

## **FACT SHEET**

### **MINING AND QUARRYING STORMWATER GENERAL PERMIT RENEWAL**

**Final Permit No. NJ0141950**

**PI ID # 50577**

**July 17, 2017**

This final permit regulates discharges of stormwater to surface and ground water, and from mine dewatering to surface water, at facilities that engage in mining and quarrying, and/or processing of aggregate materials. On November 15, 2016, the Department issued Draft New Jersey Pollutant Discharge Elimination (NJPDES) Permit No. NJ0141950 and received comments on same until December 16, 2016. After review and response to comments received the Department has determined to issue a final permit. A separate Response to Comments document is attached.

### **BACKGROUND**

Under the Federal Water Pollution Control Act (1972), as amended by the Clean Water Act of 1977, and the Water Quality Act of 1987, a facility with a stormwater discharge associated with industrial activity must obtain a National Pollutant Discharge Elimination System (NPDES) Permit. On November 16, 1990, the United States Environmental Protection Agency (USEPA) promulgated the regulatory definition of “storm water discharge associated with industrial activity”. The USEPA identifies eleven different major categories of facilities of which category (iii) includes SIC codes 10 through 14 including active or inactive mining operations.

The USEPA delegated authority to the New Jersey Department of Environmental Protection (Department) to issue NPDES permits under the New Jersey Pollutant Discharge Elimination System (NJPDES, N.J.A.C. 7:14A *et seq.*) for discharges of stormwater associated with industrial activities from point or nonpoint sources. The Department also regulates stormwater discharges to surface water and ground water (N.J.A.C. 7:14A-1 *et seq.*). Stormwater discharges from industrial activities to ground water are also regulated pursuant to New Jersey’s Water Pollution Control Water Act (N.J.S.A. 58:10A-1 *et seq.*), the Requirements for Discharges to Groundwater (N.J.A.C. 7:14A-7), and the Ground Water Quality Standards (N.J.A.C. 7:9C).

The Department has renewed the Mining and Quarrying Stormwater General Permit (MQGP, NJPDES Master General Permit Number NJ0141950, Discharge Category Code R13), for those facilities engaged in mining and quarrying operations. The MQGP regulates discharges of stormwater to surface and ground water, and mine dewatering discharges to surface water. This includes facilities that have active mining at the site, facilities that may only be involved in the processing and/or storage of aggregate materials, or inactive mines and quarries that have not been closed in accordance with Part II.D of this final permit.

### **CHANGES TO THE EXPIRED MQGP**

The draft renewal permit proposed a number of changes from the expired MQGP which expired on April 30, 2010. These changes were listed in the Draft Fact Sheet and are reiterated below.

Changes made between the draft permit and this final permit are listed separately in the next section of this Final Fact Sheet. Major changes made between the expired permit and the draft renewal permit include:

1. The permit was reformatted to improve readability and clarity and to make the MQGP consistent with other recently issued industry specific stormwater general permits (namely, the Vehicle Recycling - RVR, the Scrap Metal Processing and Recycling – SM2, and the Sand and Gravel – RSG permits). A new section containing acronyms was added to Part IV; and conditions regarding the Stormwater Pollution Prevention Plan (final permit SPPP, Part IV.B.1) and Drainage Control Plan (final permit Part IV.B.2 and 3) were modified in order to be consistent with the above noted permits.
2. The requirement to maintain and submit a Summary Report for Temperature Monitoring (expired permit Part IV.A.8) was removed. While temperature monitoring remains a requirement of the MQGP, the Department no longer needs summary reports. The temperature limits in Part III of the MQGP are intended to maintain the integrity of the streams receiving discharges from these facilities.
3. The Renewal Eligibility section (expired permit Part II.B.2.d) was removed. In addition, the Renewal Report (expired permit part IV.A.7) was removed. The Renewal Eligibility section of the expired permit was intended to ensure that the phased-in monitoring was completed by the permittee before the end of the expired permit cycle. Eligibility requirements are found in Part.II.B.4 of the final permit.
4. Vehicle/equipment rinsing limits and benchmarks (expired permit Part IV.H.4) were removed. Compliance with the final permit equipment/vehicle rinsing BMPs is sufficient to protect water quality. These BMPs (Part IV.F.2 of the final permit) include prohibitions on both the discharge of this rinse water to surface water and the use of detergents. Compliance with the final permit renders monitoring of rinse water unnecessary.
5. The Initial and Final phase language from the expired permit was removed. The facilities authorized under this modification have had time to implement BMPs to meet the final benchmarks and limits in accordance with Part III of the final permit.
6. The requirement for monitoring for Iron (expired permit Part III E-1) and Zinc (expired permit Part IV.A.11) was removed to make the MQGP consistent with the Hot Mix Asphalt Producers Stormwater General Permit (R4). See final permit Part IV.C.3 – Requirements for Facilities with Operating Hot Mix Asphalt Producer Plants and Part III Table III-D-1.
7. The pollutant parameter Total Dissolved Solids (TDS) has been replaced by the pollutant parameter Turbidity for monitoring stormwater discharges from industrial areas and mine dewatering discharges to surface water in Part III of the final permit in order to be consistent with surface water quality criteria (N.J.A.C. 7:9B-1.14(d)). TDS limitations are still applicable for discharges to ground water.

