

# **NORTHERN MINERALS LIMITED PORT SAUNDERS QUARRY**

## ***Environmental Assessment Registration Document***

Submitted by:

**Northern Minerals Limited**  
16 Forest Road  
Suite 200  
St. John's, NL  
A1C 2B9

Prepared with the assistance of:

NCD Consulting Limited  
34 Yellow Wood Drive  
Paradise, NL  
A1L 0X9

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## **1.0 NAME OF UNDERTAKING**

Port Saunders Rock Quarry Permit Application

- Quarry Permit Identification
  - File Reference Number 711:13403 covering 176.0 ha
- Environmental Assessment Registration Identification
  - File Reference Number 200.20.3541

## **2.0 PROPOSER**

### **2.1 Name of Corporate Body**

Northern Minerals Limited

### **2.2 Address**

16 Forest Road  
Suite 200  
St. John's, NL  
A1C 2B9

### **2.3 Chief Executive Officer**

Mr. Greg Mercer  
President & Chief Executive Officer (acting)  
16 Forest Road  
Suite 200  
St. John's, NL  
A1C 2B9  
Telephone: 709-638-0878  
Email: gmercer.nml@gmail.com

### **2.4 Principal Contact Person**

Mr. Greg Mercer  
President & Chief Executive Officer (acting)  
16 Forest Road  
Suite 200  
St. John's, NL  
A1C 2B9  
Telephone: 709-638-0878  
Email: gmercer.nml@gmail.com

## **3.0 THE UNDERTAKING**

### **3.1 Nature of the Undertaking**

Northern Minerals Limited (Northern Minerals / NML) is a newly formed company that specializes in the production and exporting of rock aggregate materials to international markets. NML is composed of a group of experienced aggregate producers and entrepreneurs from NL that have potential near term opportunities to export aggregates to markets along the eastern seaboard of the United States. The Port Saunders project is located just south of the community of Port Saunders on the western side of the Northern Peninsula. The project represents a new industrial activity to the region, generating long-term opportunities for local individuals in this emerging industry.

The proposed project, referred to as the Port Saunders Quarry, is a 176.0 ha quarry application area applied for by Northern Minerals Limited and includes a 1.7 km quarry access road and a ship load out area with an adjacent on land laydown/stockpile area.

### **3.2 Purpose/Rationale/Requirement for the Undertaking**

The main purpose of the project is to export the rock aggregate produced within the quarry lease area from a newly constructed adjacent ship load out area to supply foreign markets. As such, NML will be requesting that a 20-year quarry lease, maximum allowable lease title, be issued for the quarry to secure a long-term source of rock aggregate to meet foreign business demands. Upon approval of the proposed quarry lease, Northern Minerals will hold the rights under a quarry mechanism for operations, regulatory responsibilities, remediation, and financial assurance for closure. NML will utilize the most recent and appropriate available technology, methods and third-party consultants/contractors, where required, to develop the project in an environmentally safe and responsible manner.

As demand continues to grow for aggregates beyond Newfoundland & Labrador's border, the materials required for foreign construction projects need to be sourced from external areas. With shipping being a cost-effective way to transport construction aggregate to areas along the east coast of North America, and elsewhere globally, the Port Saunders area is geographically located in an ideal location to meet the demands for these products.

