

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION



MISSOURI STATE OPERATING PERMIT

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

Permit No.: MO-G840000

Owner:
Address:

Continuing Authority:
Address:

Facility Name:
Facility Address:

Legal Description:
UTM Coordinates:

Receiving Stream:
First Classified Stream and ID:
USGS Basin and Sub-watershed No.:

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

FACILITY DESCRIPTION

All Outfalls - SIC Codes 1455, 1459

Process wastewater, mine dewatering, and stormwater discharges associated with clay mining, processing, and stockpiles.

This permit authorizes only process wastewater and/or stormwater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas. This permit may be appealed in accordance with RSMo Section 621.250, 640.013, and 644.051.6; 10 CSR 20-1.020 and 20-6.020 of the Law.

July 1, 2016
Effective Date


Sara Parker Pauley, Director, Department of Natural Resources

June 30, 2021
Expiration Date


John Madros, Director, Water Protection Program

APPLICABILITY

1. This Missouri State Operating Permit (permit) authorizes the discharge of process wastewater, mine dewatering, and stormwater from clay mining, processing, and stockpiles to waters of the state of Missouri from multiple industries, including permittees (facilities) with the primary Standard Industrial Classification (SIC) Codes:

<u>SIC Code</u>	<u>Activity</u>
1455	Kaolin and Ball Clay
1459	Clay, Ceramic, and Refractory Minerals, Not Elsewhere Classified

or facilities that the Missouri Department of Natural Resources (department) determines are similar to facilities that are under the above SIC Codes.

2. For the purposes of this permit, clay mine is defined as the open mining pit or strip, any sedimentation basins, topsoil, overburden, clay stockpile areas, loading areas, unloading areas, washing facilities, hauling roads, and any other disturbed areas associated with the mining activity not otherwise covered by another permit. Clay stockpiles remote from the clay mine are considered part of the clay mine and are subject to this permit.
3. For the purposes of this permit, process wastewater shall be defined as any water used in the slurry transport of mined material, air emissions control, equipment and vehicle washing, separation processes (e.g., flotation, heavy media separation), or processing exclusive of mining. It also includes any water (e.g., stormwater, groundwater seepage) which becomes commingled with such wastewater in a pit, pond, lagoon, mine, or other facility used for treatment of such wastewater. Such discharges are considered to be a process wastewater discharge even if it occurs during a precipitation event. Process wastewater discharges are subject to treatment processes, as necessary, to comply with the effluent limitations in this permit. This permit does not authorize the discharge of waters with added detergents, additives, cleaners, or solvents. For the purpose of this permit, coagulants and flocculants are not considered to be “additives” and may be added to wastewater in accordance with manufacturer’s instructions in order to meet permit requirements.
4. For the purposes of this permit, mine dewatering shall be defined as any water (e.g., stormwater, groundwater seepage) that is impounded or that collects in a pit or mine and is pumped, drained, or otherwise removed from the mine through the efforts of the mine operator. This term also includes wet pit overflows caused solely by direct rainfall and ground water seepage. However, if a mine is also used for the treatment of process wastewater, discharges of commingled water (process wastewater, stormwater, and/or groundwater seepage) from the mine shall be deemed discharges of process wastewater.
5. For the purposes of this permit, stormwater is defined as stormwater runoff, snow melt runoff, and surface runoff and drainage.
6. This permit does not authorize the mining activity, only water discharges that result from the activity. This permit must be obtained prior to commencing any mining operations. A permit authorizing the mining activities must also be obtained from the Land Reclamation Program, which can be contacted at 573-751-4041.
7. Facilities holding this permit are exempted from obtaining a land disturbance permit for activities covered by the permit.
8. This permit does not authorize the disposal of coal combustion residuals or ash. Disposal of coal combustion residuals or ash into a pit or mine is prohibited as it does not meet the definition of beneficial use (40 CFR 257.53).
9. This permit applies only to discharges originating from the mining of clay and incidental materials associated with the mining of clay.
10. This permit does not authorize process wastewater, mine dewatering, or stormwater discharges:
 - (a) Within 100 feet of a Class W¹ or mitigated wetland;
 - (b) Within 300 feet upstream of streams, lakes, or reservoirs with the designated use of drinking water supply;
 - (c) Within 300 feet upstream of waters that have been identified as a losing stream, sinkhole, or other direct conduit to groundwater;
 - (d) Within 1,000 feet upstream of streams, lakes, or reservoirs identified as critical habitat for endangered species;
 - (e) Within 2 miles upstream of biocriteria reference locations¹.

¹ Identified or described in 10 CSR 20-7. These regulations are available at many libraries and online at www.sos.mo.gov/adrules/csr/current/10csr/10csr.asp, or may be purchased from the department by calling the department’s Water Protection Program.

APPLICABILITY (continued)

11. For discharges to Outstanding State Resource Waters (OSRW) or within the watershed of Outstanding National Resource Waters (ONRW), which includes the Ozark National Riverways and the Wild and Scenic Rivers System, this permit:
 - (a) Authorizes **no-discharge facilities** [as defined in 10 CSR 20-6.015(1)(B)7.] to operate. If a no-discharge facility desires to become a facility that is authorized to discharge stormwater, the facility is directed to contact the department to discuss applicability. Any discharge from a no-discharge facility will be considered a violation of this permit unless a catastrophic or chronic storm event [as defined in 10 CSR 20-6.015(1)(B)] occurs. In the event of a catastrophic or chronic storm event, the no-discharge facility is authorized to release only the amount of stormwater required to prevent damage to the facility or established Best Management Practices (BMPs).
 - (b) Authorizes **stormwater discharge facilities** to operate and continue to discharge stormwater so long as the benchmarks set forth in this permit are not exceeded. Should a benchmark be exceeded, the discharge is considered to cause degradation in water quality of the OSRW and the facility must take corrective action to meet the benchmarks. OSRWs and ONRWs are protected against any degradation in quality as defined in 10 CSR 20-7.015(6)(B) and 7.031(3)(C). Failure to take corrective action to address a benchmark exceedance and failure to make tangible progress towards achieving compliance with the benchmarks is a permit violation. More detailed requirements concerning stormwater discharges are found in the Stormwater Requirement section of this permit. If exceedances of benchmarks continue to occur, the department may require the facility to operate as a no-discharge facility under this permit or to apply for a site-specific permit.
 - (c) Does not authorize discharge of process wastewater or mine dewatering directly to or within the watershed of an ONRW per 10 CSR 20-7.015(6)(A)3.
12. In the event that a sinkhole develops or a losing stream or sinkhole is discovered during mining operations, the permit holder shall have thirty (30) days to comply with setbacks prescribed in this permit or begin reclamation of the facility.
13. The department may require any facility authorized by a general permit to apply for a site-specific permit [10 CSR 20-6.010(13)(C)]. Cases where a site-specific permit may be required include, but are not limited to, the following:
 - (a) The discharge(s) is a significant contributor of a pollutant(s) which impairs the beneficial uses of the receiving stream;
 - (b) The discharger is not in compliance with the conditions of the general permit; or
 - (c) A Total Maximum Daily Load (TMDL) containing requirements applicable to the discharge(s) is approved.
14. Facilities that are located within the watershed of an impaired water as designated on the 305(b) Report need to be evaluated on a case-by-case basis for inclusion under this permit. Missouri's impaired waters can be found at www.dnr.mo.gov/env/wpp/waterquality/index.html. Facilities that are found to be discharging the listed pollutant(s) of concern for any impaired water may be required to obtain a site-specific permit.
15. If a facility covered under a current general permit desires to apply for a site-specific permit, the facility may do so by contacting the department for application requirements and procedures.
16. Facilities covered under a current site-specific permit who desire to apply for inclusion under this general permit may contact the department for application requirements and procedures.
17. The following are allowable non-stormwater discharges authorized under this permit:
 - (a) Discharges from fire-fighting activities;
 - (b) Fire hydrant flushing (testing);
 - (c) Potable water, including water line flushing (testing);
 - (d) Uncontaminated condensate from air conditioners, coolers, and other compressors and from the outside storage of refrigerated gases or liquids;
 - (e) Irrigation drainage;
 - (f) Landscape watering, provided all pesticides, herbicides, and fertilizers have been applied in accordance with manufacturer's instructions;
 - (g) Pavement wash waters where no detergents are used and no spills or leaks of toxic or hazardous materials have occurred (unless all spilled material has been removed);
 - (h) Routine external building wash down that does not use detergents;
 - (i) Uncontaminated ground water or spring water;
 - (j) Foundation or footing drains where flows are not contaminated with process materials; and
 - (k) Incidental windblown mist from cooling towers that collects on rooftops or adjacent portions of your facility, but not intentional discharges from the cooling tower (e.g., "piped" cooling tower blowdown or drains).

