# Water Quality Division
# Montana Pollutant Discharge Elimination System
# General Permit for Sand and Gravel Operations
# Fact Sheet

| | |
|---|---|
| Permit Number: | MTG490000 |
| Receiving Water: | Statewide Areas of Montana (except Indian reservations) |
| Facility Contact: | Applicants |
| Fact Sheet Date: | April 2019 |

## I. Permit Information

### A. Permit Status

The Montana Department of Environmental Quality (DEQ) proposes to reissue the Montana Pollutant Discharge Elimination System (MPDES) *General Permit for Sand and Gravel Operations* (General Permit), MTG490000. The most recent version of the General Permit was issued in 2017 for an abbreviated two-year term and expires October 31, 2019. The proposed reissuance is the sixth iteration of the General Permit and will be issued for a full five-year permit term.

This General Permit applies to all areas of the state of Montana except for lands within the boundaries of Indian reservations. This Fact Sheet outlines legal requirements and technical rationale for the permit development process.

### B. Proposed Permit Changes

- DEQ is not proposing significant changes from the 2017-issued permit.

### C. Description of Discharge / Permit Applicability

Sand and gravel mining and processing operations include, but are not limited to, the mining or quarrying and the processing of crushed and broken stone, rock, and riprap; sand and gravel for construction or fill purposes; and sand and gravel for uses other than construction and fill. Sand and Gravel production is the largest non-fuel mineral industry in the United States.

A "mine" is an area of land, surface or underground, actively mined for the production of crushed and broken stone, rock, riprap, and/or sand and gravel from natural deposits. "Mine dewatering" discharges are discharges to state surface waters of any water that is impounded or that collects in the mine and is pumped, drained, or removed from the mine through the efforts of the mine operator. Mine dewatering water also includes wet pit overflows caused solely by direct rainfall and ground water seepage. "Process generated wastewater" discharges are the discharges to state surface waters of any wastewater used in the slurry transport of mined material, processing exclusive to mining, air emissions control, or non-contact water for crusher bearings. Process wastewater also includes any other water that becomes commingled with such wastewater in a pit, pond, lagoon, mine or other facility used for treatment of wastewater.

## D. Eligibility

The 2019 General Permit renewal authorizes discharges within the state of Montana, excluding Indian reservations. An "owner or operator" engaged in the business of sand and gravel mining and processing as defined in 40 CFR 436 Subparts B and C and proposing to discharge mine dewatering water or process generated wastewater to state surface waters must apply and obtain authorization for the proposed discharge under this General Permit or an individual MPDES permit.

**1. Allowed Operations/Discharges**

This General Permit for Sand and Gravel Operations applies to facilities or operations that are engaged in the business of mineral mining and processing as defined in 40 CFR 436 Subparts B and C and propose to discharge mine dewatering water or process generated wastewater to state surface waters.

**a. Subpart B – Crushed Stone Subcategory**

Subpart B applies to facilities or operations that mine or quarry and process crushed and broken stone and riprap which includes all types of rock and stone. The processing of calcite, in conjunction with the processing of crushed and broken limestone or dolomite is included in Subpart B.

**b. Subpart C – Construction Sand and Gravel Subcategory**

Subpart C applies to facilities or operations that mine and process sand and gravel for construction or fill uses, except on-board processing of dredged sands and gravel subject to regulation under 33 CFR 230.

**c. Mine Dewatering**

Mine dewatering discharges are discharges to state surface waters of any water that is impounded or that collects in the mine and is pumped, drained, or removed from the mine through the efforts of the mine operator. Mine dewatering water also includes wet pit overflows caused solely by direct rainfall and ground water seepage.

**d. Process Generated Wastewater**

Process generated wastewater is generated through the process of washing aggregate. Process wastewater is any wastewater used in the slurry transport of mined material, air emissions control or processing exclusive of mining. Process wastewater also includes any other water that becomes commingled with such wastewater in a pit, pond, lagoon, mine or other facility used for treatment of wastewater.

