

**AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM**

In compliance with the provisions of the Federal Clean Water Act as amended, (33 U.S.C. §§1251 et seq.; the "CWA"), and the Massachusetts Clean Waters Act, as amended, (M.G.L. Chap. 21, §§26-53),

Specialty Minerals Incorporated

is authorized to discharge from the facility located at

**260 Columbia Street
Adams, Massachusetts 01220**

to receiving water named

**Hoosic River
Hudson Watershed (11)**

in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective sixty days from the date of signature.

This permit and the authorization to discharge expire at midnight, five (5) years from the effective date.

This permit supersedes the permit issued on July 29, 1975.

This permit consists of 11 pages in Part I including effluent limitations, monitoring requirements, Attachments A, and 35 pages in Part II including General Conditions and Definitions.

Signed this 16th day of September, 2003

SIGNATURE ON FILE

Director
Office of Ecosystem Protection
Environmental Protection Agency
Boston, MA

Director
Division of Watershed Management
Department of Environmental Protection
Commonwealth of Massachusetts
Boston, MA

PART I

A.1. During the period beginning on the effective date and lasting through expiration of the permit, the permittee is authorized to discharge from outfall serial number **001**, non-contact cooling water, quarry water, stormwater run-off, and process water to the Hoosic River. Such discharges shall be limited and reported as specified below. This discharge is downstream of confluence 001A and 001B. Sampling for effluent parameters shall be conducted at the point of discharge.

EFFLUENT CHARACTERISTIC	EFFLUENT LIMITS			MONITORING REQUIREMENTS	
	PARAMETER	AVERAGE MONTHLY	AVERAGE WEEKLY	MAXIMUM DAILY	MEASUREMENT FREQUENCY
FLOW ^{2,4}	5.0 MGD	****	REPORT	CONTINUOUS	RECORDER
TEMPERATURE	REPORT	****	84.7 °F	CONTINUOUS	RECORDER
INSTREAM TEMPERATURE ⁷ (June 1 - September 15)	****	****	REPORT	1/WEEK	GRAB
TSS	25 mg/l 1051 lbs/day	****	50 mg/l 2102 lbs/day	1/WEEK	24-HOUR COMPOSITE ⁶
pH ¹	6.5-8.3 SU SEE PERMIT PAGE 6 of 12, PARAGRAPH I.A.1.b.			2/WEEK	GRAB
TURBIDITY	30 JTU	****	60 JTU	1/WEEK	24-HOUR COMPOSITE ⁶
ALKALINITY	****	****	REPORT	1/MONTH	GRAB
WHOLE EFFLUENT TOXICITY SEE FOOTNOTES 14, 15, 16,17,19 and 20	ACUTE \geq 100% CHRONIC C-NOEC \geq 27.17%			4/YEAR	24-HOUR COMPOSITE ⁶

A.1. During the period beginning on the effective date of the permit and upon completion of the modifications to the upstream flood control structure, the permittee is authorized to discharge from outfall serial number **001**, non-contact cooling water, quarry water, stormwater run-off, and process water to the Hoosic River. Such discharges shall be limited and reported as specified below. This discharge is downstream of confluence 001A and 001B. Sampling for effluent parameters shall be conducted at the point of discharge.

<u>EFFLUENT CHARACTERISTIC</u>	<u>EFFLUENT LIMITS</u>			<u>REPORTING REQUIREMENTS</u>	
<u>PARAMETER</u>	<u>AVERAGE MONTHLY</u>	<u>AVERAGE WEEKLY</u>	<u>MAXIMUM DAILY</u>	<u>MEASUREMENT FREQUENCY</u>	<u>SAMPLE⁵ TYPE</u>
FLOW ^{3,4}	6.0 MGD	****	REPORT	CONTINUOUS	RECORDER
TEMPERATURE	REPORT	****	81.5 °F	CONTINUOUS	RECORDER
INSTREAM TEMPERATURE ⁷ (June 1 - September 15)	****	****	REPORT	1/WEEK	GRAB
TSS	21 mg/l 1051 lbs/day	****	42 mg/l 2102 lbs/day	1/WEEK	24-HOUR COMPOSITE ⁶
pH ¹	6.5-8.3 SU SEE PERMIT PAGE 6 of 12, PARAGRAPH I.A.1.b.			2/WEEK	GRAB
TURBIDITY	30 JTU	****	60 JTU	1/WEEK	24-HOUR COMPOSITE ⁶
ALKALINITY	****	****	REPORT	1/MONTH	GRAB
WHOLE EFFLUENT TOXICITY SEE FOOTNOTES 10, 11,12,13 and 14	ACUTE \geq 100% CHRONIC C-NOEC \geq 31.0 %			4/YEAR	24-HOUR COMPOSITE ⁶