PERMIT REQUIREMENTS

1. Facilities shall manage materials (products, stockpiles, waste piles, etc.) to ensure that these materials are not transported off-site or into a water of the state during a high water event.
2. Facilities shall take precautions to ensure activities do not cause or contribute to an alteration of the stream channel. Stream channel alterations require review by the United States Army Corps of Engineers under Section 404 of the federal Clean Water Act (CWA) and by the department under Section 401 of the federal CWA.
3. The department may collect a sample of stormwater, mine dewater, and process wastewater discharges during site inspection.
4. The results of all samples from a discharge that are collected and analyzed must be submitted to the department.
5. All fueling facilities present on-site shall adhere to applicable federal and state regulations, including spill prevention, control, and countermeasures concerning underground storage, above ground storage, and dispensers.
6. The discharge shall not contain floating solids or visible foam in other than trace amounts.
7. All outfalls and land application areas must be clearly marked in the field.
8. Release of a hazardous substance must be reported to the department in accordance with 10 CSR 24-3.010 and must be reported to the department at the earliest practicable moment, but no greater than 24 hours after the spill occurs. A record of each reportable spill shall be retained with the Stormwater Pollution Prevention Plan (SWPPP) and made available to the department upon request. If the spill occurs outside of normal business hours, or if the permit holder cannot reach regional office staff for any reason, the permit holder is instructed to report the spill to the department's 24 hour Environmental Emergency Response hotline at (573) 634-2436 at the earliest practicable moment after discovery. Leaving a message on a department staff member voice-mail does not satisfy this reporting requirement. This requirement is in addition to the Noncompliance Reporting requirement found in Standard Conditions Part I.
9. Release of a hazardous substance must be cleaned up within 24 hours or as soon as possible. The department may also require the submittal of a written or electronic report detailing measures taken to clean up the spill within five (5) days of the spill. Such a report must include the type of material spilled, volume, date of spill, date clean-up was completed, clean-up method, and final disposal method. The following spills are required to meet these requirements:
 - (a) Any spill of any material that leaves the property of the facility; and
 - (b) Any spill of any material, outside of secondary containment exposed to precipitation, greater than 25 gallons or an equivalent volume of solid material.
10. It is a violation of the Missouri Clean Water Law to fail to pay fees associated with this permit (Section 644.055, RSMo). The fees can be found at 10 CSR 20-6.011.
11. All conditions in this permit and those in Standard Conditions Part I must be complied with. At no time shall any discharge result in a violation of Water Quality Standards [10 CSR 20-7.031]. A facility will be required to obtain a site-specific permit if the department determines that a site-specific permit is necessary to protect water quality.

FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

TABLE A-1		FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS FOR ALL FACILITIES				
The facility is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. For all facilities, these final effluent limitations shall be effective at issuance of the Master General Permit. Such discharges shall be controlled, limited, and monitored by the facility as specified below:						
EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	SAMPLING FREQUENCY	SAMPLE TYPE
<u>Process Wastewater****</u>						
Flow	gpd	*		*	once/quarter***	24 hr. estimate
Oil and Grease	mg/L	15		10	once/quarter***	grab
pH**	SU	6.5 - 9.0		6.5 - 9.0	once/quarter***	grab
Settleable Solids	ml/L	1.5		1.0	once/quarter***	grab
Total Suspended Solids	mg/L	50		25	once/quarter***	grab
<u>Mine Dewatering****</u>						
Flow	gpd	*		*	once/quarter***	24 hr. estimate
Oil and Grease	mg/L	15		10	once/quarter***	grab
pH**	SU	6.0 - 9.0		6.0 - 9.0	once/quarter***	grab
Settleable Solids	ml/L	1.5		1.0	once/quarter***	grab
Total Suspended Solids	mg/L	90		45	once/quarter***	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>QUARTERLY</u> TO THE APPROPRIATE REGIONAL OFFICE. THE FIRST REPORT IS DUE MONTH 28, 20XX . IT IS A VIOLATION OF THIS PERMIT TO FAIL TO SAMPLE.						

- * Monitoring requirement only.
- ** pH is measured in standard units and is not to be averaged.
- *** If a discharge occurs during the reporting period, samples shall be collected and tested for the parameters listed in Table A-1. Report as no-discharge when a discharge does not occur during the reporting period. If multiple samples are collected and analyzed during a quarter, the multiple samples are not to be averaged at intervals exceeding one calendar month.
- **** Mine dewatering and process wastewater are two separate discharge types and samples must be collected for each type of discharge. The definitions of each discharge type can be found in the applicability section of this permit.

Sample and Reporting Schedule for Quarterly Sampling	
Sample discharge at least once for the months of:	Report is due:
January, February, March (1st Quarter)	April 28
April, May, June (2nd Quarter)	July 28
July, August, September (3rd Quarter)	October 28
October, November, December (4th Quarter)	January 28

STORMWATER MONITORING REQUIREMENTS

TABLE A-2		BENCHMARKS AND MONITORING REQUIREMENTS FOR ALL FACILITIES			
The facility is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The benchmarks shall become effective upon issuance of the permit and remain in effect until the expiration of the permit. Such discharges shall be controlled, limited, and monitored by the facility as specified below:					
DISCHARGE PARAMETER(S)	UNITS	DAILY MAXIMUM	SAMPLING FREQUENCY	SAMPLE TYPE	BENCHMARK
Stormwater					
Flow	gpd	*	once/quarter***	24 hr. estimate	-
Oil and Grease	mg/L	*	once/quarter***	grab	10
pH**	SU	*	once/quarter***	grab	6.5 - 9.0
Settleable Solids	ml/L	*	once/quarter***	grab	1.0
Total Suspended Solids	mg/L	*	once/quarter***	grab	100
MONITORING REPORTS SHALL BE SUBMITTED <u>QUARTERLY</u> TO THE APPROPRIATE REGIONAL OFFICE. THE FIRST REPORT IS DUE MONTH 28, 20XX . IT IS A VIOLATION OF THIS PERMIT TO FAIL TO SAMPLE.					

- * Monitoring requirement only.
- ** pH is measured in standard units and is not to be averaged.
- *** If a discharge occurs during the reporting period, samples shall be collected and tested for the parameters listed in Table A-2. Report as no-discharge when a discharge does not occur during the reporting period. If multiple samples are collected and analyzed during a quarter, the multiple samples are not to be averaged.

Sample and Reporting Schedule for Quarterly Sampling	
Sample discharge at least once for the months of:	Report is due:
January, February, March (1st Quarter)	April 28
April, May, June (2nd Quarter)	July 28
July, August, September (3rd Quarter)	October 28
October, November, December (4th Quarter)	January 28

STORMWATER REQUIREMENTS

1. Sampling and analysis of stormwater discharges for the above parameters shall occur quarterly with reports due on the dates specified above. The department may also require sampling and reporting as a result of illegal discharges, compliance issues, complaint investigations, or evidence of off-site impacts from activities at the facility. If such an action is needed, the department will specify in writing the sampling requirements, including such information as location and extent. It is a violation of this permit to fail to comply with said written notification to sample.
2. This permit stipulates pollutant benchmarks applicable to the facility’s stormwater discharge. The benchmarks do not constitute direct numeric effluent limitations. Benchmark exceedances alone, therefore, are not a permit violation, except for repeated exceedances to ONRWs and OSRWs. The facility shall develop and implement a SWPPP as explained in more detail later in this section. Benchmark monitoring data are primarily to determine the overall effectiveness of the SWPPP and to assist the facility in knowing when additional corrective action may be necessary to protect water quality. If a sample exceeds a benchmark, the facility must review the SWPPP and Best Management Practices (BMPs) to determine what improvements or additional controls are needed to reduce that pollutant in the stormwater discharge(s). Failure to improve BMPs or take corrective action to address a benchmark exceedance and failure to make tangible progress towards achieving a benchmark is a permit violation. Exceedances believed to be the result of legacy chemical use at the facility are not exempted from this requirement. Facilities are encouraged to contact the department to formulate a plan for investigation and clean-up if legacy chemical use is suspected to be the cause of exceedances.

