ENVIRONMENTAL ASSESSMENT
REGISTRATION DOCUMENT

MAKKOVIK INUIT COMMUNITY GOVERNMENT
PROPOSED SAND QUARRY

Prepared for:
Makkovik Inuit Community Government
Makkovik, Newfoundland Labrador

Prepared by:
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2.0 PROPONENT

2.1 Name of Corporate Body: Makkovik Inuit Community Government

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16 Andersen Street
Makkovik, NL
A0P 1J0

2.3 Chief Executive Officer:
Mr. Terry Rice - Town Manager
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2.4 Principal Contact Person: (for purposes of environmental assessment)

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3.0 THE UNDERTAKING

3.1 *Nature of Undertaking*

The proposed project involves the development of a 2.5 hectare area (comprising an access road and quarry) as a Sand Quarry, southeast of the Town of Makkovik. The quarry site itself consists of an approximately 0.69 hectare parcel of undeveloped woodland and is located approximately 900 m southeast of the existing Makkovik Municipal Solid Waste Disposal Site (MSWDS). The proposed site access will be via an approximately 900 m long access road (1.8 hectares) extended from the existing Makkovik MSWDS. The proponent proposes to develop the area as a quarry operation, mining and transporting native sands for use as a general backfill material.

3.2 *Purpose/Rationale/Need for the Undertaking*

The Town of Makkovik is an isolated community located on the coast of Labrador, with principle access by boat or plane. The Town has a population of approximately 380 and a very limited network of roads. There are no active pits developed in the area due to the widespread occurrence of bedrock at or very near surface. This quarry development is required by the Town as a source of granular materials for general backfill in construction works within the Town.

4.0 DESCRIPTION OF THE UNDERTAKING

4.1 Geographic Location

The proposed quarry itself is located 900 m southeast of the Makkovik MSWDS (which itself is located at the extreme southeast end of the developed area of the Town), within the area identified as *Inuit Community Lands* (Under the Labrador Inuit Land Claims Agreement). The site access will be via a new 900 m long gravel road that will be constructed from the existing MSWDS to the proposed quarry site. Refer to *Figure 1: Site Location* and *Figure 2: Location Plan* for details.

4.2 Physical Features

4.2.1 Project Site Description

The primary physical features associated with the project will be the quarry site itself and the 900 m gravel access road to be constructed from the existing MSWDS. Property surrounding the proposed access road and quarry site is currently undeveloped.

The quarry site will be approximately 0.69 hectare in size; this area is currently wooded and undeveloped. An estimated average thickness of 4.0 m of granular materials, consisting primarily of a fine sand, is present over the site. Quarrying will involve simple resource extraction and transportation of the raw product to the point of use. There will be no secondary processing of materials on site. The quarry boundary is sited to ensure a minimum 30 m buffer zone between Makkovik Brook, located adjacent to and northeast of the proposed site. All grubbed material will be stockpiled and, as the quarrying operation reaches its limits, it will be rehabilitated to an acceptable condition.

Figure 1

Figure 2

The access road will extend from the existing MSWDS a distance of 900 m, over a mixed landscape consisting of barren rock, sparse with very local dense vegetation and some wet boggy areas. Bedrock is exposed intermittently over much of the proposed access road route. A rough trail/road, passable by truck, already exists over the first 240 m of this proposed road. The exact road routing will be situated a minimum of 50 m from the shoreline of Makkovik Harbour and will be routed such that impacts to the landscape will be minimized. One small stream and one intermittent stream crossing will be required along the road; these crossings will be engineered to minimize the impact to the streams and will follow advise provided by the Department of Fisheries and Oceans (correspondence from Mr. Boyd Collier - Marine Environment and Habitat Management, dated June 13, 2005, File No. 4-05-004) and will generally follow the *Environmental Guidelines For Culverts* published by the Newfoundland Labrador Department of Environment and Conservation (Water Resources Division). Refer to *Figure 3: Typical Road Section* for details on the access road.

4.2.2 Existing Biophysical Environment

The project site is located within the *Coastal Barrens Eco-region*, which extends from Napaktok Bay in the north, to the Straight of Bell Isle to the south. This Eco-region is characterized by moist, sheltered valleys with spruce forests and a moss understory. Coastal heath exists along headlands and ridges. Marine terraces are suitable for salt marshes and plateau bogs. High areas have exposed bedrock, with lichens and mosses growing on sheltered lee slopes and in small cracks. Scrubland consisting of alder, dwarf birch, and Labrador tea, dominate in areas subjected to fires. Deeply-incised U-shaped valleys occur in conjunction with steep-sided, rounded mountains and fjords extend well inland. Permafrost occurs in isolated patches. Climatic conditions in the region are characterized by short, moist, cool summers, and long cold winters. The mean summer temperature is 7°C and the mean winter temperature is -13.5°C. The mean annual temperature is around -3.5 °C. The mean annual precipitation ranges from 600 mm to1000 mm.

The access road site is dominated by scrub vegetation with abundant Labrador tea, intermittent bedrock exposures, and some poorly-drained boggy areas. The road will run roughly parallel to Makkovik Harbour, with a minimum 50 m buffer between the road and the harbour. The quarry site itself is characterized by scrub to moderately dense forest. There is a boggy area located approximately 50 m southwest of the quarry boundary; Makkovik Brook is located approximately 30 m northeast of the quarry boundary. No rare or endangered plants are known to exist in the project area. No significant impacts to the terrestrial and neighbouring freshwater/marine environment are expected as a result of this project.