Discharges of mine dewatering water or process wastewater from sand and gravel operations to impaired waterbodies which are consistent with the approved Total Maximum Daily Loads and any assigned wasteload allocations are eligible for coverage under the 2019-Geneal Permit.

Coverage does not relieve the permittee from any other statute, regulation, permits, or other regulatory requirements for activities occurring within the project area to include, but not limited to, any requirements, rules, and permitting pursuant to the Opencut Mining Act (MCA Title 82, Chapter 4, Part 4).

**2. Ineligible/Prohibited Operations/Discharges**

**a. Ineligible Discharges**

1) Discharges from other mining operations not defined in Subparts B and C, to include and not limited to, hard rock and talc.
2) Discharges of construction dewatering effluent to state surface waters requiring authorization under the MPDES "General Permit for Construction Dewatering."
3) Discharges of storm water to state surface waters requiring authorization under the MPDES "Multi-Sector General Permit for Storm Water Discharges Associated with Industrial Activities."
4) Discharges of storm water to state surface waters requiring authorization under the MPDES "General Permit for Storm Water Discharges Associated with Construction Activity."
5) Discharges to impaired waterbodies that are inconsistent with approved TMDLs and assigned WLAs, and the additional requirements with this permit.
6) Discharges to waterbodies that are inconsistent with additional DEQ requirements, on a case-by-case basis.

7) Discharges to surface water classified as A-Closed or A-1.
8) Discharges which the DEQ determines have a reasonable potential to cause, or contribute to, an exceedance of any applicable water quality standard, and/or DEQ determined coverage under a MPDES Individual Permit is required. DEQ will contact the applicant regarding ineligibility and request more information and fees, as needed, for Individual MPDES Permit requirements.
9) Wastewater from the washout of concrete.
10) Fuels, oils, or other potential pollutants used in vehicle and equipment operation and maintenance.
11) Toxic or hazardous substances from a spill or other release including the disturbance and/or removal of contaminated soils.

**b. DEQ may deny coverage if the permittee appears unable to comply with any of the following requirements:**

1) Effluent standards, effluent limitations, standards of performance for new sources of pollutants, toxic effluent standards and prohibitions, and pretreatment standards;
2) Water quality standards;
3) Prohibition of discharge of any radiological, chemical, or biological warfare agent or high-level radioactive waste;
4) Prohibition of any discharges to which the regional administrator has objected in writing;
5) Prohibition of any discharge which is in conflict with a plan or amendment thereto approved pursuant to section 208(b) of the Act;
6) Any additional requirements that DEQ determines are necessary; and
7) A point source that is a new source or a new discharge and the discharge from its construction or operation will cause or contribute to a violation of water quality standards.

**c. In addition, DEQ may deny coverage for the following reasons:**

1) The discharge is different in degree or nature from discharges reasonably expected from sources or activities within the category described in this MPDES General Permit (including pollutants from process wastewater streams).
2) The MPDES permit authorization for the same operation has previously been denied or revoked.
3) The discharge sought to be authorized under the 2019 General Permit is also included within an application or is subject to review under the Major Facility Siting Act,
4) The point source is, or will be, located in an area of unique ecological or recreational significance. Such determination must be based upon considerations of Montana stream classifications, impacts on fishery resources, local conditions at proposed discharge sites, and designations of wilderness areas or of wild and scenic rivers.
5) Discharges of sanitary wastewater or discharges commingled with chemicals or contaminants.
6) Dredging or filling of wetlands or other surface waters of the state.
7) The discharge is at or near a hazardous waste or other type of remediation site. If the sand and gravel operation or facility is proposed to be located near a known contamination area, or the permittee has reason to believe that the site or site's groundwater might be contaminated, they must demonstrate that there are no pollutants from the waste site in the sand and gravel effluent.