STORMWATER REQUIREMENTS (continued)

3. Any time a benchmark exceedance occurs a Corrective Action Report (CAR) must be completed and documented in the SWPPP. A CAR is a document that records the efforts undertaken by the facility to improve BMPs to meet benchmarks in future samples. If the efforts taken by the facility are not sufficient and subsequent exceedances of a benchmark occur, the facility may demonstrate to the department that a benchmark value cannot be achieved. The demonstration must include rationale and supporting documentation (which would include multiple CARs) and must show that a benchmark value cannot be achieved through the application of BMPs representing available technology. Additionally, the demonstration must show that the benchmark is not feasible because no further pollutant reductions are technologically available or economically practicable in light of best industry practices. This demonstration must be presented to the department for review and approval.
4. Benchmarks are considered necessary to protect water quality and should not be exceeded during discharges resulting from a precipitation event. The BMPs at the facility should be designed to meet these benchmarks during rainfall events up to the 10-year, 24-hour rain event.
5. For flow-through BMPs, stormwater samples shall be collected once per quarter within the first 60 minutes of discharge occurring as a result of precipitation events exceeding 0.1 inches during a 24-hour period. Precipitation events include rainfall as well as run-off from the melting of frozen precipitation. Local weather stations and on-site gauges are two methods for obtaining local precipitation amounts.
6. For retention BMPs, stormwater samples shall be collected once per quarter when a discharge occurs.
7. Stormwater samples shall be collected prior to leaving or at the property boundary or before the discharge enters waters of the state on the property.
8. If data becomes available that indicates existing water quality will be protected by alternative benchmarks specific to this industry, the department will propose to incorporate those benchmarks into this permit as part of a permit modification. Such data must be approved by the department as appropriate and representative before it can be considered.
9. Stormwater discharge monitoring is not required for areas stabilized by a durable non-erosive surface, such as hauling roads that are completely covered with gravel. Further improvements or monitoring may be required if the department determines that the stabilized areas could cause degradation to waters of the state.
10. When applying for coverage under this permit, the facility shall develop a SWPPP. The facility shall select, install, use, operate, and maintain the BMPs prescribed in the SWPPP in accordance with the concepts and methods described in the following document: *Developing Your Stormwater Pollution Prevention Plan, a Guide for Industrial Operators*, (EPA 833-B-09-002) published by the United States Environmental Protection Agency (EPA) in February 2009 (www.epa.gov/npdes/pubs/industrial_swppp_guide.pdf).

The selection of control measures that prevent or reduce the discharge of pollutants in stormwater shall be specified in the SWPPP. The SWPPP shall identify the BMPs that are reasonable and effective, taking into account environmental impacts and costs. This analysis must document why no discharge or no exposure options are not feasible at the facility. This 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) and 10 CSR 20-7.015(9)(A)5.]. Failure to implement and maintain the chosen alternatives is a permit violation. Existing facilities with established SWPPPs and BMPs need not conduct an additional alternatives analysis unless new BMPs are established to address benchmark exceedances.

11. New Facilities:
 - (a) New facilities that are being issued coverage under this general permit for the first time, the SWPPP must be prepared within sixty (60) days and implemented within one hundred eighty (180) days of the permit issuance.
 - (b) Throughout coverage under this permit, the facility must perform ongoing SWPPP review and revision to incorporate any site condition changes.
 - (c) The SWPPP must be kept on-site or be made readily available to the department upon request. The SWPPP should not be sent to the department unless specifically requested.

STORMWATER REQUIREMENTS (continued)

12. Existing and Expanding Facilities:
 - (a) The facility was required to prepare a SWPPP for coverage under a previous version of this permit. The facility must review and update the SWPPP to assure that the selected BMPs continue to be appropriate and ensure implementation of all provisions of this permit by permit issuance.
 - (b) Throughout coverage under this permit, the facility must perform ongoing SWPPP review and revision to incorporate any site condition changes.
 - (c) The SWPPP must be kept on-site or be made readily available to the department upon request. The SWPPP should not be sent to the department unless specifically requested.

13. For all facilities the SWPPP must include the following:
 - (a) An assessment of all stormwater discharges associated with the facility, facility activities, and facility materials. This assessment must include a list of potential contaminants and an annual estimate of amounts that will be used in the described activities.
 - (b) A listing of BMPs and a narrative explaining how the BMPs will be implemented to control and minimize the amount of potential contaminants that enter stormwater.
 - (c) A schedule for monthly site inspections and a brief written report, which includes the name of the inspector, the signature of the inspector, and the date. The inspections must include observation and analysis of BMP effectiveness, deficiencies, and corrective action that will be taken. Deficiencies must be corrected within seven (7) days and must be documented in the inspection report. The facility may submit a written request to the department justifying additional time, if necessary, to complete corrective action. The purpose of the SWPPP and the BMPs listed therein is to prevent pollution [10 CSR 20-2.010(56)] of waters of the state. A deficiency of a BMP means it was not effective in preventing pollution of waters of the state or meeting effluent limitations of this permit. Corrective action means the facility took steps to eliminate the deficiency. Inspection reports must be kept with the SWPPP and must be made available to the department upon request.
 - (d) A provision for designating an individual to be responsible for environmental matters.
 - (e) A provision for providing training to all personnel involved in material handling, material storage, and housekeeping of areas having materials exposed to stormwater. Proof of training must be made available to the department upon request.
 - (f) A provision for evaluating effluent limitations established in this permit.

14. The following minimum BMPs must be implemented at all facilities:
 - (a) Prevent the spillage or loss of fluids, oil, grease, fuel, etc. from vehicle maintenance, equipment cleaning, or warehouse activities and thereby prevent the contamination of stormwater from these substances.
 - (b) Provide collection facilities on-site and arrange for proper disposal of waste products including, but not limited to, petroleum waste products, solid waste, de-icing/anti-icing products, and solvents.
 - (c) Store all paints, solvents, petroleum products, petroleum waste products (except fuels), and storage containers (such as drums, cans, or cartons) so that 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 countermeasures to prevent any spill 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 prevent the contamination of groundwater.
 - (d) Provide sediment and erosion control sufficient to prevent sediment loss off of the property, pollution of waters of the state, and to comply with the conditions of this permit, Missouri Clean Water Law, and the CWA. This may require the use of straw bales, silt fences, sediment basins, or other treatment structures.
 - (e) Provide good housekeeping practices on-site to keep solid waste from entering waters of the state.

15. If during the life of this permit, if a facility becomes inactive and the clay mining pits are stabilized, a stay of the stormwater sampling requirement and a reduction in site inspections may occur provided the following requirements are met.
 - (a) The facility meets the definition of "inactive." An inactive facility is defined as a facility where all industrial activities regulated by this permit are suspended yet authorization under this general permit is still required to be maintained.
 - (b) Notification of a facility becoming "inactive" shall be made in writing to the Department's Regional Office at least 15 days prior to the facility becoming inactive.
 - (c) The facility shall have met all requirements of this general permit prior to becoming "inactive."
 - (d) The facility shall continue to meet the stormwater reporting requirements of this permit. This reporting requirement shall state that sampling has not occurred because the facility is "inactive."
 - (e) Stormwater sampling requirements shall resume immediately upon the site being reactivated.
 - (f) The facility shall notify the Department's Regional Office at least 15 days prior to reactivation.
 - (g) SWPPP requirements shall be met at all times as expressed in this permit, however site inspections can be reduced to once per quarter.
 - (h) BMPs must be actively maintained and documented in the facility SWPPP.
 - (i) A deficiency of a BMP noted via the SWPPP inspection requirements, will require the site to be reactivated thus resuming quarterly storm water sampling.