1. During the period beginning and lasting through expiration, the permittee is authorized to discharge from outfall serial number **001A**, process wastewater from limestone processing, lime production, and precipitated calcium carbonate production to the Hoosic River. Such discharges shall be limited and reported as specified below. Sampling for effluent parameters shall be conducted at the point of discharge.

<u>EFFLUENT CHARACTERISTIC</u>	<u>EFFLUENT LIMITS</u>			<u>REPORTING REQUIREMENTS</u>	
<u>PARAMETER</u>	<u>AVERAGE MONTHLY</u>	<u>AVERAGE WEEKLY</u>	<u>MAXIMUM DAILY</u>	<u>MEASUREMENT FREQUENCY</u>	<u>SAMPLE⁵ TYPE</u>
FLOW	REPORT, MGD	****	REPORT, MGD	CONTINUOUS	RECORDER
TSS	REPORT, mg/l	****	REPORT, mg/l	1/WEEK	24-HOUR COMPOSITE ⁶
TEMPERATURE ⁸	REPORT, mg/l	****	REPORT, mg/l	2/DAY	GRAB
pH ⁹	REPORT, mg/l	****	REPORT, mg/l	2/WEEK	GRAB

A.1. During the period beginning the effective date and lasting through expiration, the permittee is authorized to discharge from outfall serial number **001B**, stormwater and noncontact cooling water from SMI's operations. Such discharges shall be limited and REPORTed as specified below. Sampling for effluent parameters shall be conducted at the point of discharge.

<u>EFFLUENT CHARACTERISTIC</u>	<u>EFFLUENT LIMITS</u>			<u>REPORTING REQUIREMENTS</u>	
PARAMETER	<u>AVERAGE MONTHLY</u>	<u>AVERAGE WEEKLY</u>	<u>MAXIMUM DAILY</u>	<u>MEASUREMENT FREQUENCY</u>	<u>SAMPLE TYPE</u>
FLOW	REPORT, MGD	*****	REPORT, MGD	CONTINUOUS	RECO
TSS	REPORT, mg/l	*****	REPORT, mg/l	1/WEEK	24-HO COMB
TEMPERATURE ⁸	REPORT, mg/l	*****	REPORT, mg/l	2/DAY	GRAB
pH ⁹	REPORT, mg/l	*****	REPORT, mg/l	2/WEEK	GRAB

Footnotes:

1. Required for State Certification.
2. For flows less than or equal to 5.0 MGD report maximum daily flow based on the maximum sum of daily total flows from 001A and 001B. Also report average daily flow for the month based on average monthly sum of flows from 001A and 001B.
3. For flows less than or equal to 6.0 MGD report maximum daily flow based on the maximum sum of daily total flows from 001A and 001B. Also report average daily flow for the month based on average monthly sum of flows from 001A and 001B.
4. The discharge from the facility is limited to 5.0 MGD until the flood control project is completed. Upon completion of the project, the discharge limit may increase to 6.0 MGD. The point of discharge shall be either one mile upstream of the canal discharge, the former discharge location, or at the end of the canal. The permittee shall notify EPA and MA DEP sixty (60) days prior to an increase in flow.
5. All required effluent samples shall be collected at SMI's Outfall 001, except temperature. Temperature shall be collected at the industrial canal outfall, approximately one mile downstream of the facility, before mixing with the Hoosic River. Any change in sampling location must be reviewed and approved in writing by EPA and MADEP. All samples shall

be tested using the analytical methods found in 40 CFR §136, or alternative methods approved by EPA in accordance with the procedures in 40 CFR §136. All samples shall be 24 hour composites unless specified as a grab sample in 40 CFR §136.