8. The toxicity monitoring requirement for facilities that use flocculants (expired permit Part IV.C) was removed. The toxicity testing in the expired permit did not reveal a problem with the flocculants tested. This final permit establishes best management practices associated with the use of settling aids and gel logs (Part IV.C.4 of the final permit).
9. Closure requirements (Part II.D of the final permit) were modified in order to be consistent with the Sand and Gravel General Permit (RSG) NJ0201189.
10. This final permit includes ground water monitoring for facilities that have a discharge of stormwater associated with industrial activity to ground water. These facilities are required to monitor the influent prior to the discharge to the infiltration basin(s). The discharge shall be monitored and meet the limits and benchmarks in Part III Table III-I-1 of the final permit.
11. The parameter Oil and Grease (O&G) was replaced by Total Petroleum Hydrocarbons (TPHC). In March 12, 2007, Federal Register, the EPA Office of Water revised 40 CFR Part 136 and withdrew all analytical methods that use Freon 113 as a solvent. In a letter dated April 1, 2008, the NJDEP Division of Water Quality (DWQ) clarified that Freon-based *Method 413.1* for Oil and grease in aqueous samples be replaced by *Method 1664A N-Hexane Extractable Material* (1664A HEM; Oil and Grease). Since the Oil and grease parameter includes oil and grease of animal and vegetable origin not typically found in the mining industry, the Department is proposing the change to TPHC. An approved analytical method for TPHC is *Method 1664A Silica Gel treated N-Hexane Extractable Material* (1664A SGT-HEM; Non-polar Material). The effluent limits for TPHC retain the existing (original O&G limits) of 10mg/l monthly average, and 15 mg/l daily maximum for mine dewatering events.
12. The Department has prohibited the discharge of process wastewaters (e.g. boiler blowdown, contact cooling water, etc.) to ground or surface waters of the State. These discharges would require a separate NJPDES point source discharge permit. This prohibition does not include wastewater used in suction dredging of deposits in a body of water and returned directly to the body of water without being used for other purposes or combined with other wastewater.
13. As required by the NPDES Electronic Reporting rule at 40 CFR Part 127, all required monitoring results reported on Monitoring Report Forms (MRFs) shall be electronically submitted to the Department via NJDEP's Electronic Monitoring Report Form (MRF) Submission service as of December 21, 2016 (Part II. B.11 of the final permit). This has been changed from the expired permit where paper or electronic copies of MRFs were accepted.

## **CHANGES TO THE MQGP BETWEEN DRAFT AND FINAL**

Changes made between the draft permit and this final permit are listed below. Please see the attached Response to Comments document for a discussion of comments received and an explanation of changes. Where a change was made that is not in response to comments

received, the item ends with the words “Agency Initiated Action.” Modified language is described as follows: ~~deleted language~~; inserted language.