LAND APPLICATION MONITORING REQUIREMENTS

TABLE A-3		LAND APPLICATION MONITORING REQUIREMENTS (Note 1)				
The facility is authorized to conduct land application of process wastewater, mine dewatering, and stormwater as specified in this permit. The land application of process wastewater, mine dewatering, and stormwater shall be controlled, limited, and monitored by the facility as specified below:						
PARAMETER(S)	UNITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	SAMPLING FREQUENCY	SAMPLE TYPE
<u>Storage Basin Operational Monitoring</u>						
Storage Basin Freeboard (Note 2)	feet	*			once/month	measured
Precipitation	inches	*			daily	total
<u>Land Application Operational Monitoring</u> (Note 3)						
Irrigation Period	hours	*			daily	total
Volume Irrigated	gallons	*			daily	total
Application Area	acres	*			daily	total
Application Rate	inches	*			daily	total
<u>Process Wastewater and Mine Dewatering Land Applied</u> (Note 3 and Note 4)						
Oil and Grease	mg/L	*			once/year	grab
MONITORING REPORTS SHALL BE SUBMITTED ANNUALLY TO THE APPROPRIATE REGIONAL OFFICE. THE FIRST REPORT IS DUE JANUARY 28, 20XX . IT IS A VIOLATION OF THIS PERMIT TO FAIL TO SAMPLE IF LAND APPLICATION OCCURS.						

* Monitoring requirement only.

Note 1 - This table applies to no-discharge, land application facilities and any facility that chooses to land apply process wastewater rather than discharge. Land application can be an alternative to treatment and discharge of process wastewater, but must be conducted in accordance with the Land Application Requirements of this permit. A facility shall report “not applicable” on the Discharge Monitoring Report if the facility does not land apply.

Note 2 - Storage basin freeboard shall be reported as storage basin water level in feet below the overflow level.

Note 3 - If land application does not occur during the report period, report as “no application”.

Note 4 - Process wastewater and mine dewatering that is land applied shall be sampled at the irrigation pump, wet well, or application vehicle.

LAND APPLICATION REQUIREMENTS

1. Land application of process wastewater and mine dewatering:
 - (a) Shall not result in a discharge of process wastewater from land application fields;
 - (b) Shall not occur during frozen, snow covered, or saturated soil conditions, or when a forecasted precipitation event is likely to produce runoff within 24 hours of land application;
 - (c) Shall occur only during daylight hours;
 - (d) Shall not be land applied within thirty (30) days prior to crop harvesting or grazing by cattle;
 - (e) Shall not exceed 0.25 inches/hour; 1.0 inches/day; 3.0 inches/week; and 40 inches/year;
 - (f) Shall not occur on slopes exceeding 20 percent (%). Land application on slopes exceeding 10 percent (%) must be applied at ½ the rate specified in (e);
 - (g) Shall not cause surface ponding or runoff of process wastewater from the application site during land application; and

LAND APPLICATION REQUIREMENTS (continued)

- (h) Shall not occur within:
 - (1) 50 feet of the property line or public road;
 - (2) 300 feet up gradient of a public or privately owned drinking water impoundment or intake, or water supply well not located on property;
 - (3) 150 feet of an occupied residence, public building, or public use area; and
 - (4) 300 feet of a sinkhole, losing stream, or other direct conduit to groundwater
- 2. The process wastewater and mine dewatering land application system shall be operated so as to provide uniform distribution of process wastewater over the entire irrigation site.
- 3. For row crop irrigation, a complete ground cover of vegetation shall be maintained on the land application site unless the crop field has erosion control measures or a slope of 4 percent (%) or less.
- 4. The land application site and system shall be visually inspected at least hourly during process wastewater land application to check for runoff and equipment malfunctions. A log of inspections shall be kept and made available to the department upon request.
- 5. There shall be no land application of any pollutant in sufficient amounts to cause harm to the soil structure or productivity, or cause stress or toxicity to plant life.
- 6. These requirements do not supersede nor remove liability for compliance with county and other local ordinances.
- 7. Records shall be maintained and summarized into an annual operating report, which shall be submitted by **January 28th** of each year for the previous calendar year period using report forms approved by the department. The summarized annual report is in addition to the reporting requirements listed in Table A-4.
 - (a) No-discharge Land Application Facilities - The summarized annual report shall include the following:
 - (1) Record of maintenance and repairs performed during the year, average number of times per month the facility is checked to see if it is operating properly, and description of any unusual operating conditions encountered during the year;
 - (2) The number of days the storage basin(s) has discharged during the year, the discharge flow, the reasons discharge occurred, and effluent analysis performed;
 - (3) A summary of the land application operations including freeboard at the start and end of the year, the number of days of land application for each month, the total gallons land applied, the total acres used, crops grown, crop yields per acre, the application rate in inches/acre/ day and for the year, the monthly and annual precipitation received at the facility, a summary of testing results for process wastewater; and
 - (4) A summary of any problems or deficiencies encountered, corrective action taken, and improvements planned.

STORAGE BASIN REQUIREMENTS

- 1. No-discharge Systems: The minimum and maximum operating water levels for the storage basin shall be clearly marked. Each basin shall be operated so that the maximum water elevation does not exceed two feet below the Emergency Spillway except due to exceedances of the 10-year, 24-hour storm events according to National Weather Service data. Process wastewater and mine dewatering shall be land applied whenever feasible based on soil and weather conditions and permit requirements. Storage basin(s) shall be lowered to the minimum operating level prior to each winter by November 30.
- 2. Storage basins shall have an emergency spillway to protect the structural integrity of structures during operation at near full water levels and in the event of overflow conditions. The spillway shall be at least one foot below top of berm. It is a violation of this permit to place material in the emergency spillway or otherwise cause it to cease to function properly, as this may result in a catastrophic failure of the storage basin.
- 3. The storage basin berms shall be mowed and kept free of any trees, muskrat dens, or other potential sources of damage to the berms.
- 4. Any unauthorized discharge from the storage basin shall be reported to the department as soon as possible but always within 24 hours of the facility becoming aware of the discharge.

STANDARD CONDITIONS

In addition to specified conditions stated herein, this permit is subject to the attached Standard Conditions Part I dated August 01, 2014, and hereby incorporated as though fully set forth herein.

1. Water Quality Standards

- (a) To the extent required by law, discharges to waters of the state shall not cause a violation of Missouri Water Quality Standards (10 CSR 20-7.031), including both specific and general criteria.
- (b) General Criteria. The following water quality criteria shall be applicable to all waters of the state at all times, including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:
 - (1) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits, or prevent full maintenance of beneficial uses;
 - (2) Waters shall be free from oil, scum, and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;
 - (3) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor, or prevent full maintenance of beneficial uses;
 - (4) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal, or aquatic life;
 - (5) There shall be no significant human health hazard from incidental contact with the water;
 - (6) There shall be no acute toxicity to livestock or wildlife watering;
 - (7) Waters shall be free from physical, chemical, or hydrologic changes that would impair the natural biological community;
 - (8) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment, and solid waste as defined in Missouri Solid Waste Law, Section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to Section 260.200-260.247, RSMo.

2. Changes in Discharges of Toxic Substances

The facility shall notify the department as soon as it knows or has reason to believe:

- (a) That an activity has occurred or will occur which would result in the discharge of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following notification levels:
 - (1) One hundred micrograms per liter (100 µg/L);
 - (2) Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile;
 - (3) Five hundred micrograms per liter (500 µg/L) for 2,5-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; or
 - (6) The notification level established by the department in accordance with 40 CFR 122.44(f).
- (b) That the facility has begun or is expected to begin to use or manufacture as an intermediate product, by-product, final product, or waste product any toxic pollutant which was not reported in the permit application.
 - (1) Toxic pollutants shall consist of, but are not limited to pollutants listed in 10 CSR 20-7.031 Table A or 40 CFR 122 Appendix D.

