th %ile]
LTAc: WLAc * LTAc multiplier = 14.546 * 0.366 = 5.319 [CV: 1.024, 99th %ile]
use most protective LTA: 5.319
Daily Maximum: MDL = LTA * MDL multiplier = 5.319 * 5.01 = 26.6 µg/L [CV: 1.024, 99th %ile]
Monthly Average: AML = LTA * AML multiplier = 5.319 * 1.969 = 10.5 µg/L [CV: 1.024, 95th %ile, n=4]

TMDL Calculations:

Acute TMDL WQS: none
Chronic TMDL WQS: 5.0 µg/L
Chronic TR TMDL WQS: 5.0 ÷ 0.390 = 12.8 µg/L [Total Recoverable Conversion]
LTA_c: 12.8 (0.527) = 6.7 [CV = 0.6, 99th Percentile]
MDL: 6.7 (3.11) = **20.8 µg/L** [CV = 0.6, 99th Percentile]
AML: 6.7 (1.55) = 10.4 µg/L [CV = 0.6, 99th Percentile]

Mercury, Total Recoverable

Annual Monitoring continued from previous permit. DMRs showed values between 0.052 µg/L and 0.09 µg/L. Reasonable potential was not shown. However, mercury is included in the effluent limitation guideline found in 40 CFR 440.102 therefore technology limits of 2 µg/L daily maximum and 1 µg/L monthly average must remain in the permit per 40 CFR 122.44(l)(2)(ii).

Selenium, Total Recoverable
8.8 µg/L daily maximum; 2.9 µg/L monthly average. Previous permit had monitoring only. The facility reported from 0.21 to 8.24 µg/L for this parameter. The water quality based effluent limits are calculated below.

Chronic AQL: 5 µg/L
TR Conversion: AQL/Translator = 5 / 1 = 5
Chronic WLA: Ce = ((0.495 cfsDF + 0 cfsMZ) * 5 – (0 cfsMZ * 0 background)) / 0.495 cfsDF = 5
LTAc: WLAc * LTAc multiplier = 5 * 0.214 = 1.068 [CV: 1.9, 99th %ile]
Daily Maximum: MDL = LTA * MDL multiplier = 1.068 * 8.261 = 8.8 µg/L [CV: 1.9, 99th %ile]
Monthly Average: AML = LTA * AML multiplier = 1.068 * 2.712 = 2.9 µg/L [CV: 1.9, 95th %ile, n=4]

Thallium, Total Recoverable
14.1 µg/L daily maximum; 6.3 µg/L monthly average. Previous permit had 14.2 µg/L daily maximum and 6.3 µg/L monthly average. The facility reported from 0.5 to 10.2 µg/L for this parameter. The water quality based effluent limits are calculated below.

Chronic HHP: 6.3 µg/L
Chronic WLA: Ce = ((0.495 cfsDF + 0 cfsMZ) * 6.3 – (0 cfsMZ * 0 background)) / 0.495 cfsDF = 6.3
LTAc: WLAc * LTAc multiplier = 6.3 * 0.458 = 2.884 [CV: 0.754, 99th %ile]
Daily Maximum: WLAc = 6.3 * 3.8 / 1.7 = 14.1 µg/L [CV: 0.754, 99th %ile]
Monthly Average: WLAc = 6.3 µg/L [CV: 0.754, 95th %ile, n=4]

Zinc, Total Recoverable
405.9 µg/L daily maximum; 202.3 µg/L monthly average. The facility reported from 3.6 to 51.6 µg/L for this parameter. The categorical effluent limit in 40 CFR 440.102(b) requires a zinc maximum daily concentration of 1.0 mg/L (1000 µg/L) and a monthly average of 0.50 mg/L (500 µg/L). The TMDL calculations are more protective than the categorical effluent limitations, therefore shall be implemented.

TMDL Calculations:
Acute TMDL WQS: none
Chronic TMDL WQS: 213 µg/L
Chronic TR TMDL WQS: 213 ÷ 0.860 = 247.7 µg/L [Total Recoverable Conversion]
LTAc: 247.7 (0.527) = 130.5 [CV = 0.6, 99th Percentile]
MDL: 130.5 (3.11) = 405.9 [CV = 0.6, 99th Percentile]
AML: 130.5 (1.55) = 202.3 [CV = 0.6, 99th Percentile]

NUTRIENTS:

Ammonia, Total as Nitrogen
Early life stages present, salmonids absent; total ammonia nitrogen criteria apply [10 CSR 20-7.031(4)(B)7.C. & Table B3] default pH 7.8 SU. The facility supplied 14 points of data for this parameter. All values were below the most stringent proposed effluent limitation of summer's daily maximum of 1.4 mg/L. This parameter will be sampled quarterly for the next permit cycle at the outfall which discharges to waters of the state to determine RP at the next permit renewal.

OTHER:

Chloride
Monitoring required to determine chloride plus sulfate below. The facility shall sample and independently report the analytical value of chloride. The facility reported from 2.6 to 20.5 mg/L in the last permit term.

Sulfate
Monitoring required to determine chloride plus sulfate below. The facility shall sample and independently report the analytical value of sulfate. The facility reported from 166 to 600 mg/L in the last permit term.

Chloride Plus Sulfate
1000 mg/L daily maximum; The facility reported from 168.6 to 603.3 mg/L in the last permit term. The water quality based effluent limits are calculated below as this parameter shows RP.