6. A 24-hour composite sample will consist of at least twenty four (24) grab samples taken during one working day. For example, a working day is defined as 8:00 am Monday through 8:00 am Tuesday.
7. From June 1 through September 15, between 2:30 and 5:30 pm , one instream temperature sample per week shall be taken upstream of SMI's discharge, at the Lime Street Bridge. Ambient weather conditions shall be recorded when the temperature samples are taken. Instream sampling results and weather conditions shall be reported to EPA and MA DEP in accordance with Section E. of the permit.
8. The temperature shall be tested twice a day, in the early and mid-afternoon.
9. The two pH grab samples shall be taken weekly on two separate days, and the range of all pH grab samples shall be reported.
10. The permittee shall conduct chronic (and modified acute) toxicity tests four times per year. The chronic test may be used to calculate the acute LC₅₀ at the 48 hour exposure interval. The permittee shall test the daphnid, Ceriodaphnia dubia, and fathead minnows, Pimephales promelas. Toxicity test samples shall be collected during the second week of the months of February, May, August, and November. The test results shall be submitted by the last day of the month following the completion of the test. The results are due March 31st, June 30th, September 30th, and December 31st, respectively. The tests must be performed in accordance with test procedures and protocols specified in **Attachment A** of this permit.

Test Dates second week in	Submit Results By:	Test Species	Acute Limit LC ₅₀	Chronic Limit C-NOEC
February May August November	March 31 st June 30 th September 30 th December 31 st	<u>Ceriodaphnia dubia</u> (daphnid) and <u>Pimephales promelas</u> (fathead minnows) See Attachment A	≥ 100%	≥27.17% ≥31.00%

11. After submitting **one year** and a **minimum** of four consecutive sets of WET test results, all of which demonstrate compliance with the WET permit limits, the permittee may request a reduction in the WET testing requirements. The permittee is required to continue testing at the frequency specified in the permit until notice is received by certified mail from the EPA that the WET testing requirement has been changed.
12. The LC₅₀ is the concentration of effluent which causes mortality to 50% of the test organisms. Therefore, a 100% limit means that a sample of 100% effluent (no dilution) shall cause no

more than a 50% mortality rate.

13. C-NOEC (chronic-no observed effect concentration) is defined as the highest concentration of toxicant or effluent to which organisms are exposed in a life cycle or partial life cycle test which causes no adverse effect on growth, survival, or reproduction at a specific time of observation as determined from hypothesis testing where the test results exhibit a linear dose-response relationship. However, where the test results do not exhibit a linear dose-response relationship, the permittee must report the lowest concentration where there is no observable effect. The 100% limit is defined as a sample which is composed of 100% (or greater) effluent, the remainder being dilution water. The maximum daily limit is derived as a percentage of the inverse of the dilution factor.
14. If toxicity test(s) using receiving water as diluent show the receiving water to be toxic or unreliable, the permittee shall follow procedures outlined in **Attachment A Section IV., DILUTION WATER** in order to obtain permission to use an alternate dilution water. In lieu of individual approvals for alternate dilution water required in **Attachment A**, EPA-New England has developed a Self-Implementing Alternative Dilution Water Guidance document (called "Guidance Document") which may be used to obtain automatic approval of an alternate dilution water, including the appropriate species for use with that water. If this Guidance document is revoked, the permittee shall revert to obtaining approval as outlined in **Attachment A**. The "Guidance Document" has been sent to all permittees with their annual set of DMRs and Revised Updated Instructions for Completing EPA's Pre-Printed NPDES Discharge REPORTing Report (DMR) Form 3320-1 and is not intended as a direct attachment to this permit. Any modification or revocation to this "Guidance Document" will be transmitted to the permittees as part of the annual DMR instruction package. However, at any time, the permittee may choose to contact EPA-New England directly using the approach outlined in **Attachment A**.

Part I.A.1. (Continued)

- a. The discharge shall not cause a violation of the water quality standards of the receiving waters.
 - b. The pH of the effluent shall not be less than 6.5 nor greater than 8.3 at any time, unless these values are exceeded as a result of an approved treatment process.
 - c. The discharge shall not cause objectionable discoloration of the receiving waters.
 - d. The effluent shall contain neither a visible oil sheen, foam, nor floating solids at any time.
 - e. The use of a disinfecting agent or chemical additive shall not be added to the collection and treatment system without prior approval by EPA and MA DEP.
- 2 All existing manufacturing, commercial, mining and silvcultural dischargers must notify the Director as soon as they know or have reason to believe:
- a. That any activity has occurred or will occur which would result in the discharge, on a routine basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"