3. This permit may be reopened and modified or alternatively revoked and reissued to:

- (a) Comply with any applicable effluent standard or limitation issued or approved under Section 301(b)(2)(C) and (D), 304(b)(2)(A) and (B), and 307(a)(2) of the CWA, if the effluent standard or limitation issued or approved:
 - (1) Contains different conditions or is otherwise more stringent than any effluent limitation in this permit; or
 - (2) Controls any pollutant not limited in this permit.
- (b) Incorporate new or modified effluent limitations or other conditions, if the result of a wasteload allocation study, toxicity test, or other information indicates changes are necessary to assure compliance with Missouri Water Quality Standards (10 CSR 20-7.031).
- (c) Incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analysis, an effluent limitation derived from a TMDL is developed for the receiving waters, which would then be included in a list of waters of the state not fully achieving Missouri Water Quality Standards.

The permit, as modified or reissued under this paragraph, shall also contain any other requirements of the CWA then applicable

PERMIT RENEWAL

Unless this permit is terminated, the permittee shall submit an application for the renewal of this permit no later than thirty (30) days prior to the permit's expiration date. Failure to apply for renewal may result in termination of this permit and enforcement action to compel compliance with this condition and the Missouri Clean Water Law.

ELECTRONIC REPORTING

The federal NPDES eReporting rule will require participation in the department's Electronic Discharge Monitoring Report Submission System (eDMR). The department is not requiring, but would highly encourage, participation at this time. More information can be found at: <http://dnr.mo.gov/env/wpp/edmr.htm>.

PERMIT TRANSFER

This permit may be transferred to a new owner by submitting an "Application for Transfer of Operating Permit" (<http://dnr.mo.gov/forms/780-1517-f.pdf>) signed by the seller and buyer of the facility, along with the appropriate modification fee.

PERMIT TERMINATION

This permit may be terminated when activities covered by this permit have ceased and no significant materials [as defined by 10 CSR 20-6.200(1)(C)27.] remain on the property, or if on the property, are stored in such a way as to have no potential for pollution. Proper closure of any storage structure is required prior to permit termination. In order to terminate this permit, the facility shall notify the department by submitting Form H (www.dnr.mo.gov/forms/780-1409-f.pdf).

DUTY OF COMPLIANCE

The facility shall comply with all conditions of this permit. Any noncompliance with this permit constitutes a violation of Chapter 644, Missouri Clean Water Law, 10 CSR 20-6, and 10 CSR 20-7. Noncompliance may result in enforcement action, termination of this permit, or denial of the facility's request for renewal.

Missouri Department of Natural Resources Fact Sheet MO-G840000 Clay Mining

The Federal Water Pollution Control Act [Clean Water Act (CWA)] Section 402 of Public Law 92-500 (as amended) established the National Pollution 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 (Section 301 of the CWA). After a permit is obtained, a discharge not in compliance with all permit terms and conditions is unlawful. Missouri State Operating Permits (permit) are issued by the Missouri Department of Natural Resources (department) under an approved program, operated in accordance with federal and state laws (Federal CWA and Missouri Clean Water Law Section 644 as amended). Permits are issued for a period of five (5) years unless otherwise specified.

Per 40 CFR 124.56, 40 CFR 124.8, and 10 CSR 20-6.020(1)(A)2., a Fact Sheet shall be prepared to give pertinent information regarding the applicable regulations, rationale for the development of effluent limitations and conditions, and the public participation process for the permit. A Fact Sheet is not an enforceable part of a permit.

This Fact Sheet is for a:

- Master General Permit

Part I - Facility Information

Facility Type: Industrial
Facility SIC Code(s): 1455, 1459
Facility Description: Process wastewater, mine dewatering, and stormwater discharges associated with clay mining, processing, and stockpiles

Part II - Receiving Stream Information

APPLICABLE DESIGNATIONS OF WATERS OF THE STATE:

Per Missouri Effluent Regulations (10 CSR 20-7.015), the waters of the state are divided into seven (7) categories. Each category lists effluent limitations for specific parameters, which are presented in each outfall's Effluent Limitation Table and further discussed in the Derivation and Discussion of Limits section. This permit applies to facilities discharging to the following water body categories:

- Missouri or Mississippi River [10 CSR 20-7.015(2)]
- Lakes or Reservoirs [10 CSR 20-7.015(3)]
- Losing Streams [10 CSR 20-7.015(4)]
- Metropolitan No-Discharge Streams [10 CSR 20-7.015(5)]
- Special Streams [10 CSR 20-7.015(6)]
- Subsurface Waters [10 CSR 20-7.015(7)]
- All Other Waters [10 CSR 20-7.015(8)]

Missouri Water Quality Standards (10 CSR 20-7.031) defines the Clean Water Commission water quality objectives in terms of "water uses to be maintained and the criteria to protect those uses." The receiving stream and/or 1st classified receiving stream's beneficial water uses shall be maintained in accordance with 10 CSR 20-7.031(4). The effluent limitations established by this permit are intended to be protective of all streams that fall within the categories of receiving water bodies indicated above. A general permit does not take into consideration site-specific conditions.

MIXING CONSIDERATIONS:

This permit applies to receiving streams of varying low flow conditions. Therefore, the effluent limitations must be based on the smallest low flow streams considered, which includes waters without designated uses. As such, no mixing is allowed.

- Not Applicable: Mixing Zone [10 CSR 20-7.031(5)(A)4.B.(I)(a)]
- Not Applicable: Zone of Initial Dilution [10 CSR 20-7.031(5)(A)4.B.(I)(b)]

RECEIVING STREAM MONITORING REQUIREMENTS:

There are no receiving water monitoring requirements recommended at this time.

Part III - Rationale and Derivation of Effluent Limitations and Permit Conditions

ANTI-BACKSLIDING:

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

- Not Applicable: All effluent limitations in this permit are at least as protective as those previously established.

ANTIDegradation:

Antidegradation policies ensure protection of water quality for a particular water body on a pollutant by pollutant basis to ensure Water Quality Standards are maintained to support beneficial uses such as fish and wildlife propagation and recreation on and in the water. This also includes special protection of waters designated as Outstanding National Resource Waters (ONRW) or Outstanding State Resource Waters (OSRW) [10 CSR 20-7.031(3)(C)]. Antidegradation policies are adopted to minimize adverse effects on water. The department has determined that the best avenue forward for implementing the Antidegradation requirements into general permits is by requiring the appropriate development and maintenance of a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP must identify all Best Management Practices (BMPs) that are reasonable and effective, taking into account environmental impacts and costs. This analysis must document why no discharge or no exposure options are not feasible at the facility. This selection and documentation of appropriate control measures will then serve as the analysis of alternatives and fulfill the requirements of the Antidegradation Rule and Implementation Procedure 10 CSR 20-7.031(3) and 10 CSR 20-7.015(9)(A)5.

Any facility seeking coverage under this permit, which undergoes expansion or discharges a new pollutant of concern, must update their SWPPP and select new BMPs that are reasonable and cost effective. New facilities seeking coverage under this permit are required to develop a SWPPP that includes this analysis and documentation of appropriate BMPs. Renewal of coverage for a facility requires a review of the SWPPP to assure that the selected BMPs continue to be appropriate.

- Applicable: The pollutants of concern in this permit are listed in Table A-1, A-2, and A-3 of this permit. Compliance with the effluent limitations established in this permit for the protection of General Criteria, along with the evaluation and implementation of BMPs as documented in the SWPPP, meets the requirements of Missouri's Antidegradation Review [10 CSR 20-7.031(3), 10 CSR 20-7.031 Table A, and 10 CSR 20-7.015(9)(A)5].

PUBLIC NOTICE OF COVERAGE FOR AN INDIVIDUAL FACILITY:

Public Notice of reissuance of coverage is not required unless the facility has been found to be in significant noncompliance [10 CSR 20-6.020(1)(C)4.]. The need for an individual public notification process shall be determined and identified in the permit [10 CSR 20-6.020(1)(C)5.].

- Not Applicable: Public Notice is not required for issuance of coverage under this permit to individual facilities for the first time.

SCHEDULE OF COMPLIANCE (SOC):

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

- Not Applicable: This permit does not contain a schedule of compliance due to the proposed changes being technology based requirements.

SETBACKS:

Setbacks are common elements of permits and are established to provide a margin of safety in order to protect the receiving water from accidents, spills, unusual events, etc.