Acute AQL: 1000 mg/L
Acute WLA: Ce = ((0.495 cfsDF + 0 cfsZID) * 1000 – (0 cfsZID * 0 background)) / 0.495 cfsDF = 1000
LTAa: WLAa * LTAa multiplier = 1000 * 0.404 = 403.537 [CV: 0.451, 99th %ile]

Daily Maximum: MDL = LTA * MDL multiplier = 403.537 * 2.478 = 1000 mg/L [CV: 0.451, 99th %ile]

Whole Effluent Toxicity (WET) Test

A WET test is a quantifiable method to conclusively determine if discharges from the facility cause toxicity to aquatic life by itself, in combination with, or through synergistic responses, when mixed with receiving stream water. Under the CWA §101(a)(3), requiring WET testing is reasonably appropriate for site-specific Missouri State Operating Permits to quantify toxicity. WET testing is also required by 40 CFR 122.44(d)(1). WET testing ensures the provisions in 10 CSR 20-6 and Missouri's Water Quality Standards in 10 CSR 20-7 are being met. Under 10 CSR 20-6.010(8)(A)4, the Department may require other terms and conditions it deems necessary to ensure compliance with the CWA and related regulations of the Missouri Clean Water Commission. Missouri Clean Water Law (MCWL) RSMo 644.051.3 requires the Department to set permit conditions complying with the MCWL and CWA. 644.051.4 RSMo specifically references toxicity as an item the Department must consider in permits (along with water quality-based effluent limits); and RSMo 644.051.5 is the basic authority to require testing conditions. WET tests are required by all facilities meeting any of the following criteria:

- ✓ Facility is a designated a Major
- ✓ Facility has water quality-based effluent limitations for toxic substances (other than NH_3)

Acute

The permit writer has determined this facility has reasonable potential to cause toxicity in the receiving stream.
Acute AQL: 0.3 TUa
The AEC is (0.495 CFSdf / (0 CFSzid +0.495 CFSdf)) = 100%
Acute WLA: Ce = ((0.495 CFSdf + 0 cfsZID) * 0.3 – (0 cfsZID * 0 background)) / 0.495 CFSdf = 0.3
LTAa: WLAa * LTAa multiplier = 0.3 * 0.518 = 0.156 [CV: 0.309, 99th %ile]
Daily Maximum: MDL = LTA * MDL multiplier = 0.156 * 1.929 = 0.3 TU [CV: 0.309, 99th %ile]
The limit established in this permit is below the detection limit for this test; the compliance value is set at 1.0 TUa.

Chronic

Acute AQL: 0.3 TUa
Chronic Assumption: 1 TUc
The AEC is (0.495 CFSdf / (0 CFSzid +0.495 CFSdf)) = 100%
Acute WLA: Ce = ((0.495 CFSdf + 0 CFSzid) * 0.3 – (0 CFSzid * 0 background)) / 0.495 CFSdf] * ACR of 10 = 3
Chronic WLA: Ce = ((0.495 CFSdf + 0 CFSmz) * 1 – (0 CFSmz * 0 background)) / 0.495 CFSdf = 1
LTAa,c: WLAa * LTAa multiplier = 3 * 0.108 = 0.324 [CV: 2.266, 99th %ile]
LTAc: WLAc * LTAc multiplier = 1 * 0.183 = 0.183 [CV: 2.266, 99th %ile]
use most protective LTA: 0.183
Daily Maximum: MDL = LTA * MDL multiplier = 0.183 * 9.262 = 1.7 TUc [CV: 2.266, 99th %ile]

Where no mixing is allowed the criterion must be met at the end of the pipe. However, when using an LC_{50} as the test endpoint, the acute toxicity test has an upper sensitivity level of 100% effluent, or 1.0 TUa. If less than 50% of the test organisms die at 100% effluent, the true LC_{50} value for the effluent cannot be measured, effectively acting as a detection limit. Therefore, when the allowable effluent concentration is 100% a limit of 1.0 TUa will apply. The chronic WLA is converted to a long-term average concentration (LTAa,c) using: WLAa,c = WLAa × ACR. A default acute to chronic ratio (ACR) value of 10 is used based on §1.3.4 (page 18) and Appendix A of the March 1991 TSD. The standard Allowable Effluent Concentration (AEC) for facilities without mixing considerations is 100%. The standard dilution series for facilities discharging to waterbodies with no mixing considerations is 100%, 50%, 25%, 12.5%, & 6.25% as 10 CSR 20-7.015((9)(L)4.A. states the dilution series must be proportional.