## E. Application Process

### 1. Requirements for Authorization – Notice of Intent Package

Sand and gravel operations must submit a Notice of Intent (NOI) package to DEQ. A complete NOI package requires applicants to address the following:

a. *NOI-49 Form:* The updated NOI form for sand and gravel operations is located on DEQ's website at http://deq.mt.gov/Water/permits/Discharges.
b. *Sage Grouse Habitat Executive Order No. 12-2015:* If the operation is in sage grouse core, general, or connectivity habitat, the applicant must include a consultation letter from the Sage Grouse Habitat Conservation Program.
c. *Appropriate application fee.*

**2. New Authorization Under the 2019 General Permit**

The process for obtaining first time coverage under the General Permit is as follows:

a. At least 30 days prior to operation, applicants must submit a complete NOI Package to DEQ.
b. DEQ will review the NOI package for completeness.
   - If there are no deficiencies during the review, DEQ will issue an authorization letter.
   - If the NOI package is deficient, DEQ will notify the applicant of required information.

**3. Continuing Authorization Under the 2019 General Permit**

Continued coverage applies to active permittees currently covered under the 2017-issued General Permit. DEQ will reissue authorization to existing permittees through the process outlined below:

a. Applicants with **current** general permit authorization (2017-issued General Permit) must submit a complete renewal request (NOI package) for continued coverage. DEQ must receive the NOI package **within 30 days after the effective date of the 2019-General Permit**.
b. DEQ will review the NOI package for completeness.
   - If deficiencies are not found during the review, DEQ will issue an authorization letter.
   - If the NOI package is deficient, DEQ will notify the applicant of required information.

**4. Terminating Authorization**

The options for terminating permit coverage are listed below:

a. Permit authorizations may be terminated if DEQ receives notice from the permittee that the discharge activity will not be continued.
   - This notice must be signed and certified according to the signatory requirements in the General Permit.
   - All applicable fees must be paid.
b. Alternatively, permittees may complete and submit a Request for Termination (RFT) form to DEQ.
   - The RFT form is available at http://deq.mt.gov/water/resources/Forms
   - Annual fees accrue until DEQ receives a Request For Termination.
c. Current operators may request to be excluded from coverage under this General Permit by applying for and obtaining an individual MPDES permit.
   - If an MPDES permit is issued, coverage under this General Permit will be terminated on the effective date of the final individual MPDES permit.

**5. Transferring Permit Coverage**

DEQ may transfer authorization to a new owner or operator under the General Permit.

- The current owner and the new owner must submit a completed Permit Transfer Notification form available at http://deq.mt.gov/water/resources/Forms

**6. Denied Authorizations**

If a permittee is denied authorization to operate under the General Permit, DEQ may request additional information and additional application fee and process the request for authorization through the individual MPDES permit requirements unless the applicant withdraws the NOI or modifies the operations to be eligible under the General Permit.

# II. Receiving Waters and Applicable Standards

## A. Applicable Standards

Each waterbody classification has numeric and narrative water quality standards designed to ensure beneficial uses are protected. Discharges to state waters are subject to specific water quality standards. Water quality standards apply to all state waters, meaning a body of water, irrigation system, or drainage system either on the surface or underground. State waters include ephemeral and intermittent drainages, isolated ponds, lakes and other water bodies.

Discharges into all classified waters are not allowed to cause an increase above naturally occurring concentrations of sediment or suspended sediment, settleable solids, oils, or floating solids, which are likely to create a nuisance or render the waters harmful to public health, recreation, safety, welfare, livestock, wild animals, birds, fish, or other wildlife.

### B. Pollutants of Concern

Pollutants of Concern are identified below:

- *Total suspended solids (TSS) and turbidity:* The primary pollutants of concern are TSS and turbidity. High levels of these pollutants can have direct and indirect effects on fish and other aquatic life.
- *Oil and grease and fuel:* These pollutants may be present through leaking tanks or other petroleum-based materials stored onsite or used in mining equipment.
- *pH:* Pollutant of concern subject to regulation by a federal ELG.

### C. Receiving Waters Covered by the General Permit

The General Permit allows discharges from sand and gravel operations in all state waters except those listed below.

### D. Receiving Waters Not Covered by the General Permit

The General Permit prohibits discharges in the following state waters:

- Waters classified as A-Closed because no increase above naturally occurring turbidity is allowed.
- Waters classified as A-1 because no increase above naturally occurring turbidity or suspended sediment is allowed.

