

**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”),

Brox Industries, Inc.

is authorized to discharge from the facility located at

**85 Greeley Street
Hudson, New Hampshire**

to receiving water named

Glover Brook (Hydrologic Basin Code: 01070006)

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

This permit shall become effective on September 1, 2004.

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

This permit is the first individual permit issued to this facility.

This permit consists of **9** pages in Part I including effluent limitations, monitoring requirements, etc. and **35** pages in Part II including General Conditions and Definitions.

Signed this 16th day of June, 2004

/s/

SIGNATURE ON FILE

Linda M. Murphy, Director
Office of Ecosystem Protection
U.S. Environmental Protection Agency
EPA-New England
Boston, Massachusetts

PART I.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date and lasting through the expiration date, the permittee is authorized to discharge from outfall serial number 001 treated effluent composed of two types of aggregate wash water (wash water seepage from the base of the aggregate storage piles and wash water leakage from the crusher tower), storm water runoff and mine dewatering drainage into Glover Brook. Such discharges shall be limited and monitored by the permittee as specified below. Samples taken in compliance with the monitoring requirements specified below shall be taken at a location that provides a representative analysis of the effluent.

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>				<u>Monitoring Requirements</u>		
	<u>Average Monthly</u>	<u>Maximum Daily</u>	<u>Average Monthly</u>	<u>Maximum Daily</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>	
Flow; Gallons per Day	-----	-----	Report	Report	1/Day	Pipe rating curve or other approved method ¹	
pH Range ²		6.5 to 8.0 Standard Units (See PART I.G.1.a.)				1/Month	Grab
TSS	-----	-----	25 mg/l	45 mg/l	1/Month ³	Grab	
Outfall Turbidity; NTU	-----	-----	Report	Report	1/Month ^{3,4}	Grab	
Glover Brook Turbidity, Upstream; NTU		-----	Report	Report	1/Month ^{3,4}	Grab	
Glover Brook Turbidity, Downstream; NTU		-----	Report	Report	1/Month ^{3,4}	Grab	
Glover Brook Turbidity, Difference; NTU		-----	Report	10	1/Month	Calculation	
Nitrate plus Nitrite as Nitrogen; mg/l		-----	Report	Report	1/Month ³	Grab	
Total Recoverable Iron; mg/l	-----	-----	Report	Report	1/Month ^{3,5}	Grab	
Total Recoverable Arsenic; ug/l	-----	-----	Report	Report	1/Month ^{3,5}	Grab	
Total Recoverable Lead; ug/l	-----	-----	0.54	14	1/Month ^{3,5}	Grab	
Total Recoverable Arsenic, Upstream; ug/l		-----	Report	Report	1/Month ^{3,5}	Grab	

NOTE: See pages 3 and 4 for explanation of the various footnotes.

EXPLANATION OF FOOTNOTES APPLICABLE TO PART I.A.1. on page 3.

- (1) In lieu of an effluent flow meter, a pipe rating curve may be used to report effluent flow. To obtain approval for flow measurement method(s) other than the pipe rating curve approach, the permittee shall submit a written description of the proposed method(s) to EPA-New England and receive written authorization via certified letter.
- (2) Limit is a State Certification Requirement.
- (3) All samples of effluent collected for the analyses of pH, TSS, Turbidity, Nitrate plus Nitrite, and Total Recoverable Iron, Arsenic and Lead shall be conducted concurrently from the same parcel of effluent. All samples of Glover Brook for Total Recoverable Arsenic shall be collected concurrently at the same time and location as the samples collected for turbidity analysis as required in footnote (4) below. In addition, for the measurement frequency of 1/Month, the collection of water samples for analyses shall be separated by a minimum of fourteen days for consecutive months.
- (4) On the same day a water sample for turbidity analysis is collected of the effluent discharged from Outfall 001, two (2) additional water samples for turbidity analyses shall be collected from the receiving water, Glover Brook, one upstream and one downstream of Outfall 001. The upstream sample shall be collected at a location near Brox's upstream property boundary while the downstream sample shall be collected at a location that represents the turbidity in Glover Brook after complete mixing with the effluent discharged from Outfall 001. In addition, the downstream sample of Glover Brook (below Outfall 001) shall be collected from approximately the same slug of water as was the upstream turbidity sample by allowing for the traveltime from the upstream to the downstream location. Individual turbidity results shall be reported in the appropriate columns on the monthly Discharge Monitoring Reports (DMRs). For Glover Brook, the "Turbidity, Difference" is calculated as "Turbidity, Downstream" (of Outfall 001) minus "Turbidity, Upstream" (of Outfall 001) with all positive results being reported as calculated and all minus results being reported as zero in the appropriate column on the DMRs.
- (5) The following set of conditions are applicable to the metals analyses for Total Recoverable Arsenic and Lead.
 - a. For each sample analyzed, the permittee must determine the Total Recoverable concentration of each metal and report those results on the appropriate DMR.
 - b. For purposes of analysis and reporting, the permittee shall use the minimum quantification level (ML). In general, the ML is defined as "the level at which the entire analytical system shall give recognizable signal and acceptable calibration points." Specifically, it's defined as the concentration in a sample equivalent to the concentration of the lowest calibration standard analyzed in a specific analytical procedure assuming that all the method-specific sample weights, volumes, and

processing steps have been followed. These ML values may be reduced by permit modification as more sensitive test methods are approved by EPA-New England. The permittee must conduct analyses in accordance with any of the three methods specified below and must utilize the specified standard equivalent to the concentration of the ML specified below:

<u>Parameter</u>	<u>Analytical Methods</u>	<u>ML (µg/l)</u>
Arsenic	Method 200.7 (ICP/AES, revision 4.4, 1994)	5.0
	Method 200.8 (ICP/MS)	5.0
	Method 200.9 (GFAA)	2.0
Lead	Method 200.9 (GFAA)	3.0

Compliance/noncompliance determination will be based for Total Recoverable Arsenic and Lead are equal to the MLs listed above and may be reduced by permit modification as more sensitive test methods are approved by EPA. Any value below the ML shall be reported as zero until written notice is received by certified mail from EPA-New England indicating some value other than zero is to be reported for specified ML (i.e., between zero and the ML).

- c. Alternate analytical method(s) shall be approved by EPA-New England at the permittee's written request as long as the permittee utilizes method(s) that obtain MLs that are equal to or less than those referenced in (5)b. above. However, if the permittee is unable to obtain the ML for the methods listed above due to interferences such as spectral, matrix, elemental, physical, chemical, etc., EPA-New England will consider approving an alternate ML upon submission of the appropriate documentation. Such a request will be considered a minor modification to the permit.
- d. The permittee is encouraged to use "Clean Techniques" in both the sampling and analytical phases when determining total recoverable arsenic and lead concentrations in collected samples. Should clean sampling techniques be deemed necessary by either the permittee or EPA-New England, then sampling shall be performed in accordance with U.S. E.P.A. Method 1669: Sampling Ambient Water for Trace Metals at EPA Water Quality Criteria Levels, EPA 821-R-95-034, April 1995, as amended or approved by EPA-New England.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (Continued)

- 2. The discharge shall not cause a violation of the water quality standards of the receiving water.

3. The discharge shall be adequately treated to insure that the surface water remains free from pollutants in concentrations or combinations that settle to form harmful deposits, float as foam, debris, scum or other visible pollutants. It shall be adequately treated to insure that the surface waters remain free from pollutants which produce odor, color, taste or turbidity in the receiving waters which is not naturally occurring and would render it unsuitable for its designated uses.

4. All existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Director as soon as they know or have reason to believe (40 CFR Section 122.42):
 - a. That any 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 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 CFR Section 122.21(g)(7);
or
 - (4) Any other notification level established by the Director in accordance with 40 CFR Section 122.44(f) and New Hampshire statutes and regulations.

 - 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 CFR Section 122.21(g)(7);
or
 - (4) Any other notification level established by the Director in accordance with 40 CFR Section 122.44(f) and New Hampshire statutes and regulations.

- 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.
5. Toxic Controls
- a. No components of the effluent shall result in any demonstrable harm to aquatic life or violate any 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, with the permittee being so notified.
 - b. The permittee shall not discharge into the receiving water any pollutant or combination of pollutants in toxic amounts.
6. This permit shall be modified, or alternatively, revoked and reissued, to comply with any applicable standard or limitation promulgated or approved under sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
- a. Contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
 - b. Controls any pollutants not limited in the permit.

If the permit is modified or reissued, it shall be revised to reflect all currently applicable requirements of the ACT.

B. STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

By the effective date of this permit, the permittee shall have developed and implemented a SWPPP for all the areas discharging through Outfall 001 that meets the SWPPP requirements contained in EPA's Storm Water Multi-Sector General Permit (MSGP) (issued on October 30, 2000), Sector J, –Mineral Mining and Dressing. Specifically, that includes Part 6.J.6, Part 4 and Part 5.1.2.

In addition, if six successive monthly nitrate plus nitrite monitoring results equals or exceeds its “benchmark” concentration of 0.68 mg/l, the permittee shall review the facility’s SWPPP plan for Outfall 001 to evaluate what modifications would be both appropriate and reasonable to make in order to bring this discharge below the benchmark concentration. The permittee shall submit a written report to EPA-New England and the NHDES-WD detailing what changes, if any, will be made to their existing SWPPP to reduce the nitrate plus nitrite concentration in the discharge to

below its benchmark concentration. Any changes to the existing SWPPP are at the option of the permittee, as in the MSGP; however, if benchmark exceedances occur on a regular basis, EPA-New England will evaluate the need for an effluent limit. This written submission is due 60 days following the final sampling of the successive monthly or quarterly samples that triggered the SWPPP review.