OUTFALL #006 – EMERGENCY SPILLWAY

EFFLUENT LIMITATIONS TABLE:

PARAMETERS	UNIT	DAILY MAXIMUM LIMIT	BENCH-MARK	PREVIOUS PERMIT LIMITS	MINIMUM SAMPLING FREQUENCY	REPORTING FREQUENCY	SAMPLE TYPE
PHYSICAL							
FLOW	MGD	*	-	*/*	ONCE/DAY	ONCE/QUARTER	24 HR. ESTIMATE
PRECIPITATION	inches	*	-	NEW	ONCE/DAY	ONCE/QUARTER	24 HR. TOTAL
CONVENTIONAL							
CHLORINE, TOTAL RESIDUAL	µg/L	19	-	NEW	ONCE/DAY	ONCE/QUARTER	GRAB
E. COLI	#100 ml	*	-	NEW	ONCE/DAY	ONCE/QUARTER	GRAB
pH †	SU	6.5-9.0	-	*/*	ONCE/DAY	ONCE/QUARTER	GRAB
TSS	mg/L	*	-	*/*	ONCE/DAY	ONCE/QUARTER	GRAB
METALS							
CADMIUM, TR	µg/L	11.7	-	*/*	ONCE/DAY	ONCE/QUARTER	GRAB
COPPER, TR	µg/L	32.2	-	*/*	ONCE/DAY	ONCE/QUARTER	GRAB
LEAD, TR	µg/L	373	-	*/*	ONCE/DAY	ONCE/QUARTER	GRAB
MERCURY, TR	µg/L	*	-	*/*	ONCE/DAY	ONCE/QUARTER	GRAB
SELENIUM, TR	µg/L	*	-	NEW	ONCE/DAY	ONCE/QUARTER	GRAB
THALLIUM, TR	µg/L	*	-	NEW	ONCE/DAY	ONCE/QUARTER	GRAB
ZINC, TR	µg/L	*	-	*/*	ONCE/DAY	ONCE/QUARTER	GRAB
NUTRIENTS							
AMMONIA AS N	mg/L	*	*	NEW	ONCE/DAY	ONCE/QUARTER	GRAB
OTHER							
CHLORIDE	mg/L	*	-	NEW	ONCE/DAY	ONCE/QUARTER	GRAB
SULFATE	mg/L	*	-	NEW	ONCE/DAY	ONCE/QUARTER	GRAB
CHLORIDE + SULFATE	mg/L	1000	-	NEW	ONCE/DAY	ONCE/QUARTER	GRAB

* monitoring and reporting requirement only
† report the minimum and maximum pH values; pH is not to be averaged
new parameter not established in previous state operating permit
TR total recoverable

DERIVATION AND DISCUSSION OF LIMITS:

PHYSICAL:

Flow
In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each outfall is needed to ensure compliance with permitted effluent limitations. If the facility is unable to obtain effluent flow, then it is the responsibility of the facility to inform the Department, which may require the submittal of an operating permit modification. The facility will report the total flow in millions of gallons per day (MGD), monthly/quarterly monitoring continued from previous permit. The facility reported from 0.0011 to 0.268 MGD in the last permit term.

Precipitation
The facility shall report the precipitation occurring which caused the discharge, should a discharge occur.

CONVENTIONAL:

Chlorine, Total Residual (TRC)
The RP analysis for outfall #003 has found reasonable potential to contribute to pollution of waters of the state for this parameter. The water quality based effluent limitations are calculated below.

Acute WLA: Ce = ((0.495113152 cfsDF + 0 cfsZID) * 19 – (0 cfsZID * 0 background)) / 0.495113152 cfsDF = 19

Escherichia coli (E. coli)
Daily monitoring only when a chronic or catastrophic storm event occurs. Discharge permissible only under circumstances listed in special condition #2.

pH
6.5 to 9.0 SU. The Water Quality Standard at 10 CSR 20-7.031(5)(e) states water contaminants shall not cause pH to be outside the range of 6.5 to 9.0 standard pH units. Technology based limitations are less stringent; WQS are implemented as this facility adjusts the pH of the wastewater during treatment in the system

Total Suspended Solids (TSS)
Daily monitoring only when a chronic or catastrophic storm event occurs. Discharge permissible only under circumstances listed in special condition #2.

METALS:

Cadmium, Total Recoverable.
The RP analysis for outfall #003 has found reasonable potential to contribute to pollution of waters of the state for this parameter. The categorical effluent limit in 40 CFR 440.102(b) requires a cadmium maximum daily concentration of 0.10 mg/L (100 µg/L). The water quality based effluent limitations are calculated below, and are more protective than the categorical effluent limits. (Table A2 of 10 CSR 20-7, pg.34)

Acute AQL: e^(1.0166 * ln213 – 3.062490) * (1.136672 – ln213 *0.041838) = 9.935 µg/L [at hardness 213]
TR Conversion: AQL/Translator = 9.935 / 0.85 = 11.688 [at hardness 213]

Copper, Total Recoverable.
The RP analysis for outfall #003 has found reasonable potential to contribute to pollution of waters of the state for this parameter. The categorical effluent limit in 40 CFR 440.102(b) requires a copper maximum daily concentration of 0.30 mg/L (300 µg/L). The water quality based effluent limitations are calculated below, and are more protective than the categorical effluent limits. (Table A2 of 10 CSR 20-7, pg.34)

Acute AQL: e^(0.9422 * ln213 – 1.700300) * (0.960) = 27.393 µg/L [at hardness 213]
TR Conversion: AQL/Translator = 27.393 / 0.85 = 32.227 [at hardness 213]

Lead, Total Recoverable.
The RP analysis for outfall #003 has found reasonable potential to contribute to pollution of waters of the state for this parameter. The categorical effluent limit in 40 CFR 440.102(b) requires a copper maximum daily concentration of 0.60 mg/L (600 µg/L). The water quality based effluent limitations are calculated below, and are more protective than the categorical effluent limits. (Table A2 of 10 CSR 20-7, pg.34)

Acute AQL: e^(1.273 * ln213 – 1.460448) * (1.46203 – ln213 * 0.145712) = 145.478 µg/L [at hardness 213]
TR Conversion: AQL/Translator = 145.478 / 0.39 = 373.022 [at hardness 213]

Mercury, Total Recoverable.
Daily monitoring only when a chronic or catastrophic storm event occurs. Discharge permissible only under circumstances listed in special condition #2.