1. Part II.B.4.c was modified as follows in order to provide clarity: “*Stormwater discharges from facilities with “sanitary landfills”, ~~or “hazardous waste landfills”~~, as defined in N.J.A.C. 7:26-1.4, or hazardous waste facilities that have significant materials exposed, as defined in 40 CFR 122.26(b)(12);”* The remainder of this section was renumbered. Agency Initiated Action.
2. Part III, Tables III-A-1, III-C-1, III-E-1, III-H-1, III-J-1 and III-K-1 were modified to delete COD as a pollutant parameter.
3. Part IV.A.1.a, Specific Requirements: Narrative was modified to add a new item vi., which reads, “*For pH limits for mine dewatering to waters designated PL or waters listed under N.J.A.C. 7:9B.1.14(d)5.ii, refer to Part IV.B.6.a.*” The remainder of this section was renumbered.
4. Part IV.B.1.b, Specific Requirements: Narrative was modified to add a new item iv, which reads, “*‘Borrow Pit’ means any excavation pit that may or may not intersect the ground water table. The common feature of these pits is that they are topographic depressions that are used to extract materials for the facility’s operations and are not designed to hold, retain, or treat and/or transmit stormwater and/or wastewater.*” The remainder of this section was renumbered.
5. Part IV.B.1.b, Specific Requirements: Narrative was modified to add a new item xii, which reads “*‘Mine’ means an area of land, surface or underground, actively mined for the purposes of production of sand, gravel, and hard rock from natural deposits.*” The remainder of this section was renumbered.
6. Part IV.B.1.b.xix, Specific Requirements: Narrative was modified to revise the definition of “Process Wastewater” as follows: “*Process wastewater” means water used during manufacturing or processing that comes in direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product. ~~Process wastewater includes, but is not limited to, vehicle washwater, sand washing water, boiler blowdown, leachate and contact cooling water.~~ This term does not include wastewater used in suction dredging of deposits in a body of water and returned directly to the body of water without being used for other purposes or combined with other wastewater. This definition includes the terms commercial wastewater and industrial wastewater as used in 40 CFR Part 503. For purposes of this permit, process wastewater does not include mine dewatering and/or stormwater which comes in contact with aggregate stockpiles.* The remainder of this section was renumbered.
7. Part IV.B.2.a.i, Mining and Quarrying Stormwater General Permit was modified as follows: “*Establish drainage control of all stormwater from industrial portions of the facility and ensure that stormwater from these industrial areas is discharged through permitted discharge monitoring location(s) or diverted back to basins.*”

8. Part IV.B.2.a, Mining and Quarrying Stormwater General Permit was modified to add new item iii which reads, “*Monitoring is not required for stormwater discharges to onsite basins, except for those directed to ground water infiltration basins as required under Part IV.C.1.d.*”
9. Part IV.B.4.b, Mining and Quarrying Stormwater General Permit was modified as follows to provide clarity and to make the condition consistent with item 2, above: *For stormwater discharges **to surface water**, the permittee shall implement and maintain BMPs designed to meet the numeric effluent limitations in Part III of this permit and the following benchmarks: TSS – 100 mg/l, **and** Turbidity – 50 NTU ~~and COD: 120 mg/l~~.* Agency Initiated Action.
10. Part IV.B.6.a, Mining and Quarrying Stormwater General Permit was modified to add new item i which reads, “*Mine dewatering to PL waters shall maintain a pH range between 3.5 and 5.5 except as provided in 6.a.ii. below.*”
11. Part IV.B.6.a, Mining and Quarrying Stormwater General Permit was modified to add new item ii which reads, “*In accordance with N.J.A.C. 7:9B-1.5(c)1, pH limits outside of the range noted in 6.a.i. above may be established provided that the permittee completes and submits the necessary documentation as noted under N.J.A.C. 7:14A-2.12.*”
12. Part IV.C.1, Mining and Quarrying Stormwater General Permit was modified to add new item c which reads, “*Stormwater associated with industrial activity shall not be diverted to a Borrow Pit. This does not include incidental stormwater and return water from the sand/gravel plant washing area.*” The remainder of this section was renumbered.
13. Part IV.C.5.a, Mining and Quarrying Stormwater General Permit was modified as follows: “*For the purposes of this permit, “basins” is a collective term used to describe a variety of regulated units at NJPDES permitted facilities. Examples of these basins are infiltration/percolation lagoons, or surface impoundments which may be referenced by this permittee as retention, settling, storage or detention ponds, basins, lagoons, lined or unlined basins. The common feature of these basins is that they are topographic depressions or bermed areas designed to hold, retain, or treat and/or transmit stormwater/ground water and/or pollutants. **Borrow Pits are not considered to be basins for the purposes of this permit and are not subject to monitoring requirements outlined in Part III of this permit.***”
14. Part IV.C.5, Mining and Quarrying Stormwater General Permit was modified to add new item d which reads, “*Surface water discharges from Borrow Pits is prohibited.*” The remainder of this section was renumbered.
15. Changes were made to correct typographical errors, correct cross references, correct regulatory citations, and provide correct website addresses without changing the meaning of the permit. An example is that Part II.B.1.a.ii was as follows: “*New Facilities – except as prohibited in **Part II.B.4** below.*” Such changes are not enumerated or described, here. In addition the link for the Salt Institute’s Website was corrected on page

2 of Attachment B and the date on the cover letter of Attachment B date was updated to reflect this change.

