

Environmental Assessment Approval

Approval Date: *Original Dated Aug. 29, 2005*

Sovereign Resources Quarry Expansion/Modification

Sovereign Resources Inc., Proponent

**Rocky Lake Drive, Bedford
Nova Scotia**

Sovereign Resources Quarry Expansion/Modification (the “Undertaking”), proposed by Sovereign Resources Inc. (the “Proponent”), in Bedford, Nova Scotia is approved pursuant to Section 13(1)(b). This Approval is subject to the following conditions and obtaining all other necessary approvals, permits or authorizations required by municipal, provincial and federal acts, regulations, by-laws, guidelines, policies or standards before commencing work on the Undertaking. It is the responsibility of the Proponent to ensure that all such approvals, permits or authorizations are obtained before commencing work on the Undertaking.

This Environmental Assessment Approval is based upon the review of the conceptual design, environmental baseline information, impact predictions, and mitigation presented in the Registration Information.

Terms and Conditions for Environmental Assessment Approval

1.0 General Approval

- 1.1 The Environmental Assessment Approval for the project is limited to the project as described in the registration document. Any proposal by the Proponent for expansion, modification or relocation of any aspect of the project from that proposed in the registration document must be submitted to the Environmental Assessment Branch for review and may require an environmental assessment.
- 1.2 The Proponent shall within two years of the date of issuance of this approval commence work on the undertaking unless granted a written extension by the Minister.

- 1.3 The Proponent shall not transfer, sell, lease, assign or otherwise dispose of this approval without the written consent of the Minister. The sale of a controlling interest of a business or a transfer of an approval from a parent company to a subsidiary or an affiliate is deemed to be a transfer requiring consent.
- 1.4 The Proponent shall implement all mitigation and commitments in the Registration Document, unless approved otherwise by Nova Scotia Environment & Labour (NSEL).

2.0 Noise & Vibration

- 2.1 The Proponent, as part of the application for amendments to the Part V Approval under the *Environment Act*, shall provide for review and approval:
 - a) Details of an updated blast design plan. The plan shall demonstrate that air concussion and ground vibration limits are capable of being met.
 - b) Details of a flyrock mitigation and contingency plan.
 - c) Details of baseline and on-going noise monitoring programs.
- 2.2 All equipment is to be operated with standard noise suppression exhaust systems and kept in good repair; ongoing vehicle inspections shall be undertaken to ensure that all contracted haulers (and other operating equipment) have properly functioning engine noise muffling devices.
- 2.3 The Proponent shall monitor for noise, at the request of NSEL, investigate exceedances and reduce them to acceptable levels.
- 2.4 Hours of operation will be determined upon submission of a plan for mitigating noise associated with nighttime operation, to be approved by NSEL.
- 2.5 Transportation of material from the site is limited to Monday to Friday, between the hours of 7:00 a.m. and 7:00 p.m., unless otherwise approved by NSEL.
- 2.6 A noise mitigation berm (ie. line of sight barrier) must be maintained between the quarry operations and potential receivers, as committed to in

the EA Registration Document.

- 2.7 Blasting will only take place between the hours of 11 a.m. and 1 p.m. (mid-day, as committed to in the EA Registration Document).

3.0 Archaeological Resources

- 3.1 The Proponent, prior to the application for amendments to the Part V Approval under the *Environment Act*, shall provide for review and approval confirmation, to NSEL, that contacts were made with the Confederacy of Mainland Mi'kmaq, the Union of Nova Scotia Indians, and the Treaty and Aboriginal Rights Research Centre, identifying how their concerns with the undertaking have been considered.
- 3.2 The Proponent shall cease work and contact the Director, Heritage Division, Nova Scotia Department of Tourism, Culture and Heritage, the Executive Director, Confederacy of Mainland Mi'kmaq and the Executive Director, Union of Nova Scotia Indians immediately upon discovery of an archaeological site or artifact unearthed during any phase of the proposed project.

4.0 Proximity to Residents & Public Involvement

- 4.1 The Proponent, as part of the application for amendments to the Part V Approval under the *Environment Act*, shall provide for review and approval:
- a) A complaint resolution program to be developed in consultation with NSEL.
 - b) Outline of the pre-blast survey to be conducted on all structures within 800 metres of the blast site.
- 4.2 The Proponent shall maintain the existence of the Monitoring Board during the life of the project.

5.0 Air Quality

- 5.1 The Proponent, as part of the application for amendments to the Part V Approval under the *Environment Act*, shall provide for review and approval:

- a) Details of a dust monitoring program, which will be implemented with monitoring parameters and locations determined in consultation with NSEL and the Monitoring Board.
- 5.2 Crushing activity shall not occur at the Sovereign Resources quarry.
- 5.3 Stockpiles of crushed aggregate shall not be placed within the Sovereign Resources quarry.
- 5.4 Dust generated by truck movement on site shall be minimized via speed control, proper truck loading, application of dust suppressants, proper construction of on-site roads, appropriate rehabilitation planning (including windscreens), and/or other means as required by NSEL.

6.0 Groundwater Resources

- 6.1 The Proponent, as part of the application for amendments to the Part V Approval under the *Environment Act*, shall provide for review and approval:
- a) Details of a groundwater monitoring program including location of monitoring wells and parameters. This program shall be designed to evaluate potential impacts to both groundwater levels and groundwater quality. Based on the results of the monitoring programs, the Proponent shall make necessary modifications to mitigation plans and/or quarry operations to prevent continued unacceptable environmental effects to the satisfaction of NSEL. This program shall be resubmitted over the lifetime of the project, at a schedule to be established by NSEL, and revised as determined by NSEL.
 - b) Details of a monitoring program to determine the potential for and extent of sulphide bearing material and a plan to manage any exposed acid generating material and associated drainage (in consultation with NSEL).