Selenium, Total Recoverable
Daily monitoring only when a chronic or catastrophic storm event occurs. Discharge permissible only under circumstances listed in special condition #2.

Thallium, Total Recoverable
Daily monitoring only when a chronic or catastrophic storm event occurs. Discharge permissible only under circumstances listed in special condition #2.

Zinc, Total Recoverable.
Daily monitoring only when a chronic or catastrophic storm event occurs. Discharge permissible only under circumstances listed in special condition #2.

OTHER:

Chloride
Daily monitoring only when a chronic or catastrophic storm event occurs. Discharge permissible only under circumstances listed in special condition #2.

Sulfate
Daily monitoring only when a chronic or catastrophic storm event occurs. Discharge permissible only under circumstances listed in special condition #2.

Chloride Plus Sulfate
The RP analysis for outfall #003 has found reasonable potential to contribute to pollution of waters of the state for this parameter. The water quality based effluent limitations are calculated below.

Acute WLA: Ce = ((0.495 cfsDF + 0 cfsZID) * 1000 – (0 cfsZID * 0 background)) / 0.495 cfsDF = 1000

PART V. 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.

PERMIT SYNCHRONIZATION:
Permits are normally issued on a five-year term, but to achieve watershed synchronization some permits will need to be issued for less than the full five years as allowed by regulation. The intent is all permits within a watershed will move through the Watershed Based Management (WBM) cycle together will all expire in the same fiscal year. This will allow the Department to explore a watershed based permitting effort at some point in the future. Renewal applications must continue to be submitted within 180 days of expiration, however, in instances where effluent data from the previous renewal is less than two years old, such data may be re-submitted to meet the requirements of the renewal application. If the permit provides a schedule of compliance for meeting new water quality based effluent limits beyond the expiration date of the permit, the time remaining in the schedule of compliance will be allotted in the renewed permit.

- ✓ If the Department issues the permit at this time, the effective period of the permit would be less than one year in length. To ensure efficient use of Department staff time, reduce the Department's permitting back log, and to provide better service to the facility by avoiding another renewal application to be submitted in such a short time period, this operating permit will be issued for the maximum timeframe of five years and synced with other permits in the watershed at a later date.

PUBLIC NOTICE:
The Department shall give public notice a draft permit has been prepared and its issuance is pending. Additionally, public notice will be issued if a public hearing is to be held because of a significant degree of interest in or with concerns related to a draft permit. No public notice is required when a request for a permit modification or termination is denied; however, the requester and facility must be notified of the denial in writing. https://dnr.mo.gov/water/what-were-doing/public-notices The Department must issue public notice of a pending operating permit. The public comment period is the length of time not less than 30 days following the date of the public notice which interested persons may submit written comments about the proposed permit.

For persons wishing to submit comments regarding this proposed operating permit, please refer to the Public Notice page located at the front of this draft operating permit. The Public Notice page gives direction on how and where to submit appropriate comments. All comments must be in written form.

- ✓ The Public Notice period for this operating permit started January 7, 2022 and ended February 7, 2022. No comments were received.

DATE OF FACT SHEET: NOVEMBER 10, 2021
COMPLETED BY:
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STANDARD CONDITIONS FOR NPDES PERMITS
ISSUED BY
THE MISSOURI DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION
REVISED
AUGUST 1, 2014

These Standard Conditions incorporate permit conditions as required by 40 CFR 122.41 or other applicable state statutes or regulations. These minimum conditions apply unless superseded by requirements specified in the permit.

Part I – General Conditions
Section A – Sampling, Monitoring, and Recording

1. **Sampling Requirements.**
   a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
   b. All samples shall be taken at the outfall(s) or Missouri Department of Natural Resources (Department) approved sampling location(s), and unless specified, before the effluent joins or is diluted by any other body of water or substance.

2. **Monitoring Requirements**.
   a. Records of monitoring information shall include:
      i. The date, exact place, and time of sampling or measurements;
      ii. The individual(s) who performed the sampling or measurements;
      iii. The date(s) analyses were performed;
      iv. The individual(s) who performed the analyses;
      v. The analytical techniques or methods used; and
      vi. The results of such analyses.
   b. If the permittee monitors any pollutant more frequently than required by the permit at the location specified in the permit using test procedures approved under 40 CFR Part 136, or another method required for an industry-specific waste stream under 40 CFR subchapters N or O, the results of such monitoring shall be included in the calculation and reported to the Department with the discharge monitoring report data (DMR) submitted to the Department pursuant to Section B, paragraph 7.

3. **Sample and Monitoring Calculations.** Calculations for all sample and monitoring results which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in the permit.