Figure 3

Site topography along the proposed access road is relatively flat (overall surrounding topography along the road slopes gently towards the northeast), with ground surface elevations in the range of 5 m to 7 m above sea level. Site topography in the vicinity of the proposed quarry is also relatively flat, though overall surrounding topography is towards the northwest and northeast. Existing ground surface elevations at the proposed quarry site range from approximately 7.4 m to 9.8 m above sea level.

Bedrock is exposed at or very near surface over much of the surrounding area. Bedrock in the area is reported to consist of siliceous tuffs, sedimentary rock, and amphibolite of the Allik Group (A.M.S. Clarke, 197; S.S. Gandhi et al. 1969; A/J. Baer and F.C. Taylor, 1971.).

4.3 *Construction*

The construction phase of site development will consist of the following main components:

- site access
- clearing and grubbing
- quarry development including sediment control.

4.3.1 *Site Access*

Access to the site will be from a proposed 900 m long gravel access road, extending from the Town of Makkovik MSWDS. The site access will be a 6 m wide, gravel-surfaced road with appropriate drainage, capable of supporting heavy equipment associated with the proposed undertaking.

4.3.2 *Salvageable Timber (Clearing) and Grubbing*

Merchantable timber removed in the process of access road construction and quarry development will be salvaged.

4.3.3 *Quarry Development*

The proposed quarry site covers an area of approximately 0.69 hectare. Initial site construction activities will involve the removal of the vegetative cover (wherever present) from the access road and first phase of the quarry; further vegetation removal will only occur as required from time to time to advance the working face. Surficial organics and topsoil (where present) will be set aside for use in future rehabilitation of the quarry. Once access to the quarry is established, up-grade ditching will be completed to direct surface drainage away from the active quarrying area.

4.3.4 *Potential Sources of Pollution During the Construction Phase*

The construction phase of the development will consist of earth-moving activities. The potential sources of pollution during these activities include site drainage, waste and litter, noise, air emissions, and potential release of petroleum hydrocarbons.

Site run-off water will be contained/directed, as necessary, to vegetated areas which will filter suspended solids. In addition, and where required, silt screens will be installed at appropriate locations to prevent siltation of water bodies.

The handling of petroleum products on site will comply with the *Storage and Handling of Gasoline and Associated Products Regulations*. Note that petroleum products will not be stored on the site during the construction stage, or the operating stage of the quarry.

Sewage will be handled by approved portable facilities during construction. Holding tanks will be pumped on an as-required basis.

Domestic waste generated during construction will be collected and disposed of at *Town of Makkovik MSWDS*, per the *Waste Material Disposal Act*.

Equipment on site will have appropriate emission-control equipment. Dust control measures, such as application of water, will be provided on an as-required basis. Noise levels associated with the work is not expected to increase over typical operations in the area.

4.4 *Operation*

Typical quarrying methods will be engaged to collect the overburden sand deposit at the site. The operation will include the excavation and loading of the native sand materials at the working face of the quarry, and transportation of these materials to off-site directly to the point of use. Waste and oversized rock will also be stockpiled for future use. Appropriate ditching will be located on site to ensure silt and general site run-off is controlled and does not adversely affect the surrounding environment. In addition, perimeter ditching and settling basins, as required, will be located to prevent migration of surface water drainage from non-operating and off-site areas into operating areas.

Equipment on site will include the following:

- tracked excavator (access road construction and loading at the working face)
- tracked dozer
- tandem dump trucks (material transportation.

Quarrying native sand will take place over an extended period. It has been estimated that the life of the proposed quarry to be 15 to 25 years.

Decommissioning/rehabilitation of the quarry site will be completed on an on-going basis, where possible. The process will generally follow the following procedure:

- terrain disturbances will be limited to that which is necessary to complete the required work
- grubbed materials and waste rock will be stockpiled on site for future use in site rehabilitation
- surface disturbances will be stabilized on an on-going basis to limit erosion.
- final rehabilitation will take place as the quarry reaches the end of its useful life.

4.5 *Occupations*

Site construction and operations for the proposed quarry will include the following occupations, classified per *National Occupational Classification 2001*:

Construction Phase
1 - Site Foreman/Supervisor (7217)
2 - Heavy Equipment Operators (7421)
2 - Truck Drivers (7411)

Quarry Operations
1 - Quarry Manager (0811)
1 - Quarry Foreman/Supervisor (8221)
1 - Heavy Equipment Operator - Excavator (7421)
1 - Truck Drivers (7411)
1 - Quarry Laborer(7611).

4.6 *Project Related Documents*

There are no project related reports.

5.0 APPROVAL OF THE UNDERTAKING

Approvals, permits, and licences that may be required for the undertaking, are as follows:

Environmental Protection Act - Assessment Regulations: Permit to proceed
Quarry Materials Act and Quarry Minerals Regulations: Quarry Permit
Forestry Act and Regulations: Commercial Cutting Permit
Water Resources Act-Permit to Alter a Water Body (Stream Crossings/Culverts).

6.0 SCHEDULE

Registration Document Submission	June 20, 2007
Government Review and Decision	August 6, 2007
Access Road Development	September, 2007
Quarry Development	2008
Quarry Operations	2008 - 2033

7.0 FUNDING

The *Makkovik Inuit Community Government* will be providing funding for the undertaking through the Nunatsiavut Government.

8.0 SUBMISSION

Date

Name: Mr. Terry Rice
Position: Town Manager - Makkovik
Inuit Community Government