- (1) One hundred micrograms per liter (100 ug/l);
 - (2) Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;
 - (3) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 C.F.R.§122.21(g)(7); or
 - (4) Any other notification level established by the Director in accordance with 40 C.F.R.§122.44(f).
 - b. That any activity has occurred or will occur which would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following “notification levels:”
 - (1) Five hundred micrograms per liter (500 ug/l);
 - (2) One milligram per liter (1 mg/l) for antimony;
 - (3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 C.F.R.§122.21(g)(7).
 - (4) Any other notification level established by the Director in accordance with 40 C.F.R.§122.44(f).
 - c. That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant which was not reported in the permit application.
3. Toxics Control
- a. The permittee shall not discharge any pollutant or combination of pollutants in toxic amounts.
 - b. Any toxic components of the effluent shall not result in any demonstrable harm to aquatic life or violate any state or federal water quality standard which has been or may be promulgated. Upon promulgation of any such standard, this permit may be revised or amended in accordance with such standards.
4. Numerical Effluent Limitations for Toxicants

EPA or DEP may use the results of the toxicity tests and chemical analyses conducted pursuant to this permit, as well as national water quality criteria developed pursuant to Section 304(a)(1) of the Clean Water Act (CWA), state water quality criteria, and any other appropriate information or data, to develop numerical effluent limitations for any pollutants, including but not limited to those pollutants listed in Appendix D of 40 CFR Part 122.

B. UNAUTHORIZED DISCHARGES

The permittee is authorized to discharge only in accordance with the terms and conditions of this permit and only from outfalls listed in Part I A.1. of this permit. Discharges of wastewater from any other point sources are not authorized by this permit and shall be reported in accordance with Section D.1.e. (1) of the General Requirements of this permit (Twenty-four hour reporting).

C. COMPREHENSIVE PLAN

Upon reclassification of the receiving water to a cold water fishery, the permittee shall initiate a comprehensive planning process for determining facility modifications necessary to achieve the State's cold water temperature criteria. The planning process shall begin within six months of the effective date of the reclassification date and shall evaluate water use, treatment, and disposal alternatives. The permittee shall submit a report to EPA and MA DEP within two years of the effective date of the reclassification. The completion of the comprehensive plan is a requirement of State certification.

D. PERMIT REOPENER

The permit may be modified to change permit conditions if EPA or MA DEP determine that implementation of the U.S. ACOE's Ecosystem Restoration Project is infeasible or the MA DEP changes the classification of the receiving water to a cold water fishery.

E. REPORTING AND REPORTING

1. Reporting

Monitoring results obtained during each calendar month shall be summarized and reported on Discharge Monitoring Report Form(s) postmarked no later than the 15th day of the following month.

Signed and dated originals of these, and all other reports required herein, shall be submitted to the Director and the State at the following addresses:

Environmental Protection Agency
Water Technical Unit (SEW)
P.O. Box 8127
Boston, Massachusetts 02114

The State Agency is:

Massachusetts Department of Environmental Protection
Western Regional Office
Bureau of Resource Protection
436 Dwight Street
Springfield, MA 01103

Signed and dated Discharge Monitoring Report Forms and toxicity test reports required by this permit shall also be submitted to the State at:

Massachusetts Department of Environmental Protection
Division of Watershed Management
Surface Water Discharge Permit Program
627 Main Street, 2nd Floor
Worcester, Massachusetts 01608

F. STATE PERMIT CONDITIONS

This discharge permit is issued jointly by the U. S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (DEP) under Federal and State law, respectively. As such, all the terms and conditions of this permit are hereby incorporated into and constitute a discharge permit issued by the Commissioner of the MA DEP pursuant to M.G.L. Chap.21, §43.

Each Agency shall have the independent right to enforce the terms and conditions of this Permit. Any modification, suspension or revocation of this Permit shall be effective only with respect to the Agency taking such action, and shall not affect the validity or status of this Permit as issued by the other Agency, unless and until each Agency has concurred in writing with such modification, suspension or revocation. In the event any portion of this Permit is declared, invalid, illegal or otherwise issued in violation of State law such permit shall remain in full force and effect under Federal law as an NPDES Permit issued by the U.S. Environmental Protection Agency. In the event this Permit is declared invalid, illegal or otherwise issued in violation of Federal law, this Permit shall remain in full force and effect under State law as a Permit issued by the Commonwealth of Massachusetts.