4. **Test Procedures**. The analytical and sampling methods used shall conform to the reference methods listed in 10 CSR 20-7.015 unless alternates are approved by the Department. The facility shall use sufficiently sensitive analytical methods for detecting, identifying, and measuring the concentrations of pollutants. The facility shall ensure that the selected methods are able to quantify the presence of pollutants in a given discharge at concentrations that are low enough to determine compliance with Water Quality Standards in 10 CSR 20-7.031 or effluent limitations unless provisions in the permit allow for other alternatives. A method is "sufficiently sensitive" when; 1) the method minimum level is at or below the level of the applicable water quality criterion for the pollutant or, 2) the method minimum level is above the applicable water quality criterion, but the amount of pollutant in a facility's discharge is high enough that the method detects and quantifies the level of pollutant in the discharge, or 3) the method has the lowest minimum level of the analytical methods approved under 10 CSR 20-7.015. These methods are also required for parameters that are listed as monitoring only, as the data collected may be used to determine if limitations need to be established. A permittee is responsible for working with their contractors to ensure that the analysis performed is sufficiently sensitive.

5. **Record Retention.** Except for records of monitoring information required by the permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five (5) years (or longer as required by 40 CFR part 503), the permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by the permit, and records of all data used to complete the application for the permit, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Department at any time.

6. **Illegal Activities.**
   a. The Federal Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under the permit shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than two (2) years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than four (4) years, or both.
   b. The Missouri Clean Water Law provides that any person or who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained pursuant to sections 644.006 to 644.141 shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than six (6) months, or by both. Second and successive convictions for violation under this paragraph by any person shall be punished by a fine of not more than $50,000 per day of violation, or by imprisonment for not more than two (2) years, or both.

Section B – Reporting Requirements

1. **Planned Changes.**
   a. The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility when:
      i. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); or
      ii. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR 122.42;
      iii. The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan;
      iv. Any facility expansions, production increases, or process modifications which will result in a new or substantially different discharge or sludge characteristics must be reported to the Department 60 days before the facility or process modification begins. Notification may be accomplished by application for a new permit. If the discharge does not violate effluent limitations specified in the permit, the facility is to submit a notice to the Department of the changed discharge at least 30 days before such changes. The Department may require a construction permit and/or permit modification as a result of the proposed changes at the facility.

2. **Non-compliance Reporting.**
   a. The permittee shall report any noncompliance which may endanger health or the environment. Relevant information shall be provided orally or via the current electronic method approved by the Department, within 24 hours from the time the permittee becomes aware of the circumstances, and shall be reported to the appropriate Regional Office during normal business hours or the Environmental Emergency Response hotline at 573-634-2436 outside of normal business hours. A written submission shall also be provided within five (5) business days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

b. The following shall be included as information which must be reported within 24 hours under this paragraph.
   i. Any unanticipated bypass which exceeds any effluent limitation in the permit.
   ii. Any upset which exceeds any effluent limitation in the permit.
   iii. Violation of a maximum daily discharge limitation for any of the pollutants listed by the Department in the permit required to be reported within 24 hours.

c. The Department may waive the written report on a case-by-case basis for reports under paragraph 2. b. of this section if the oral report has been received within 24 hours.

3. **Anticipated Noncompliance**. The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. The notice shall be submitted to the Department 60 days prior to such changes or activity.

4. **Compliance Schedules.** Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of the permit shall be submitted no later than 14 days following each schedule date. The report shall provide an explanation for the instance of noncompliance and a proposed schedule or anticipated date, for achieving compliance with the compliance schedule requirement.

5. **Other Noncompliance.** The permittee shall report all instances of noncompliance not reported under paragraphs 2, 3, and 6 of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph 2. a. of this section.

6. **Other Information**. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Department, it shall promptly submit such facts or information.

7. **Discharge Monitoring Reports.**
   a. Monitoring results shall be reported at the intervals specified in the permit.
   b. Monitoring results must be reported to the Department via the current method approved by the Department, unless the permittee has been granted a waiver from using the method. If the permittee has been granted a waiver, the permittee must use forms provided by the Department.
   c. Monitoring results shall be reported to the Department no later than the 28th day of the month following the end of the reporting period.

Section C – Bypass/Upset Requirements

1. **Definitions.**
   a. *Bypass*: the intentional diversion of waste streams from any portion of a treatment facility, except in the case of blending.
   b. *Severe Property Damage*: substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
   c. *Upset*: an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

2. **Bypass Requirements.**
   a. Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs 2. b. and 2. c. of this section.
   b. Notice.
      i. Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least 10 days before the date of the bypass.
      ii. Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in Section B – Reporting Requirements, paragraph 5 (24-hour notice).
   c. Prohibition of bypass.
      i. Bypass is prohibited, and the Department may take enforcement action against a permittee for bypass, unless:
         1. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
         2. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
         3. The permittee submitted notices as required under paragraph 2. b. of this section.
      ii. The Department may approve an anticipated bypass, after considering its adverse effects, if the Department determines that it will meet the three (3) conditions listed above in paragraph 2. c. i. of this section.