STORMWATER POLLUTION PREVENTION PLAN (SWPPP):

In accordance with 40 CFR 122.44(3)(k) Best Management Practices (BMPs), BMPs are implemented to control or abate the discharge of pollutants when: (1) Authorized under Section 304(e) of the CWA for the control of toxic pollutants and hazardous substances from ancillary industrial activities; (2) Authorized under Section 402(p) of the CWA for the control of 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.

In accordance with [Developing Your Stormwater Pollution Prevention Plan, a Guide for Industrial Operators](#) (EPA 833-B-09-002; www.epa.gov/npdes/pubs/industrial_swppp_guide.pdf), published by the United States Environmental Protection Agency (EPA) in February 2009, BMPs are measures or practices used to reduce the amount of pollution entering waters of the state. BMPs may take the form of a process, activity, or physical structure. EPA developed factsheets on the pollutants of concern for specific industries along with the BMPs to control and minimize stormwater (<http://water.epa.gov/polwaste/npdes/stormwater/Industrial-Fact-Sheet-Series-for-Activities-Covered-by-EPAs-MSGP.cfm>). Along with EPA's factsheets, the International Stormwater BMP database (www.bmpdatabase.org/index.htm) may provide guidance on BMPs appropriate for specific industries.

Additionally in accordance with 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 stormwater discharges.

- Applicable: A SWPPP shall be developed and implemented for each site and shall incorporate required practices identified by the department with jurisdiction, incorporate erosion control practices specific to site conditions, and provide for maintenance and adherence to the plan.

WASTELOAD ALLOCATIONS (WLA) FOR EFFLUENT LIMITATIONS:

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

- Not Applicable: WLA are not required at this time, thus no calculations were completed.

WATER QUALITY STANDARDS:

Per 10 CSR 20-7.031(4), General Criteria shall be applicable to all waters of the state at all times including mixing zones. Additionally, 40 CFR 122.44(d)(1) directs the department to include in each NPDES permit conditions to achieve water quality established under Section 303 of the CWA, including state narrative criteria for water quality.

WHOLE EFFLUENT TOXICITY (WET) TEST:

Per 10 CSR 20-7.031(1)(FF), a toxicity test conducted under specified laboratory conditions on a specific indicator organism; and per 40 CFR Section 122.2, the aggregate toxic effect of an effluent measured directly by a toxicity test. A WET test is a quantifiable method of determining if a discharge from a facility may be causing toxicity to aquatic life by itself, in combination with, or through synergistic responses when mixed with receiving stream water.

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

Part IV - Effluent Limitations Determination

Effluent limitations derived and established in the below Effluent Limitations Table are based on current operations of the facility. Future permit action due to facility modification may contain new permit terms and conditions that supersede the terms and conditions, including effluent limitations, of this permit.

EFFLUENT LIMITATIONS FOR TABLE A-1:

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MODIFIED	PREVIOUS PERMIT LIMITATIONS
FLOW	GALLONS	1	*		*	NO	
OIL AND GREASE	MG/L	2, 3	15		10	NO	
pH (PROCESS WASTEWATER)	SU	1, 2	6.5 - 9.0		6.5 - 9.0	NO	
pH (MINE DEWATERING)	SU	9	6.0 - 9.0		6.0 - 9.0	YES	6.5 - 9.0
SETTLABLE SOLIDS	ML/L	9	1.5		1.0	NO	
TOTAL SUSPENDED SOLIDS (PROCESS WASTEWATER)	MG/L	9	50		25	YES	120 DAILY MAXIMUM; 80 MONTHLY AVERAGE
TOTAL SUSPENDED SOLIDS (MINE DEWATERING)	MG/L	9	90		45	YES	120 DAILY MAXIMUM; 80 MONTHLY AVERAGE

* Monitoring requirement only

Basis for Limitations Codes:

- | | |
|---------------------------------------------|------------------------------------|
| 1. State or Federal Regulation/Law | 7. Antidegradation Policy |
| 2. Water Quality Standard | 8. Water Quality Model |
| 3. Water Quality Based Effluent Limitations | 9. Best Professional Judgment |
| 4. Lagoon Policy | 10. TMDL or Permit in lieu of TMDL |
| 5. Ammonia Policy | 11. WET Test Policy |
| 6. Antidegradation Review | 12. Dissolved Oxygen Policy |

DERIVATION AND DISCUSSION OF LIMITATIONS:

The CWA requires that all NPDES discharges to Waters of the U.S. contain technology-based or water-quality based effluent limitations, whichever is more stringent. When the EPA has not established industry specific technology based Effluent Limitation Guidelines, Missouri uses EPA’s *Technical Support Document for Water Quality Based Toxics Control* (TSD) method for calculating site-specific water-quality based effluent limitations. The TSD method is based on assumptions and statistics that apply to continuous discharges, not intermittent stormwater discharges and thus do not apply to this permit. Thus, it is the department’s policy to consult the EPA’s *Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity* (MSGP) or other applicable documents or guidance.

- **Flow:** In accordance with 40 CFR Part 122.44(i)(1)(ii), the volume of effluent discharged from each outfall is needed to assure compliance with permitted effluent limitations. If the 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 a permit modification.
- **Oil and Grease:** This permit has water quality based effluent limitations of 15 mg/L daily maximum and 10 mg/L monthly average for the protection of aquatic life per 10 CSR 20-7.031. The existing effluent limitations are carried over from the previous permit.
- **pH:** pH is not to be averaged. The effluent limitation range for process wastewater is 6.5 - 9.0 Standard pH Units (SU) per 10 CSR 20-7.031(5)(E) and is carried over from the previous permit. The effluent limitation range for mine dewatering is 6.0 - 9.0 SU, which is a Technology Based Effluent Limitation (TBEL). The Water Quality Based Effluent Limitation (WQBEL) of 6.5 - 9.0 SU is established by Missouri state regulation [10 CSR 20-7.031(5)(E)] is a chronic value. Mine dewatering discharges occur in durations of less than 48 hours, which are acute discharges. Additionally, mine dewatering discharges occur during flow events that are greater than the lowest seven-consecutive-day average flow event expected to occur, on average, once every ten years (7Q10). As a result, the TBEL of 6.0 - 9.0 has been determined to be protective of the WQBEL of 6.5 - 9.0 and is the effluent limitation implemented in this permit for mine dewatering.
- **Settleable Solids:** Settleable solids are a common constituent of stormwater runoff from disturbed areas. Effluent limitations are necessary to protect narrative criteria, 10 CSR 20-7.031(4). The existing effluent limitations are carried over from the previous permit.

- Total Suspended Solids:** Three EPA development documents that examined the clay mining industry establish specific industry guidelines [*Development Document for Interim Final Effluent Limitations Guidelines and New Source Performance Standards for the Clay, Ceramic, Refractory, and Miscellaneous Minerals* (October 1975); *Development Document for Effluent Limitations Guidelines and Standards for the Mineral Mining and Processing Industry Point Source Category* (July 1979); and *Technical Support Document for the 2004 Effluent Guidelines Program Plan* (EPA-821-R-04-014)]. All three of the development documents state that there shall be no discharge of process wastewater for all six clay subcategories [Bentonite, Fire Clay, Attapulgite and Montmorillonite (Fuller’s Earth), Shale and Common Clay, Kaolin (dry process), and Ball Clay], with an exception being made for Kaolin wet process. The Technical Support Document (TSD) for example states, “The following processes are required to achieve no discharge of process generated wastewater pollutants to navigable waters” and proceeds to include the 6 clay subcategories. This no discharge of process wastewater requirement would have minimal impact on the clay mining process as process wastewater is almost never generated. Per the TSD, the few facilities that do generate process wastewater can “achieve zero discharge by recycling wastewater through the process.”