### E. Mixing Zone

Consistent with all previously issued MPDES Sand and Gravel General Permits, DEQ is not authorizing mixing zones with this renewal because of the intermittent nature of mine dewatering water and process generated wastewater discharges. If a mixing zone is necessary, the applicant must obtain an MPDES individual permit.

## III. Effluent Limits and Special Conditions

As a minimum, waste must receive treatment equal to the best practicable control technology currently available. Pollutant control is established through technology-based effluent limits and water quality-based effluent limits.

### A. Technology Based Effluent Limits

Technology-based Effluent Limits (TBELs) represent the minimum level of control that must be imposed by a permit issued under the MPDES program. These technology-based requirements may be national technology standards established by EPA or, in some cases, standards established by the permit writer on a case-by-case basis. EPA promulgates national technology standards of performance at 40 CFR Subchapter N for dischargers other than publicly-owned treatment works; these standards are known as "effluent limitations guidelines" (ELGs). The Board of Environmental Review (BER) has adopted these ELGs. Under 40 CFR 436 Subpart B-Crushed Stone Subcategory and Subpart C-Construction Sand and Gravel Subcategory, sand and gravel facilities are required to meet technology-based effluent limits based on Best Practicable Treatment (BPT). BPT represents the degree of effluent reduction attainable by the application of the best practicable control technology currently available within an industrial category or subcategory. BPT standards apply to toxic, conventional, and non-conventional pollutants discharged by an existing discharge or new discharge that is not a new source.

1. ***Total Suspended Solids:*** The federal ELGs do not include total suspended solids (TSS) effluent limits for sand and gravel operations. However, the Development Document for Effluent Limit Guidelines and Standards, EPA 440/1-76/059b, July 1979 (development document) provides the rationale for the TSS limits for the Crushed Stone and Construction Sand and Gravel subcategories. Settling ponds are the most common form of treatment for discharges from sand and gravel operations, and are the basis of the TSS TBELs. When EPA has not promulgated a standard for a specific industry, permit limits may be based on best professional judgment (BPJ). Settling ponds are the primary treatment utilized by the sand and gravel operators, the proposed TSS limits of 25 mg/L average monthly and 45 mg/L maximum daily are achievable by the majority of these facilities and will provide the necessary protections for water quality. These limits will be maintained with this permit renewal.

2. ***pH:*** The pH ELGs applicable to the Crushed Stone and Construction Sand and Gravel subcategories limit discharge pH levels to within the range of 6.0 to 9.0 standard pH units. The 2017-issued permit pH limits will be maintained with this permit renewal.

Technology-based effluent limits for mine dewatering water and process generated wastewater for the Crushed Stone Subcategory and Construction Sand and Gravel Subcategory are in **Table 1.**

**Table 1: Technology-based Effluent Limits**

| Parameter | Effluent Limits | |
|---|---|---|
| | Monthly Average | Daily Maximum |
| Total Suspended Solids (TSS) | 25 mg/L | 45 mg/L |
| pH | 6.0 - 9.0 s.u. (1) | |

Footnotes:
1. Instantaneous minimum and instantaneous maximum

## B. Water Quality-based Effluent Limits

A permit may only be issued if DEQ finds that the issuance or continuance of the permit will not result in pollution of any state waters. Permits must include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards. The Montana Surface Water Quality Standards and Procedures are found in ARM 17.30.601-670, which also includes, by reference, Circular DEQ-7, Montana Numeric Water Quality Standards.

***pH:*** Natural pH above 7.0 must be maintained above 7.0. This condition will be retained from the 2017-issued General Permit.

***Oil and Grease:*** State waters must be free from substances attributable to discharges that will create a visible oil film or result in oil and grease concentrations at or in excess of 10 mg/L. The 2017-issued permit limit will be continued.

- Maximum daily limit = 10 mg/L
- Visible oil sheen is prohibited.
- Monitoring is required monthly and upon a visual observation of a sheen within the receiving water.