3. **Upset Requirements.**
   a. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph 3. b. of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
   b. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
      i. An upset occurred and that the permittee can identify the cause(s) of the upset;
      ii. The permitted facility was at the time being properly operated; and
      iii. The permittee submitted notice of the upset as required in Section B – Reporting Requirements, paragraph 2. b. ii. (24-hour notice).
      iv. The permittee complied with any remedial measures required under Section D – Administrative Requirements, paragraph 4.
   c. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

Section D – Administrative Requirements

1. **Duty to Comply.** The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Missouri Clean Water Law and Federal Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.
   a. The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Federal Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.
   b. The Federal Clean Water Act provides that any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed $25,000 per day for each violation. The Federal Clean Water Act provides that any person who negligently violates sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, or any requirement

imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of $2,500 to $25,000 per day of violation, or imprisonment of not more than one (1) year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than $50,000 per day of violation, or by imprisonment of not more than two (2) years, or both. Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of $5,000 to $50,000 per day of violation, or imprisonment for not more than three (3) years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than $100,000 per day of violation, or imprisonment of not more than six (6) years, or both. Any person who knowingly violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than $250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than $500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the CWA, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than $1,000,000 and can be fined up to $2,000,000 for second or subsequent convictions.

c. Any person may be assessed an administrative penalty by the EPA Director for violating section 301, 302, 306, 307, 308, 318 or 405 of this Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of this Act. Administrative penalties for Class I violations are not to exceed $10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed $25,000. Penalties for Class II violations are not to exceed $10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed $125,000.

d. It is unlawful for any person to cause or permit any discharge of water contaminants from any water contaminant or point source located in Missouri in violation of sections 644.006 to 644.141 of the Missouri Clean Water Law, or any standard, rule or regulation promulgated by the commission. In the event the commission or the director determines that any provision of sections 644.006 to 644.141 of the Missouri Clean Water Law or standard, rules, limitations or regulations promulgated pursuant thereto, or permits issued by, or any final abatement order, other order, or determination made by the commission or the director, or any filing requirement pursuant to sections 644.006 to 644.141 of the Missouri Clean Water Law or any other provision which this state is required to enforce pursuant to any federal water pollution control act, is being, was, or is in imminent danger of being violated, the commission or director may cause to have instituted a civil action in any court of competent jurisdiction for the injunctive relief to prevent any such violation or further violation or for the assessment of a penalty not to exceed $10,000 per day for each day, or part thereof, the violation occurred and continues to occur, or both, as the court deems proper. Any person who willfully or negligently commits any violation in this paragraph shall, upon conviction, be punished by a fine of not less than $2,500 nor more than $25,000 per day of violation, or by imprisonment for not more than one year, or both. Second and successive convictions for violation of the same provision of this paragraph by any person shall be punished by a fine of not more than $50,000 per day of violation, or by imprisonment for not more than two (2) years, or both.

2. **Duty to Reapply.**
   a. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit.
   b. A permittee with a currently effective site-specific permit shall submit an application for renewal at least 180 days before the expiration date of the existing permit, unless permission for a later date has been granted by the Department. (The Department shall not grant permission for applications to be submitted later than the expiration date of the existing permit.)
   c. A permittees with currently effective general permit shall submit an application for renewal at least 30 days before the existing permit expires, unless the permittee has been notified by the Department that an earlier application must be made. The Department may grant permission for a later submission date. (The Department shall not grant permission for applications to be submitted later than the expiration date of the existing permit.)

3. **Need to Halt or Reduce Activity Not a Defense.** It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

4. **Duty to Mitigate.** The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

5. **Proper Operation and Maintenance**. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

6. **Permit Actions.**
   a. Subject to compliance with statutory requirements of the Law and Regulations and applicable Court Order, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:
      i. Violations of any terms or conditions of this permit or the law;
      ii. Having obtained this permit by misrepresentation or failure to disclose fully any relevant facts;
      iii. A change in any circumstances or conditions that requires either a temporary or permanent reduction or elimination of the authorized discharge; or
      iv. Any reason set forth in the Law or Regulations.
   b. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

7. **Permit Transfer.**
   a. Subject to 10 CSR 20-6.010, an operating permit may be transferred upon submission to the Department of an application to transfer signed by the existing owner and the new owner, unless prohibited by the terms of the permit. Until such time the permit is officially transferred, the original permittee remains responsible for complying with the terms and conditions of the existing permit.
   b. The Department may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Missouri Clean Water Law or the Federal Clean Water Act.
   c. The Department, within 30 days of receipt of the application, shall notify the new permittee of its intent to revoke or reissue or transfer the permit.

8. **Toxic Pollutants.** The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Federal Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the Federal Clean Water Act within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.

9. **Property Rights.** This permit does not convey any property rights of any sort, or any exclusive privilege.

10. **Duty to Provide Information.** The permittee shall furnish to the Department, within a reasonable time, any information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the Department upon request, copies of records required to be kept by this permit.

11. **Inspection and Entry.** The permittee shall allow the Department, or an authorized representative (including an authorized contractor acting as a representative of the Department), upon presentation of credentials and other documents as may be required by law, to:
    a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of the permit;
    b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
    c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
    d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Federal Clean Water Act or Missouri Clean Water Law, any substances or parameters at any location.

12. **Closure of Treatment Facilities.**
    a. Persons who cease operation or plan to cease operation of waste, wastewater, and sludge handling and treatment facilities shall close the facilities in accordance with a closure plan approved by the Department.
    b. Operating Permits under 10 CSR 20-6.010 or under 10 CSR 20-6.015 are required until all waste, wastewater, and sludges have been disposed of in accordance with the closure plan approved by the Department and any disturbed areas have been properly stabilized. Disturbed areas will be considered stabilized when perennial vegetation, pavement, or structures using permanent materials cover all areas that have been disturbed. Vegetative cover, if used, shall be at least 70% plant density over 100% of the disturbed area.