In the development documents, mine dewatering is addressed separately from process wastewater. A mine dewatering Total Suspended Solids (TSS) value of 35 mg/L daily maximum is established as being achievable by technology for all six clay subcategories [Bentonite, Fire Clay (non-acid process), Attapulgite and Montmorillonite (Fuller’s Earth), Shale and Common Clay, Kaolin (ore dry transported process), and Ball Clay], with an exception being made for Fire Clay (acid process) and Kaolin (ore slurry pumped/wet process). For Fire Clay (acid process) a mine dewatering TSS value of 70 mg/L daily maximum and 35 mg/L monthly average is established as being achievable by technology, and for Kaolin (ore slurry pumped/wet process) a mine dewatering TSS value of 90 mg/L daily maximum and 45 mg/L monthly average is established as being achievable by technology. For informational purposes, the TSD provides some guidance on different technologies that can be implemented by a facility to achieve the established TSS values: “The predominant treatment technique for solids removal is settling ponds. Other treatment technologies that may be used include flocculation, filters, clarifiers, and thickeners.” The table below summarizes the process wastewater and mine dewatering effluent values established in the development documents.

Clay Subcategory	Process Wastewater	Mine Dewatering TSS Daily Value	Mine Dewatering TSS Monthly Value
Bentonite	No discharge allowed	35 mg/L	N/A
Fire Clay (non-acid)	No discharge allowed	35 mg/L	N/A
Fire Clay (acid)	No discharge allowed	70 mg/L	35 mg/L
Fuller's Earth	No discharge allowed	35 mg/L	N/A
Shale/Common Clay	No discharge allowed	35 mg/L	N/A
Kaolin (dry/ore dry transported)	No discharge allowed	35 mg/L	N/A
Kaolin (wet/ore slurry pumped)	Discharge allowed (TSS: Daily - 90 mg/L; Monthly - 45 mg/L)	90 mg/L	45 mg/L
Ball Clay	No discharge allowed	35 mg/L	N/A

40 CFR Part 436 supplements the guidelines established in the development documents in the form of effluent limitation guidelines (ELG) for mineral mining subcategories, which include the six clay subcategories [Bentonite, Fire Clay, Attapulgite and Montmorillonite (Fuller’s Earth), Shale and Common Clay, Kaolin, and Ball Clay]. Five of the six clay subcategories are reserved, but Bentonite has an ELG that states: “There shall be no discharge of process generated waste water pollutants into navigable waters.”

Based on the Development Documents, the TSD from the EPA, and the ELG established for Bentonite in 40 CFR Part 436, guidelines for the clay industry have been clearly established. Discharge of process wastewater is not authorized in seven of the eight clay mining processes and mine dewatering discharge is authorized at a TSS value of 35 mg/L daily maximum for six of the eight clay mining processes. For process wastewater, this permit establishes a TSS value of 50 mg/L daily maximum and 25 mg/L monthly average. For mine dewatering, this permit establishes a TSS value of 90 mg/L daily maximum and 45 mg/L monthly average. The established limitations are technology based and consistent with literature regarding the achievability by industry best practices.

SAMPLING FREQUENCY:

Sampling frequency is established in accordance with department policy. Effluent limitations are expressed in a daily maximum and a monthly average. Quarterly monitoring is required. Results from samples may be submitted as both the daily maximum and the monthly average. If the facility collects multiple samples during any month, the permit requires the facility to submit a monthly average. If no discharges occur during a sampling period, report as “no discharge.”

Part V – Benchmarks

Benchmark concentrations are not effluent limitations; benchmark exceedance, therefore, is not a permit violation. However, benchmark exceedance which causes degradation to an ONRW or an OSRW [10 CSR 20-7.031(3)(C) and 10 CSR 20-7.015(6)(B)] may be in violation of water quality standards. Benchmark monitoring data is used to determine the overall effectiveness of control measures and to assist the facility in knowing when additional corrective action(s) may be necessary to comply with the technology based effluent limitations (TBEL). Failure to take corrective action is a violation of the permit.

BENCHMARKS FOR TABLE A-2:

PARAMETER	UNIT	BASIS FOR BENCHMARK	BENCHMARK	MODIFIED	PREVIOUS PERMIT BENCHMARK
Flow	gpd	1	*	NO	
Oil & Grease	mg/L	3, 9	10	NO	
pH	SU	2	6.5 - 9.0	NO	
Settleable Solids	ml/L	9	1.0	NO	
Total Suspended Solids	mg/L	3, 9	100	YES	NEW BENCHMARK

* Monitoring requirement only.

Basis for Limitation Codes:

- | | | |
|---------------------------------------------|---------------------------|------------------------------------|
| 1. State or Federal Regulation/Law | 5. Ammonia Policy | 9. Best Professional Judgement |
| 2. Water quality Standard | 6. Antidegradation Review | 10. TMDL or Permit in Lieu of TMDL |
| 3. Water Quality Based Effluent Limitations | 7. Antidegradation Policy | 11. WET Test Policy |
| 4. Lagoon Policy | 8. Water Quality Model | 12. Dissolved Oxygen Policy |

DERIVATION AND DISCUSSION OF BENCHMARKS:

The CWA requires that all NPDES discharges to Waters of the U.S. contain technology-based or water-quality based effluent limitations, whichever is more stringent. When the EPA has not established industry specific technology based Effluent Limitation Guidelines, Missouri uses EPA’s *Technical Support Document for Water Quality Based Toxics Control* (TSD) method for calculating site-specific water-quality based effluent limitations. The TSD method is based on assumptions and statistics that apply to continuous discharges, not intermittent stormwater discharges and thus do not apply to this permit. Thus, it is the department’s policy to consult the EPA’s *Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity* (MSGP) or other applicable documents or guidance.

- **Flow:** In accordance with 40 CFR Part 122.44(i)(1)(ii), the volume of effluent discharged from each outfall is needed to assure compliance with permitted benchmarks. 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 a permit modification.
- **Oil and Grease:** The benchmark for oil and grease was established using the water quality criteria as the target. 10 CSR 20-7.031 Table A: Criteria for Designated Uses, establishes a water quality criteria of 10 mg/L for oil and grease, which is applicable to all waters of the state at all times. Oil and grease is a conventional pollutant, therefore calculations for limit derivations such as those used for toxics are not applicable. Additionally, a benchmark set at the level of 10 mg/L is expected to be protective of general criteria [10 CSR 20-7.031(4)], which are applicable to all water of the state at all times. When oil and grease levels are above 10 mg/L, a visible sheen is expected to form on a waterbody and thus general criteria violations are anticipated to occur. As a result, a benchmark of 10 mg/L ensures that BMPs are functioning at a level where discharges are protective of general criteria.
- **pH:** The range is 6.5 – 9.0 Standard pH Units (SU) per 10 CSR 20-7.031(5)(E). pH is not to be averaged. This value is carried over from the previous permit.
- **Settleable Solids:** For the settleable solids benchmark, the Department analyzed DMR records submitted from industrial facilities. Based on the 90th percentile of the DMR data, a benchmark of 1.0 ml/L was determined to be appropriate and achievable. The benchmark set at the level of 1.0 ml/L is also expected to be protective of general criteria [10 CSR 20-7.031(4)], which are applicable to all water of the state at all times.
- **Total Suspended Solids:** This permit has a benchmark of 100 mg/L, which has been determined to be feasible, affordable, and protective of water quality using best professional judgment. This value is consistently achieved in stormwater discharges by a variety of other industries with SWPPPs and is deemed protective of instream water quality.

SAMPLING FREQUENCY:

Sampling frequency is established in accordance with department policy. Quarterly monitoring is required. The frequency has increased from an annual monitoring frequency to quarterly to better capture seasonal variations in order to better protect water quality. If no discharges occur during a sampling period, report as “no discharge.”

Part VI – Land Application Requirements

Monitoring included to demonstrate proper operation of the facility. Low-rate land application does not have the potential to cause violations of water quality standards in surface or groundwater. This applies to no-discharge, land application facilities and any facility that chooses to land apply process wastewater rather than discharge. Land application must be conducted in accordance with the Land Application Requirements of this permit. A facility shall report “not applicable” on the Discharge Monitoring Report if the facility does not land apply.