7.0 Surface Water

- 7.1 The Proponent, as part of the application for amendments to the Part V Approval under the *Environment Act*, shall provide for review and approval:
- a) Details regarding the program to monitor surface water, including

location and parameters. Based on the results of monitoring programs, the Proponent shall make necessary modifications to mitigation plans and/or quarry operations to prevent continued unacceptable environmental effects to the satisfaction of NSEL.

- b) Details of the baseline monitoring program, developed in consultation with NSEL.
 - c) Details of the adaptive management strategy, as recommended by DFO, which will consider baseline results and the potential options or alternatives for project activities and development.
 - d) Details of the surface runoff monitoring program and/or stormwater management plan
 - e) Details of the erosion and sediment control plan.
 - f) Details regarding the monitoring, maintenance, replacement and/or upgrading of the settling ponds. Settling pond design criteria shall include increased likelihood of more intense precipitation events in coming decades.
- 7.2 All surface water protection and management programs shall be resubmitted over the lifetime of the project, at a schedule to be established by NSEL, and revised as determined by NSEL.
- 7.3 The Proponent shall not undertake any quarry related activities within 30 metres of a watercourse without receiving all necessary approvals and/or authorizations from NSEL and all other applicable jurisdictions.

8.0 Flora & Fauna

- 8.1 The Proponent shall provide DNR Wildlife Division, for review and approval, a program to monitor and assess the presence/absence of a Northern Goshawk nest prior to quarrying activity.
- 8.2 Additional surveys and habitat suitability analyses of wetlands for 4-toed salamanders shall be undertaken by the proponent in the area surrounding the proposed expansion, in consultation with DNR, prior to quarrying activity.
- 8.3 The Proponent shall contact the Species-at-Risk Biologist, DNR Wildlife Division, to establish a standard for follow-up monitoring of the *Aster*

borealis.

- 8.4 The Proponent shall minimize the effects of the project on plant communities including the use of seed mixtures free of noxious weeds.

9.0 Wetlands

- 9.1 The Proponent, as part of the application for amendments to the Part V Approval under the *Environment Act*, shall provide for review and approval:
- a) Details of the wetland compensation program, developed in consultation with NSEL and DNR.
- 9.2 The Proponent shall not undertake any quarry related activities within 30 metres of Wetlands 11, 12, 22 and 26.
- 9.3 The Proponent shall not undertake any quarry related activities within 60 metres of Wetland 9.

10.0 Visual Environment

- 10.1 The Proponent shall not quarry beyond the 50 metre contour, as committed to in the EA Registration Document.
- 10.2 The Proponent shall maintain the undeveloped forested lands between the quarry and Lake William as a buffer zone for the duration of the quarry operation, as committed to in the EA Registration Document.

11.0 Quarry Plan and Operation

- 11.1 The Proponent, as part of the application for amendments to the Part V Approval under the *Environment Act*, shall provide for review and approval:
- a) Outline of the Quarry Development Plan, including details of site development, plans for shutdown, details of monitoring wells and other monitoring program, as well as details related to the size and location of erosion control structures and other associated mitigative measures.
 - b) Letters of permission in accordance with separation distances identified in the Pit and Quarry guidelines. A revised Quarry

Development Plan shall be submitted based on receipt of letters.

- 11.2 The Proponent shall operate the quarry within all NSEL requirements.
- 11.3 The Proponent shall plan and design the quarry according to *NSEL Pit and Quarry Guidelines*, 1999, and any subsequent updates.
- 11.4 No hazardous materials or petroleum products are to be stored on the site unless otherwise approved by NSEL.
- 11.5 All plans related to quarry operation shall be resubmitted over the lifetime of the project, at a schedule to be established by NSEL, and revised as determined by NSEL.
- 11.6 The Proponent shall apply for renewals to the Part V Approval at intervals established by NSEL and provide additional information as deemed necessary by NSEL.

12.0 Site Reclamation

- 12.1 The Proponent, as part of the application for amendments to the Part V Approval under the *Environment Act*, shall provide for review and approval a preliminary reclamation plan, that includes progressive reclamation and details of future land use.
- 12.2 Quarry operations must be completed and reclaimed to the satisfaction of NSEL and other appropriate regulatory departments.

13.0 Monitoring & Contingency Plans

- 13.1 As part of the application for amendments to the Part V Approval under the *Environment Act*, the Proponent shall provide an acceptable contingency plan that addresses:
 - a) accidental occurrences, including but not limited to contingencies for spills, including spill equipment kept on-site and location of emergency phone numbers
 - b) training to be delivered to staff
 - c) procedures for responding to incidents occurring during times when the facility is not staffed (e.g. evenings, weekends, holidays).
- 13.2 The Proponent shall provide details of the following monitoring programs, in consultation with NSEL:

- a) dust and noise monitoring;
- b) pre-blast survey;
- c) follow-up bird survey;
- d) rare plant monitoring program;
- e) groundwater monitoring well program;
- f) environmental effects monitoring (fish habitat);
- g) surface water runoff monitoring program; and
- h) blast monitoring.

Original Signed By

Kerry Morash
Minister of Environment and Labour