## **BASIS FOR THE FINAL PERMIT CONDITIONS**

Sampling and analysis of pollutants associated with mining and quarrying operations are incorporated into this final permit to evaluate the effectiveness of the SPPP and BMPs associated with this MQGP. The effluent parameters chosen for sampling and analysis in Part III, Limits and Monitoring Requirements, for the mining and quarrying industrial activities are consistent with EPA's Multi-Sector General Permit (MSGP) and State requirements. BMPs required as part of the SPPP are authorized by the Federal Water Pollution Control Act (33 U.S.-1251 *et seq.*) and the State Water Pollution Control Act N.J.S.A. 58:10A-1 *et seq.* These statutes are implemented by the National Pollutant Discharge Elimination System (NPDES, 40 CFR Part 122) and the New Jersey Pollutant Discharge Elimination System (NJPDES, N.J.A.C. 7:14A) permit programs.

The SPPP is created by the permittee. The SPPP includes the BMPs that the permittee has chosen to implement that reduce or eliminate stormwater contamination. The implementation of the BMPs will eliminate (if possible) or reduce the exposure of the aggregate source materials, machinery, and the associated stockpiles to stormwater that is discharged to ground waters or surface waters of the State.

BMPs are an essential part of this permit and, when correctly implemented, eliminate or reduce significantly the introduction of pollutants into the environment. BMPs are integral to a permittee complying with the conditions of this final permit and are to be included in all aspects of the facility and its operations. This includes, but is not limited to, treatment systems, storage of fuels, operating procedures and prevention of soil erosion. RFAs for existing facilities shall follow a schedule determined by the Department.

## **MINING AND QUARRYING OPERATIONS**

### **Concrete and Asphalt Batch Plants**

Mines and quarries may operate concrete and asphalt batch plants on-site with their quarry operations. The aggregate material storage associated with these additional industries is often comprised of the same material that is being mined on-site.

### **Dust Control**

Dust generated at a mine or quarry may be generated from direct industrial activities, such as crushing operations; or indirect activities, such as vehicle traffic. Mines and quarries are allowed to use ground water/stormwater and certain process wastewaters for dust control. BMPs for dust control range from paving roads (where practical) to the use of dust suppressants. All BMPs chosen for dust control must be included in the facility's SPPP.

## **Mine Dewatering**

Mine dewatering involves the removal of ground water/stormwater from the mining pit(s) by pumping the water directly to a surface water body. Ground water/stormwater stored in basin(s) and not discharged to surface water is not considered to be mine dewatering. Facilities that engage in mine dewatering must meet the effluent limitations outlined in Part III of the final permit. Mine dewatering to basins designed to discharge to ground water is prohibited in this final permit.

Facilities that choose not to engage in mine dewatering have the alternative to design, construct and maintain a system with the ability to contain, hydraulically, a 10-year, 24-hour storm (6" of rain) event, plus sediment storage, without discharge to surface water (see Hydraulic Control, below).

## **Stormwater Associated with Industrial Activity**

Stormwater that comes in contact with industrial activities and source material is regulated by the Mining and Quarrying Stormwater General permit. Stormwater coming in contact with loading, unloading, aggregate materials, rock crushing, and material moving through conveyor belts are examples of activities and materials associated with mines and quarries that the final permit authorizes.

Stormwater that has not come in contact with industrial activities or aggregate materials (industrial source material) shall be diverted away from areas of industrial activities in the mine and quarry.

## **Hydraulic Control**

A facility is said to have hydraulic control when it has the ability to contain, hydraulically, a 10-year, 24-hour storm (6" of rain) event, plus sediment storage, and have no discharges to surface water. The term, 10-year 24-hour storm event, is the maximum rain event that has a probable occurrence once every 10 years. A Hydraulic Control plan must be signed, dated, and certified by a licensed Professional Engineer. The facility must have in its SPPP a plan to handle a 10-year 24-hour storm event (plus sediment storage). This plan may include, for example, construction of additional basins for diversion of stormwater during the rain event, equalization of existing basins to allow for additional storage of stormwater in emergency conditions, etc. If a facility has hydraulic control and experiences a rain event in excess of the 10-year, 24-hour storm event, the resultant discharge is considered an upset, and the Department must be notified. The discharge from this resultant upset must be a gravity flow only discharge. This resultant upset must be noted in the facility's SPPP, with notes of the duration of the storm event and the rainfall amount (see Part IV.B.7.d.v of the final permit).