C. SLUDGE

The permittee shall comply with all existing Federal, State and Local laws and regulations that apply to the reuse or disposal of industrial sludge(s) such as, but not limited to, sediments removed from any of the settling ponds, swales and/or lagoons that are used to treat and/or contain water discharged at Outfall 001. Specifically, for the State (New Hampshire) that means Env-Ws 800 and for the Federal (U.S. Government) that means 40 CFR Part 257.

D. MONITORING AND REPORTING CONDITIONS

Monitoring results shall be summarized for each calendar month and reported on separate Discharge Monitoring Report Form(s) (DMRs) postmarked no later than the 15th day of the month following the completed reporting period.

1. Signed and Dated original DMRs and all other reports or notifications required herein or in **Part II**, shall be submitted to the Director at the following address:

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

2. Duplicate signed copies of all reports required in Section 1. immediately above shall be submitted to the State at:

New Hampshire Department of Environmental Services
Water Division
Wastewater Engineering Bureau
29 Hazen Drive, P.O. Box 95
Concord, New Hampshire 03302-0095

All verbal reports required in **Parts I** and **II** of this permit shall be made to both EPA-New England and to NHDES-WD.

E. SPECIAL CONDITIONS

pH Limit Adjustment

The permittee may submit a written request to the EPA-New England requesting a change in the permitted pH limit range to be not less restrictive than 6.0 to 9.0 Standard Units found in the applicable National Effluent Limitation Guideline (Mineral Mining and Processing Point Source Category, Subpart C –Construction Sand and Gravel Subcategory found at 40 CFR Section 436.32.) for this facility. The permittee’s written request must include the State’s approval letter containing an original signature (no copies). The State’s letter shall state that the permittee has demonstrated to the State’s satisfaction that as long as discharges to the receiving water from a specific outfall are within a specific numeric pH range the naturally occurring receiving water pH will be unaltered. That letter must specify for each outfall the associated numeric pH limit range. Until written notice is received by certified mail from the EPA-New England indicating the pH limit range has been changed, the permittee is required to meet the permitted pH limit range in the respective permit.

Monitoring Frequency Adjustment for Selected Parameters

The permittee may submit a written request to the EPA-New England requesting a reduction in the sampling frequency of all parameters except **Flow** after completion of a minimum of two years of valid test results from this permit’s effective date. Frequency reductions to include elimination would be considered for **Iron, and Arsenic in the effluent and in Glover Brook**, and frequency reductions to a minimum of once per quarter would be considered for **pH, Lead, TSS, all Turbidity and Nitrate plus Nitrite**. Until written notice is received by certified mail from the EPA-New England indicating that the testing frequency has been changed, the permittee is required to continue testing at the frequency specified in the respective permit. This special condition does not negate the permittee’s right to request a permit modification pursuant to 40 CFR Section 122.62 at any time prior to the permit’s expiration.

F. REOPENER CLAUSE

This permit may be modified, or alternatively, revoked and reissued to incorporate **Arsenic and/or Iron** limit(s) if the results of ongoing monitorings for any of those parameters in the effective permit including any additional Section 308 Information Request(s) indicate the discharge causes or has the reasonable potential to cause or contribute to an exceedance of New Hampshire’s currently effective Surface Water Quality Regulations. This additional limit could be expressed in terms of concentration and/or mass, where appropriate. Since results from these monitorings were not available at permit reissuance, they are considered “New Information”, and as a result, the permit may be modified as provided in 40 CFR Section 122.62 (a)(2).

G. STATE PERMIT CONDITIONS

1. The permittee shall comply with the following conditions which are included as State Certification requirements.
 - a. The pH range of 6.5-8.0 Standard Units (S.U.) must be achieved in the final effluent unless the permittee can demonstrate to NHDES-WD: (1) that the range should be widened due to naturally occurring conditions in the receiving water or (2) that the naturally occurring receiving water pH is not significantly altered by the permittee's discharge. The scope of any demonstration project must receive prior approval from NHDES-WD. In no case, shall the above procedure result in pH limits outside of the range of 6.0 to 9.0 S.U., which is the federal effluent limitation guideline regulation for pH for Mineral Mining and Processing Point Source Category, Subpart C –Construction Sand and Gravel Subcategory found at 40 CFR Section 436.32.
 - b. The permittee shall not at any time, either alone or in conjunction with any person or persons, cause directly or indirectly the discharge of waste into the said receiving water unless it has been treated in such a manner as will not lower the legislated water quality classification or interfere with the uses assigned to said water by the New Hampshire Legislature (RSA 485-A:12).
2. This NPDES Discharge Permit is issued by the EPA-New England under Federal and State law. Upon final issuance by the EPA-New England, the NHDES-WD may adopt this permit, including all terms and conditions, as a State permit pursuant to RSA 485-A:13.

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 the Permit as issued by the other Agency, unless and until each Agency has concurred in writing with such modification, suspension or revocation.