LAND APPLICATION REQUIREMENTS FOR TABLE A-3:

PARAMETER	UNIT	BASIS FOR LIMITS	DAILY MAXIMUM	MODIFIED	PREVIOUS PERMIT VALUES
STORAGE BASIN FREEBOARD	FEET	4, 9	*	YES	NEW REQUIREMENT
PRECIPITATION	INCHES	4, 9	*	YES	NEW REQUIREMENT
IRRIGATION PERIOD	HOURS	4, 9	*	YES	NEW REQUIREMENT
VOLUME IRRIGATED	GALLONS	4, 9	*	YES	NEW REQUIREMENT
APPLICATION AREA	ACRES	4, 9	*	YES	NEW REQUIREMENT
APPLICATION RATE	INCHES	4, 9	*	YES	NEW REQUIREMENT
OIL AND GREASE	MG/L	4, 9	*	YES	NEW REQUIREMENT

* Monitoring requirement only

Basis for Limitations Codes:

- | | |
|---------------------------------------------|------------------------------------|
| 1. State or Federal Regulation/Law | 7. Antidegradation Policy |
| 2. Water Quality Standard | 8. Water Quality Model |
| 3. Water Quality Based Effluent Limitations | 9. Best Professional Judgment |
| 4. Lagoon Policy | 10. TMDL or Permit in lieu of TMDL |
| 5. Ammonia Policy | 11. WET Test Policy |
| 6. Antidegradation Review | 12. Dissolved Oxygen Policy |

DERIVATION AND DISCUSSION OF REQUIREMENTS:

- All parameters:** The monitoring is required to demonstrate proper operation of a no discharge facility, and to document that excessive nutrients are not land applied. Excessive nutrients are defined as greater than agronomic rates. Excessive nutrients are not anticipated.

SAMPLING FREQUENCY:

Sampling frequency is established in accordance with department policy. If no discharges occur during a sampling period, report as “no discharge.”

Part VII - Administrative Requirements

On the basis of preliminary staff review and 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 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 or because of 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 facility must be notified of the denial in writing.

The department must give public notice of a pending permit or of a new or reissued Missouri State Operating Permit. The public comment period is a length of time not less than thirty (30) days following the date of the public notice, during which interested persons may submit written comments about the proposed permit.

For persons wanting to submit comments regarding this proposed permit, please refer to the Public Notice page located at the front of this draft permit. The Public Notice page gives direction on how and where to submit appropriate comments.

- The second Public Notice period for this permit was from March 4, 2016 through April 4, 2016.
- The original Public Notice period for this permit was from March 20, 2015 through April 20, 2015. Two letters were received during the 30 day Public Notice period.

The summarized comments from the letters and the department's response to the comments are below and are in reference to all Public Notices (PN) of this permit.

Comment 1:

Language should be added to the permit that states a land disturbance permit is not required for MO-G84 facilities.

Response 1:

This language existed in previous versions of the permit and was removed after feedback from the industry. No additional wording or clarification is needed as it is not common practice to list what is not required by the permit, only what is required.

Comment 2:

Under Applicability #12, change 305(b) to 303(d).

Response 2:

Wording has been added to clarify the intent of this applicability.

Comment 3:

Clarification was requested on the basis for benchmarks for oil and grease and settleable solids in wastewater, as well as total suspended solids in stormwater.

Response 3:

The effluent limitation for oil and grease was established in the permit using the water quality criteria as the target. Missouri state regulation, 10 CSR 20-7.031 Table A: *Criteria for Designated Uses*, establishes water quality criteria of 10 mg/L for oil and grease which is applicable to all waters of the state. An effluent limitation set at the level of 10 mg/L is expected to be protective of general criteria set forth in 10 CSR 20-7.031(4) and ensures that BMPs are functioning at a level where discharges are protective of general criteria.

For settleable solids DMR records submitted from industrial facilities were analyzed to establish an appropriate limit for settleable solids. Based on the data reviewed, a limit of 1 ml/L was determined to be an appropriate and achievable limit. It is also expected to be protective of general criteria 10 CSR 20-7.031(4) which are applicable to all water of the state at all times. For total suspended solids the 100 mg/L benchmark is consistently achieved in stormwater discharges by a variety of similar industries and has been determined to be feasible, affordable and protective of water quality.

Comment 4:

Total suspended solids is not included in Table A3 under stormwater requirements.

Response 4:

Thank you for highlighting this error. The wording has been updated to include total suspended solids.

Comment 5:

In the factsheet under Part IV (Effluent Limitations Determination) the units displayed are not consistent with those shown elsewhere in the document.

Response 5:

The units in the table are consistent with the rest of the document, they are written in small caps. No action taken.

Comment 6:

Concern is expressed over lowering total suspended solids from 120/80 to 90/45. Industry is already challenged to meet current limits.

Response 6:

The department addressed this concern by meeting with industry representatives and by re-researching the justification for lowering effluent limits. Upon completion of review, it was determined that separating process wastewater and mine dewatering into two distinct categories with each having its own effluent limitation is a more appropriate approach.

Comment 7:

The pH effluent limitation in the permit should be established at 6.0 – 9.0 because the technology for meeting the proposed total suspended solids limitation works more efficiently at a lower pH

Response 7:

After discussion with industry operators and performing additional research, the department has established a pH of 6.0 – 9.0 SU for mine dewatering. This limit has been determined to be protective of water quality for this specific discharge activity. The effluent limit for process wastewater discharges has been maintained at a pH of 6.5 – 9.0 SU.

Comment 8:

The term “process wastewater” is not sufficiently defined in the permit. Also, the discussion of future permit conditions may not be appropriate in this format.

Response 8:

Definitions for process wastewater and mine dewatering have been added to the permit. The majority of future permit conditions have been removed from the factsheet upon review.

Comment 9:

There are several changes in the draft version of this permit that are appreciated. Specifically as pertain to the Class C stream language, Class W wetland clarification, a change to Stormwater pollution prevention plan onsite requirements and the requirement for a land disturbance permit.

Response 9:

Thank you for highlighting the changes to the permit that are deemed an improvement. This is valuable feedback confirming that these changes are for the better.

A copy of the modified permit draft was provided to industry representative(s) on February 1, 2016. The following comments were received:

Comment 10:

The revision to the pH number in Table A.1 is acknowledged and appreciated.

Response 10:

Thank you for your comment.

Comment 11:

The 2-year schedule of compliance that was part of the previous draft has been removed. Even with changes to the pH number in Table A.1., a schedule of compliance is needed in order to develop the treatment systems necessary to meet the revised TSS limit.

Response 11:

Thank you for your concern. It is not appropriate for the department to provide a schedule of compliance in this instance since the proposed change is a Technology Based Effluent Limitation (TBEL).

Comment 12:

It would be helpful to clarify that coagulants and flocculants that are used to meet permit effluent limitations are not considered additives, since they are intended by design to remain with the solids that are removed from the water.

Response 12:

Clarification has been added to applicability Section 3 to note that coagulants and flocculants are permitted.

Comment 13:

Under Applicability Sections 9(f) and 10, both address Outstanding National Resource Waters. Section 9f would appear to be unnecessary.

Response 13:

Section 9(f) address ONRW while section 10 mostly addresses OSRW. Changes have been made to clarify.

Comment 14:

In Table A.2, sampling frequency is increased from annually to quarterly. I would like to request that for this permit cycle, the frequency be increased to 2 times per year.

Response 14:

The department does not intend to change the schedule of monitoring frequency at this time. In the future, this suggestion may be entertained once sufficient seasonal data have been collected to support the change.

Comment 15:

In the current MO-G84 permit, there is a statement clarifying that a separate land disturbance permit is not required for the holder of the MO-G84 permit. This particular issue has been an area of confusion over the years. I think it would be relevant and helpful to continue to include this clarification.

Response 15: For the purpose of clarification, language has been added to the permit exempting the need for a land disturbance for activities covered by the permit.

Comment 16:

I would recommend removing the statement that the “effluent limitations in this permit begin the process of transitioning to the established EPA guidelines.”

Response 16:

Thank you for pointing this out. This phrase has been removed.

Comment 17:

Under Applicability Section 3, a statement has been added clarifying that coagulants and flocculants that are used to meet permit effluent limitations are not considered to be additives, and may be added to wastewater. This addition is appreciated.

Response 17:

Thank you for your comment.

DATE OF FACT SHEET: MARCH 10, 2015.

REVISED: January 21, 2016

COMPLETED BY:

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