13. **Signatory Requirement.**
    a. All permit applications, reports required by the permit, or information requested by the Department shall be signed and certified. (See 40 CFR 122.22 and 10 CSR 20-6.010)
    b. The Federal Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than six (6) months per violation, or by both.
    c. The Missouri Clean Water Law provides that any person who knowingly makes any false statement, representation or certification in any application, record, report, plan, or other document filed or required to be maintained pursuant to sections 644.006 to 644.141 shall, upon conviction, be punished by a fine of not more than ten thousand dollars, or by imprisonment for not more than six months, or by both.

14. **Severability.** The provisions of the permit are severable, and if any provision of the permit, or the application of any provision of the permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of the permit, shall not be affected thereby.

AP40515

MISSOURI DEPARTMENT OF NATURAL RESOURCES
WATER PROTECTION PROGRAM
FORM A – APPLICATION FOR NONDOMESTIC PERMIT UNDER MISSOURI CLEAN WATER LAW

FOR AGENCY USE ONLY	
CHECK NUMBER	
DATE RECEIVED 10/06/22	FEE SUBMITTED
JET PAY CONFIRMATION NUMBER	

PLEASE READ ALL THE ACCOMPANYING INSTRUCTIONS BEFORE COMPLETING THIS FORM. SUBMITTAL OF AN INCOMPLETE APPLICATION MAY RESULT IN THE APPLICATION BEING RETURNED.

IF YOUR FACILITY IS ELIGIBLE FOR A NO EXPOSURE EXEMPTION:
Fill out the No Exposure Certification Form (Mo 780-2828): https://dnr.mo.gov/forms/780-2828-f.pdf

1. REASON FOR APPLICATION:

☐ a. This facility is now in operation under Missouri State Operating Permit (permit) MO – _____, is submitting an application for renewal, and there is no proposed increase in design wastewater flow. Annual fees will be paid when invoiced and there is no additional permit fee required for renewal.

☐ b. This facility is now in operation under permit MO – _____, is submitting an application for renewal, and there is a proposed increase in design wastewater flow. Antidegradation Review may be required. Annual fees will be paid when invoiced and there is no additional permit fee required for renewal.

☐ c. This is a facility submitting an application for a new permit (for a new facility). Antidegradation Review may be required. New permit fee is required.

☑ d. This facility is now in operation under Missouri State Operating Permit (permit) MO – 0001121 and is requesting a modification to the permit. Antidegradation Review may be required. Modification fee is required.

2. FACILITY

NAME		TELEPHONE NUMBER WITH AREA CODE	
The Doe Run Company - Glover Facility			
ADDRESS (PHYSICAL)	CITY	STATE	ZIP CODE
42850 Highway 49	Annapolis	MO	63620

3. OWNER

NAME		TELEPHONE NUMBER WITH AREA CODE	
The Doe Run Resources Corporation d/b/a The Doe Run Company		573-244-8107	
EMAIL ADDRESS			
gbodnar@doerun.com			
ADDRESS (MAILING)	CITY	STATE	ZIP CODE
1801 Park 270 Drive, Suite 300	St. Louis	MO	63146

4. CONTINUING AUTHORITY

NAME		TELEP HONE NUMBER WITH AREA CODE	
(Same as above)			
EMAIL ADDRESS			
ADDRESS (MAILING)	CITY	STATE	ZIP CODE

5. OPERATOR CERTIFICATION

NAME	CERTIFICATE NUMBER	TELEPHONE NUMBER WITH AREA CODE	
N/A			
ADDRESS (MAILING)	CITY	STATE	ZIP CODE

6. FACILITY CONTACT

NAME	TITLE	TELEP HONE NUMBER WITH AREA CODE
Genevieve Sutton	Remediation Manager	573-244-8107
E-MAIL ADDRESS		
gbodnar@doerun.com		

7. DOWNSTREAM LANDOWNER(S) Attach additional sheets as necessary.

NAME			
Robert Price			
ADDRESS	CITY	STATE	ZIP CODE
7 Mustang Trail Ct.	St. Peters	MO	63376

8. ADDITIONAL FACILITY INFORMATION

8.1 Legal Description of Outfalls. (Attach additional sheets if necessary.)
For Universal Transverse Mercator (UTM), use Zone 15 North referenced to North American Datum 1983 (NAD83)

001 SW ¼ SW ¼ Sec 2 T 32N R 3E Iron County
UTM Coordinates Easting (X): 704209 Northing (Y): 4150690

~~002~~ ____ ¼ ____ ¼ Sec ____ T ____ R ____ ____ County
~~UTM Coordinates Easting (X):~~ ____ ~~Northing (Y):~~ ____

003 NW ¼ SW ¼ Sec 11 T 32N R 3E Iron County
UTM Coordinates Easting (X): 704080 Northing (Y): 4150658

006 NW ¼ SW ¼ Sec 11 T 32N R 3E Iron County
UTM Coordinates Easting (X): 704157 Northing (Y): 4150627

Include all subsurface discharges and underground injection systems for permit consideration.

8.2 Primary Standard Industrial Classification (SIC) and Facility North American Industrial Classification System (NAICS) Codes.
Primary SIC 1031 and NAICS 212230 SIC ____ and NAICS ____
SIC ____ and NAICS ____ SIC ____ and NAICS ____

9. ADDITIONAL FORMS AND MAPS NECESSARY TO COMPLETE THIS APPLICATION

A. Is this permit for a manufacturing, commercial, mining, solid/hazardous waste, or silviculture facility? YES ☐ NO ☑
If yes, complete Form C.