When a facility no longer has hydraulic control unrelated to an upset, the Department must be notified and the facility's SPPP must be revised to reflect the change. Facilities that do not have hydraulic control that choose instead to mine dewater must monitor those mine dewatering discharges under Part III of the final permit (see Part IV.B.7.d.vi and vii of the final permit).

## **Drainage Control**

Drainage Control is the diversion of stormwater such that stormwater from the areas of industrial activity does not leave the facility in an uncontrolled manner. A controlled manner is a deliberate diversion or storage of stormwater to permitted outfalls or to basins. All mines and quarries must have drainage control at their facility whether they apply for and obtain the MQGP or an individual permit. Storage would typically include basins, wet ponds, etc. Diversions would include structures such as ditches, swales, and pipes. The permittee will be required to design a Drainage Control Plan, including a drainage control map, that incorporates all the requirements outlined in Part IV of the final permit. New permittees that did not previously have authorization under a stormwater general permit must develop a drainage control plan within six (6) months of the EDPA. New permittees must fully implement this drainage control plan within 12 months of the EDPA.

## **Basins**

Basin is a collective term used to describe depressions in the ground that are used for treatment and/ or storage of process wastewater, ground water, or stormwater.

Process water from concrete products manufacturing can be stored in surface impoundments and must be handled in accordance with Attachment B of the final permit. This Mining and Quarrying Stormwater General permit does not allow for the discharge of process water to ground water or surface water.

Basins constructed to discharge to ground water must be constructed in accordance with Part IV.C.1 of the final permit. Mine dewatering discharges to these infiltration basins are not allowed under this final permit. Infiltration basins accepting stormwater from rooftops (with no industrial activity) and employee parking lots do not have to have a monitoring point established at the influent to the basin.

## **Settling Aids**

Settling aids are used by facilities to remove settleable solids in a discharge. Settling aids come in many forms, including, but not limited to flocculants, coagulants, and alums. Usually, a facility will dose the settling aid into the discharge then direct the discharge to a basin to allow for settling. Settling aids must be used in accordance with Part IV.C.4 of the final permit.

# **FINAL PERMIT OVERVIEW**

## **Stormwater Pollution Prevention Plan (SPPP)**

The Stormwater Pollution Prevention Plan (SPPP) is an essential part of the MQGP. The SPPP is the stormwater program for the facility that covers all areas and activities on-site, that may impact stormwater quality. The facility shall identify BMPs (see below) used to eliminate,



reduce, or minimize exposure of all industrial activity and source material. These BMPs shall be incorporated into the facility's SPPP. The SPPP requirements include a Drainage Control Plan (DCP). The DCP for the facility is a series of controls that the facility establishes to ensure that all stormwater remains onsite. The DCP contains both a written plan and a Drainage Control Map (DCM). The DCM shall reflect the drainage control measures outlined in the narrative of the DCP. Part IV of the final permit outlines the requirements for the SPPP, the DCP and the DCM. The SPPP shall reflect the current conditions at the facility, and be updated as needed in accordance with the requirements of the final permit.

### **Best Management Practices (BMPs)**

The Department is authorized under the Federal regulations (40 CFR 122.44) and under NJPDES rules (N.J.A.C. 7:14A-6.2(b)1) to impose Best Management Practices (BMPs) to control or abate the discharge of pollutants in lieu of numeric limitations in NJPDES permits. Numeric limitations may be required, in instances where benchmarks are exceeded, to ensure strict adherence to BMPs and the SPPP.

### **Temperature Monitoring – Trout Streams**

Many mines and quarries have stormwater and water from dewatering of their basins that are discharged directly into trout streams. The discharges of water from the basins have potential to negatively affect temperature and oxygen sensitive trout streams. The basins that are used to store stormwater and ground water have thermal layers with the heated water in the upper most layers and the coldest layers at the bottom of the basins. In addition, the lowest portion of the basin may be low in dissolved oxygen (DO). When a facility discharges from these basins, the permittee must ensure that the temperature of the discharged water does not exceed the temperature limit listed in Part III of the final permit. Continuous temperature monitoring must be conducted during mine dewatering operations. The temperature limit is listed for each stream category, along with the time of year during which temperature monitoring must be conducted. All of this information is listed in Part III of the final permit.