A daily visual observation of the discharge is included in the monitoring requirements and will ensure oil and grease is controlled in the discharge. If a visual sheen is observed on the discharge, the permittee must take an oil and grease sample and cease the sand and gravel operations discharge until the source of the oil and grease has been eliminated. The 2017-issued permit limits and monitoring requirements are sufficient to protect water quality and will be continued with this permit renewal. Oil and grease permit limits are shown in **Table 2**.

**Table 2: Water Quality-Based Effluent Limits**

| Effluent Characteristic | Units | Effluent Limits | |
|---|---|---|---|
| | | Monthly Average | Daily Maximum |
| Oil and Grease(1) (2)(3) | mg/L | -- | 10 |

Footnotes:
1. Monthly grab samples are required during months with discharge.
2. A visual observation of the discharge for each permitted outfall must be made daily, when discharging, and recorded in a daily visual observation log to be kept on site.
3. If an oil sheen or floating oil is observed during the visual observation, a grab sample must be collected, analyzed, and reported on the DMR. Also, corrective action must be taken immediately to mitigate the discharge of oil. The maximum daily limit for the grab sample is 10 mg/L.

## C. Nondegradation

Any activity that is nonsignificant because of its low potential for harm to human health or the environment and its conformance with the guidance found in 75-5-301(5)(c), MCA are not subject to the provisions of Montana's Nondegradation Policy. DEQ has determined sand and gravel discharges are nonsignificant because:

1. There is low potential for harm to human health or the environment,
2. The quantity and strength of the pollutant (suspended solids) is low and controlled through the requirements specified in the General Permit,
3. Dewatering and process generating wastewater activities are generally intermittent, and
4. Turbidity generated from sand and gravel activities is generally not persistent in the environment.

DEQ has determined that compliance with the terms of the 2019-General Permit will ensure that these operations are not significant and these authorizations are protective of the beneficial uses of the receiving water.

If the permittee provides information that indicates the proposed discharge will not meet the conditions of Montana's Nondegradation Policy, DEQ will modify the permittee's authorization with additional requirements or require the owner or operator to obtain an Individual MPDES Permit.

## D. Special Conditions

Special conditions in MPDES permits supplement effluent limits and require activities designed to reduce the potential for discharge of pollutants. Special conditions also serve the purpose of collecting information that could be used to determine future permit requirements.

***Daily Visual Observation Log***

Beginning on the effective date of authorization and lasting through the duration of the permit coverage under the 2019-General Permit, permittees are required to maintain a daily log (conduct monitoring, recordkeeping, and reporting) in addition to monitoring requirements for mine dewatering water and process generated wastewater for discharges authorized from the outfall(s) specifically identified in the authorization letter. The daily visual observation log requirements were updated to outline the necessary framework to identify visual monitoring parameters / characteristics and associated documentation and actions triggered by visual confirmation of the specified parameter / characteristic. The daily visual observation log is a critical tool to assess, record, and improve water quality conditions; and the 2019 General Permit updates foster better visual observations and recordkeeping. The daily visual observation log requirements are as follows:

1. <u>Visual Observations</u>
   When discharging, the permittee must perform visual observations of the discharge and receiving water body at each permitted outfall daily for:
   - the presence of hydrocarbons by sheen or film, odor, or other sign; and
   - noticeable changes to the physical characteristics of the receiving water potentially attributed to the volume and/or velocity of the discharge to include, and not limited to:
     - streambank scouring, undercutting, caving, or any type of erosive characteristics;
     - appearance of the receiving water (turbidity and/or increased sediment transport, etc.); or
     - quantity of the receiving water (increase in flow atypical of seasonal variations; or the discharge flow combined with the stream flow appears to exceed 75% of the stream bank height, etc.).