B. Is the facility considered a "Primary Industry" under EPA guidelines (40 CFR Part 122, Appendix A) : YES ☐ NO ☑
If yes, complete Forms C and D.

C. Is wastewater land applied? YES ☐ NO ☑
If yes, complete Form I.

D. Are sludge, biosolids, ash, or residuals generated, treated, stored, or land applied? YES ☐ NO ☑
If yes, complete Form R.

E. Have you received or applied for any permit or construction approval under the CWA or any other environmental regulatory authority? YES ☐ NO ☑
If yes, please include a list of all permits or approvals for this facility:
Environmental Permits for this facility: ____

F. Do you use cooling water in your operations at this facility? YES ☐ NO ☑
If yes, please indicate the source of the water: ____

G. Attach a map showing all outfalls and the receiving stream at 1" = 2,000' scale.

10. ELECTRONIC DISCHARGE MONITORING REPORT (eDMR) SUBMISSION SYSTEM

Per 40 CFR Part 127 National Pollutant Discharge Elimination System (NPDES) Electronic Reporting Rule, reporting of effluent limits and monitoring shall be submitted by the permittee via an electronic system to ensure timely, complete, accurate, and nationally consistent set of data. **One of the following must be checked in order for this application to be considered complete.** Please visit https://dnr.mo.gov/env/wpp/edmr.htmfor information on the Department's eDMR system and how to register.

☐ - I will register an account online to participate in the Department's eDMR system through the Missouri Gateway for Environmental Management (MoGEM) before any reporting is due, in compliance with the Electronic Reporting Rule.

☑ - I have already registered an account online to participate in the Department's eDMR system through MoGEM.

☐ - I have submitted a written request for a waiver from electronic reporting. See instructions for further information regarding waivers.

☐ - The permit I am applying for does not require the submission of discharge monitoring reports.

11. FEES

Permit fees may be paid by attaching a check, or online by credit card or eCheck through the JetPay system. Use the URL provided to access JetPay and make an online payment:
For new permits: https://magic.collectorsolutions.com/magic-ui/payments/mo-natural-resources/591

For modifications: https://magic.collectorsolutions.com/magic-ui/payments/mo-natural-resources/596

12. CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME AND OFFICIAL TITLE (TYPE OR PRINT)	TELEPHONE NUMBER WITH AREA CODE
Michael Montgomery, Vice President EH&S	314-453-7678
SIGNATURE	DATE SIGNED
	10-5-2022

E. Coli results for Glover

Monitoring Period	Outfall 003	Outfall 006
2022-Q3 (Aug 25)	<10	
Overflow May 6		2.0
Overflow May 5		2.0
2022-Q2 (May 4)	<1	
Overflow May 3		<1
Overflow April 21		<1
Overflow April 16		7.5
Overflow April 14		32.3
Overflow April 13		43.2
2022 - Q1	NOT REQUIRED	E. Coli was not required for overflows until March 1, 2022 permit
2021 - Q4 (Oct)	Did not sample	
2021 - Q3 (July 30)	<1	
2021 - Q2 (May 5)	<1	
2021 - Q1	NOT REQUIRED	
2020 - Q4 (Oct 29)	26.2	
2020 - Q3 (Sept 16)	<1	
2020 - Q2 (May 11)	<1	
2020 - Q1	NOT REQUIRED	

THE DOE RUN COMPANY

Remediation Group

Genevieve Sutton, PE
Remediation Manager

October 6, 2022

Mr. Kyle O'Rourke, Environmental Scientist
Missouri Department of Natural Resources
Water Protection Program
Operating Permits Section
PO Box 176
Jefferson City, MO 65102-0176

Re: Modification requested to NPDES Permit MO-0001121, Effective March 1, 2022

Dear Mr. O'Rourke:

After issuance of the most recent Missouri State Operating Permit, MO-0001121, which was effective on March 1, 2022, Doe Run experienced several overflow events, which triggered sampling requirements at Outfall 006. In this newly issued permit, we accepted a requirement to monitor for E. Coli populations present in the emergency overflow discharges from Outfall 006 between April 1 and October 31 (the recreational season). Tests for E. Coli by method SM 9223B require a very short hold time (6 hours according to our consultant lab). The overflows do not always occur during a time/day in which it is possible to get the sample to a lab within appropriate hold times. For example, we have had overflows occur at night or over a weekend. The hold times for every Outfall 006 overflow sample taken in the recreational season of 2022 have been exceeded.

The permit also requires that scheduled quarterly samples for E. Coli are taken from Outfall 003, the water treatment plant discharge. After reviewing the Outfall 003 results from 2020, 2021, and 2022 to date, and the recent Outfall 006 samples, it appears there is not a need to continue to sample the emergency overflows for E. Coli. Results have consistently been below the permit limits for Outfall 003 at both Outfall 003 and Outfall 006. Please see the attached table that summarizes the results.

Therefore, Doe Run requests that the Operating Permit MO-0001121 be modified to remove the requirement to monitor E. Coli at Outfall 006. I have included a completed Form A and will submit payment online via Jet-Pay once you indicate you have received this request letter.

If you have any questions or require additional information, please contact me at 573-244-8107, or via email at gbodnar@doerun.com.

Sincerely,

Genevieve M. Sutton, PE
Remediation Manager

PO Box 500
Viburnum, MO 65566