### **Numeric Effluent Limits**

The Department has established numeric effluent limitations for discharges of stormwater to surface water in the MQGP for the parameter Total Petroleum Hydrocarbons, based on N.J.A.C. 7:14A-12.8, and for stormwater to ground water based on the Ground Water Quality Standards (N.J.A.C. 7:9C). Discharges from construction sand and gravel, and industrial sand operations have numeric effluent limitations for pH and Total Suspended Solids (TSS).

For facilities that mine dewater, pH and TSS numeric effluent limitations are applied. Additionally, mine dewatering to Trout Production (TP) and Trout Maintenance (TM) streams include numeric effluent limitations for DO, TSS, and Turbidity consistent with the expired permit. Facilities that discharge to TP or TM streams must also monitor and meet the limits for Temperature. See Part III of the final permit.

## **Pollutant Parameters**

Facilities that are issued an authorization under the permit are required to sample for the pollutants listed below depending on the industrial processes operated on-site:

**Benzene:** Monitoring for Benzene will be required for quarries operating hot mix asphalt plants. Most hot mix asphalt plants store cold patch asphalt used for asphalt repairs. The storage is seasonal, typically from November to April. Site inspections of the industry reveal that cold patch asphalt is stored outdoors and is exposed to stormwater. Review of Material Safety Data Sheets show residual concentrations of benzene as part of the composition of cold patch asphalt. Monitoring for benzene is required by this final permit to measure the effectiveness of the implemented BMPs. If benzene concentrations increase, the permittee must re-evaluate and modify the existing BMPs. Monitoring for benzene must be conducted only if cold patch is stored outside anytime during the quarterly monitoring period.

**Dissolved Oxygen (DO):** Dissolved Oxygen is the amount of gaseous oxygen (O<sub>2</sub>) present in water. It can be expressed either in terms of concentration or as a percentage. An adequate concentration of DO is necessary for the life of fish and other aquatic organisms especially in Trout Production and Trout Maintenance streams. Adequate DO is also critical in the prevention of offensive odors.

**Foam:** In accordance with N.J.A.C. 7:14A-12.6, all discharges to surface water are prohibited from discharging foam, or causing foaming of the receiving water that forms objectionable deposits on the receiving water; forms floating masses producing a nuisance; produces objectionable color or odor; or interferes with a designated use of the water body. Foaming of the receiving water body caused by natural conditions shall not be considered a violation of the standard.

**Total Petroleum Hydrocarbons:** Monitoring for total petroleum hydrocarbons will be for all areas where industrial activity occurs and source materials are stored. Certain maintenance operations (e.g. truck rinsing, vehicle maintenance) can allow for the introduction of petroleum-based products into the environment. BMPs established within the facility should minimize or eliminate petroleum products from entering the environment.

**Metals:** Monitoring for metals (chromium and lead) will be required for quarries with operating hot mix asphalt plants. Hot mix asphalt plants may recycle concrete, concrete block, brick and recycled asphalt products (RAP). These activities occur outdoors where materials and equipment are exposed to stormwater presenting a potential source of pollutants. Metals in trace quantities are also found in heavier petroleum distillates. Chromium is released during combustion of #4 fuel oil, #6 fuel oil, or waste/used oil. In lieu of numeric effluent limitations, a facility will be required to implement specific BMPs in accordance with the requirements in this permit. Monitoring for metals

(chromium and lead) must be performed in accordance with this final permit to measure the effectiveness of the implemented BMPs. If there is an increasing trend, the permittee must re-evaluate and modify the existing BMPs.