2. <u>Visual Observation Records</u>
   The permittee must maintain a daily record for each day of visual observations performed. Required information includes:
   - Name of the permittee;
   - Name of the facility or operation;
   - The MPDES Permit Authorization Number;
   - Outfall Number (individual records must be maintained for each outfall);
   - The visual observation time and date;

- Name of the individual performing the visual observation;
- The presence of hydrocarbons confirmation (Yes or No);
- A description of visual observation if hydrocarbons are present;
- Confirmation that required Oil and Grease grab sample collected if hydrocarbons are present;
- Document corrective actions taken immediately to mitigate the discharge of Oil and Grease to include cessation of operations and noncompliance reporting in accordance with the Permit's Standard Conditions;
- The presence of noticeable changes to the condition of the streambank confirmation
  - (Yes or No);
- A description of noticeable changes to the condition of the streambank if present; and
- Confirmation of noncompliance reporting in accordance with the 2019-General Permit if noticeable changes to the condition of the streambank are present (Yes or No).

# IV. Monitoring and Reporting Requirements

The permittee is responsible for conducting the following monitoring, recordkeeping, and reporting during the permit authorization:

## A. Self-Monitoring

Samples and measurements must be representative of the volume and nature of the monitored discharge. Sampling and analysis must be conducted in accordance with 40 CFR 136. Results must be reported on a Net Discharge Monitoring Report (NetDMR) by the 28th of the following month. Effluent monitoring must be conducted at the last point of contact prior to discharge and must be representative of the discharge from the sand and gravel operation. Effluent monitoring requirements are in **Table 3.**

**Table 3: Monitoring Requirements**

| Parameter | Units | Monitoring Location | Minimum Sample Frequency | Sample Type (1) | Reporting Requirement | Reporting Limit |
|---|---|---|---|---|---|---|
| Total Suspended Solids (TSS) | mg/L | Effluent | 1/Week | Grab | Monthly Average | 10 |
| Oil and Grease (2) | Y or N | Effluent | Daily | Visual | Yes or No | NA |
| Oil and Grease (3) | mg/L | Effluent | 1/Month | Grab | Monthly Maximum | 1 |
| pH (4) | s.u. | Effluent | 1/Week | Instantaneous | Monthly Maximum<br>Monthly Minimum | 0.1 |

Footnotes:
1. See definition section at end of permit for explanation of terms.
2. A visual observation of the discharge for each permitted outfall must be made daily, when discharging, and recorded in a log (Permit Part 2.3). If a visual examination of the discharge indicates the presence of hydrocarbons by sheen, odor, or other sign the permittee is required to immediately collect a grab sample for oil and grease using an approved 40 CFR Part 136 method.
3. Regardless of visual observation, at least 1 sample for oil and grease shall be taken per month.
4. Upon request and DEQ review and approval, the pH requirement may not be applicable to overflow if the facility or operation is designed, constructed, and maintained to contain or treat the volume of wastewater that would result from a 10-year, 24-hour precipitation event.

## B. Record Keeping

For compliance purposes and to foster better record keeping, the recordkeeping requirement has been updated to clarify all records that the permittee must maintain onsite to include:

- a copy of the 2019-General Permit;
- a copy of the completed and signed NOI-49 form including modification submittals;
- a copy of the DEQ's authorization letter;
- copies of Discharge Monitoring Reports;
- Monitoring Records;
- the daily visual log;
- copies of all reports;
- all reports of noncompliance; and

- the Sage Grouse consultation letter, as applicable.

These documents are to be made available at the site immediately upon request from a DEQ representative, EPA official, or local official. These records are to be maintained by the permittee for a period of three years.

# V. Standard Conditions

Conditions that apply to all MPDES permits including General Permit MTG490000 are listed in ARM 17.30.1342. Additional conditions applicable to MPDES permits are set forth in ARM 17.30.1344. All conditions applicable to MPDES permits must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to these rules must be given in the permit. A listing of all Standard Conditions pertaining to all MPDES permits will be included in the 2019 General Permit.

# VI. Definitions

Definitions and abbreviations relevant to the General Permit are provided.

# VII. Information Sources

- Administrative Rules of Montana Title 17, Chapter 30 *et al.*
- Montana Water Quality Act, MCA 75-5-101, *et al.*
- Code of Federal Regulations 40 CFR 436, Subpart B-Crushed Stone and Subpart C-Construction Sand and Gravel.
- Various MPDES General Permit for Sand and Gravel Operations permittee files.
- Various Final Montana TMDL document