**Methylene Blue Active Substances (MBAS):** Monitoring for MBAS will be required for quarries with operating hot mix asphalt plants. Hot mix asphalt plants use an asphalt release agent to reduce the surface tension and prevent asphalt from adhering to smooth metal vehicle beds. The Material Safety Data Sheet reveals that this product is detergent based and contains proprietary surfactants. Surface water containing high foaming can cause destruction of useful bacteria in the environment. Since the asphalt release agent is exposed to stormwater, there is reason to believe increased concentrations of surfactants are entering the waters of the State. There is no numeric effluent limitation for MBAS. In lieu of numeric effluent limitations, the facility will be required to implement specific BMPs in accordance with the requirements in this final permit. Monitoring for MBAS must be performed in accordance with this final permit to measure the effectiveness of the implemented BMPs. If there is an increasing trend, the permittee must re-evaluate and modify the existing BMPs. The Department may substitute an alternative monitoring parameter for MBAS if the facility has stated to the Department in writing that the release agent used does not contain anionic surfactants.

**pH:** The chemical composition of materials may have the ability to alter the pH of the water, whether it is in a basin or a surface water body. Altering the pH can adversely affect the environment of a natural water body. Part III of the final permit requires all facilities that discharge stormwater to ground or surface waters to monitor the pH of the discharge. The benchmark and effluent limitation range for pH are between 6.5 and 8.5 standard units. However, the pH limits for areas under the jurisdiction of the Pinelands Commission is anti-degradation of the background pH, which may be as low as 3.5 (in standard units).

**Temperature (°F):** All surface water bodies are sensitive to temperature changes, whether they are sudden or gradual changes. No stormwater, process and/or mine dewatering discharges shall degrade the surface water bodies by altering the ambient temperature of the receiving waters. Certain streams, such as Trout Production or Trout Maintenance streams, are especially sensitive to temperature change. The temperature selected for these streams is based on a document titled *Habitat Suitability Index Models: Brook Trout* published by US Department of the Interior (1992). There will be a temperature limit for all mine dewatering discharges to surface waters (see Part III for specific limits). Temperature limits for other streams, as noted in the final Permit Summary Tables of the Fact Sheet, are based on existing New Jersey Water Quality Standards and are consistent with other permits issued by the Department.

**Total Dissolved Solids (TDS):** Material that results from mining or crushing operations can become dissolved when it comes in contact with stormwater or

ground water. These dissolved particles have the ability to alter the chemistry of the associated water body. For stormwater discharges to ground water (DGW), there is a limit of 500 mg/l.

**Total Suspended Solids (TSS):** Suspended particles are created when stormwater washes over disturbed areas which are typically devoid of soil retaining vegetative cover. Directing stormwater to a basin or a series of basins is the most common way to decrease the amount of TSS before discharge to a permitted outfall. Basins allow for suspended material to settle out. A single basin or a series of basins may be employed for the settling process. Another way to decrease the amount of TSS is to apply chemicals to aid in the settling process. For stormwater discharges to surface water (DSW) there is a benchmark of 100 mg/l.

**Turbidity:** Turbidity tests detect particles less than 45 microns in diameter, which the test for TSS does not detect. Turbidity is a good measure of whether or not a facility has employed proper erosion control methods on-site. For stormwater discharges to surface water (DSW) there is a benchmark of 50 NTU.

### **Pineland Requirements**

Facilities that fall within the jurisdiction of the Pinelands Commission shall adhere to all regulations set forth in the Pinelands Comprehensive Management Plan. The Plan can be found at <http://nj.gov/pinelands/cmp/>.

### **Residuals**

Residuals management is covered under Part II.C.3 of the final permit. Any persons having questions about residuals can contact the Bureau of Pretreatment and Residuals at (609) 633-3823.

## **SAND AND GRAVEL OPERATIONS**

Facilities that engage in sand and gravel operations that do not discharge to surface waters may be eligible for the Sand and Gravel Stormwater General Permit (RSG, NJ0201189). Please see [www.nj.gov/dep/dwq/rsg.htm](http://www.nj.gov/dep/dwq/rsg.htm) for eligibility requirements.

## Permit Summary Tables

**Table I and Table II Include Mines/Quarries, HMAP, and CPM.**

**Table I:** Mine dewatering discharges to surface water.

**Discharge Type:** Discharge of mine dewatering to surface water.

**NOTE:** For mine dewatering-see individual authorizations for limits and benchmarks.

PARAMETER (all values are mg/l unless otherwise stated)	FW2(C1), FW2 (NT) <sup>1</sup>	GW	Pinelands	FW2(C1), FW2 (TP, TM) <sup>1</sup>	SE, SC
Flow (MGD)	REPORT	No Discharge	REPORT	REPORT	REPORT
Benzene <sup>4,5</sup> (ug/l)	No Discharge	No Discharge	No Discharge	No Discharge	No Discharge
Chromium, Total Recoverable <sup>5</sup> (ug/l)	No Discharge	No Discharge	No Discharge	No discharge	No Discharge
Lead, Total Recoverable <sup>5</sup> (ug/l)	No Discharge	No Discharge	No Discharge	No Discharge	No Discharge
Total Petroleum Hydrocarbons (TPHC) Daily Maximum	15	No Discharge	15	15	15
Total Petroleum Hydrocarbons (TPHC) Monthly Average	10	No Discharge	10	10	10
Oxygen, Dissolved (DO)	4	No Discharge	4	Minimum 5 Average 7	4
pH range (S.U.) <sup>7</sup>	6.5-8.5	No Discharge	3.5-5.5	6.5-8.5	SC-REPORT SE-6.5-8.5
Turbidity (NTU)	50 Daily Max 30 Monthly Average	No Discharge	50 Daily Max 30 Monthly Average	50 Daily Max 30 Monthly Average	10 SC 30 SE
Solids, Total Suspended	40	No Discharge	REPORT	25	REPORT
Solids, Total Suspended (SIC 1459)	No Discharge	No Discharge	No Discharge	No Discharge	No Discharge
Solids, Total Suspended (SIC 1446) (mg/l)	25 monthly average, 45 daily maximum	No Discharge	25 monthly average, 45 daily maximum	25	25 monthly average, 45 daily maximum
Surfactants (MBAS) <sup>3</sup>	No Discharge	No Discharge	No Discharge	No Discharge	No Discharge
Temperature (SC) <sup>6</sup>		No Discharge			80°F
Temperature (SE) <sup>6</sup>		No Discharge			85°F
Temperature <sup>6</sup>	88°F	No Discharge	88°F	See Note #2	

**Table II:** Stormwater only discharge

**Discharge Type:** Discharge of stormwater associated with industrial activity to surface water or to ground water.

PARAMETER (all values are mg/l unless otherwise stated)	FW2(C1), FW2 (NT) <sup>1</sup>	FW1	Pinelands	Ground Water	FW2(C1), FW2 (TP, TM) <sup>1</sup>	SE, SC
Flow, Total (MGD)	REPORT	No Discharge	REPORT	REPORT	REPORT	REPORT
Benzene <sup>4,5</sup> (ug/l)	REPORT	No Discharge	REPORT	REPORT	REPORT	REPORT
Chromium, Total Recoverable <sup>4,5</sup> (ug/l)	REPORT	No Discharge	REPORT	REPORT	REPORT	REPORT
Oxygen, Dissolved (DO)	REPORT	No Discharge	REPORT	N/A	REPORT	
pH range (S.U.) <sup>7</sup>	6.5-8.5	No Discharge	6.5-8.5	6.5-8.5	6.5-8.5	6.5-8.5
Total Petroleum Hydrocarbons (TPHC) Daily Maximum	15	No Discharge	15	REPORT	15	15
Total Petroleum Hydrocarbons (TPHC) Monthly Average	10	No Discharge	10	REPORT	10	10
Turbidity (NTU)	REPORT	No Discharge	REPORT	N/A	REPORT	REPORT
Solids, Total Suspended	REPORT	No Discharge	REPORT	N/A	REPORT	REPORT
Surfactants	REPORT	No Discharge	REPORT	REPORT	REPORT	REPORT
Total Dissolved Solids	N/A	N/A	N/A	500 mg/l	N/A	N/A
Temperature <sup>6</sup>	REPORT	No Discharge	REPORT	N/A	REPORT	REPORT

## **NOTES**

1. NT means non-trout, TP means Trout Production, TM means Trout Maintenance.
2. Maximum temperature for TP is 72°F; maximum temperature for TM is 77°F.
3. Surfactant monitoring shall be required for Hot Mix Asphalt Plants using release agents.
4. Benzene monitoring shall be required for Hot Mix Asphalt Plants storing solvent based cold patch at any time during the monitoring period.
5. Pollutant monitoring shall be required for stormwater discharges associated with industrial activity from Hot Mix Asphalt Plants.
6. Continuous temperature monitoring is required.
7. In accordance with N.J.A.C. 7:9B-1.5(c)1, pH limits outside of the range noted above may be established provided that the permittee completes and submits the necessary documentation as noted under Part IV.A.1.a.vi. (Footnotes).