## **4.0 DESCRIPTION OF THE UNDERTAKING**

### **4.1 Geographic Location**

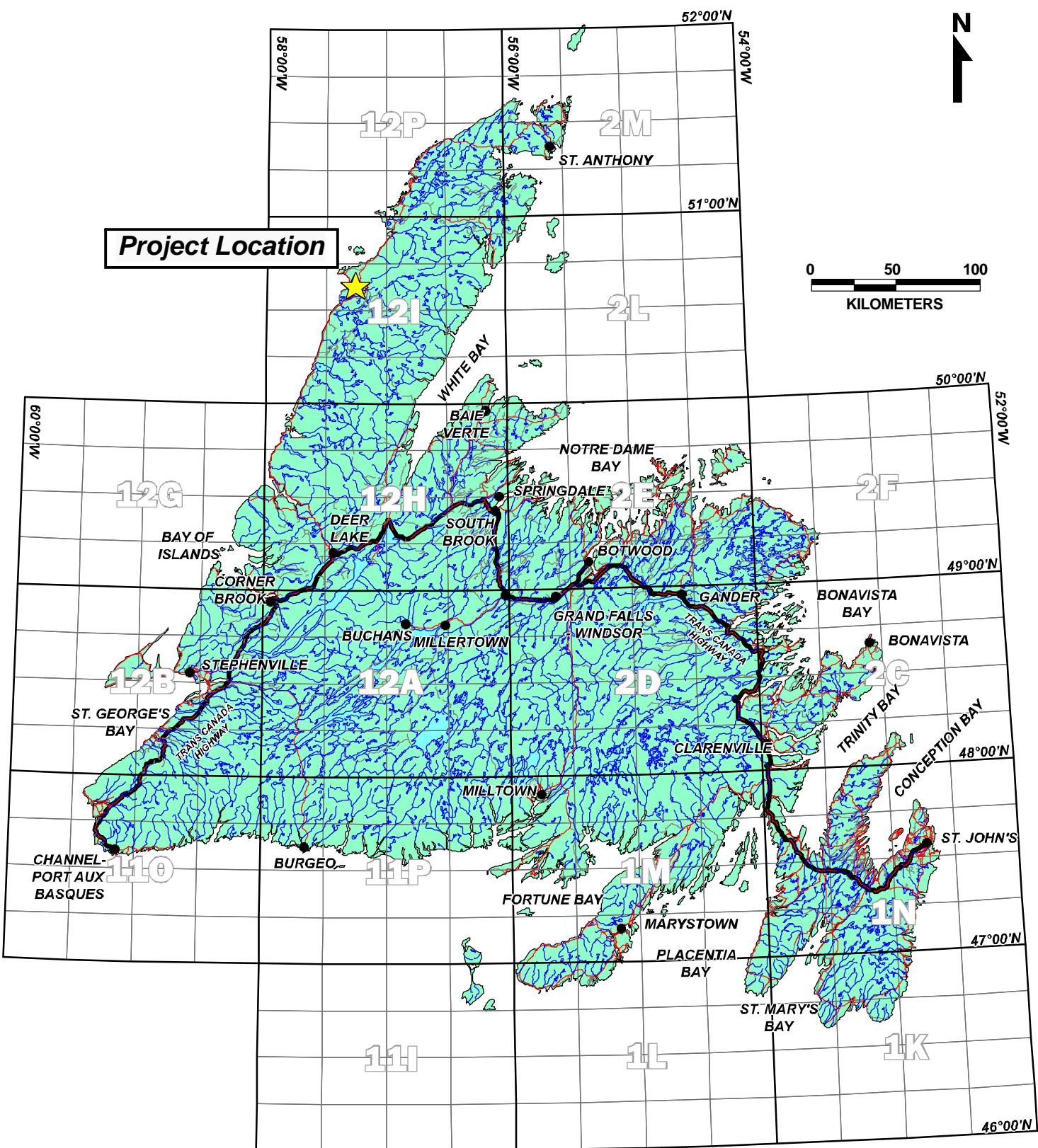
The project is located on the west side of the Northern Peninsula, entirely within the municipal boundary of the Town of Port Saunders, with no development required in the adjacent Hawke's Bay municipal boundary, and it is located on NTS Map Sheet 12I/11 (**Figure 1**). The proposed quarry lease is an undeveloped area located ~ 1.5 km south of

the Town of Port Saunders in a remote isolated area and it is separated by an inlet known as Port Saunders. As the project is within the municipal boundary a development permit will be required from the Town and currently NML has entered a memorandum of understanding with the town council.

Access to the site will be gained from a gravel road extending from Route 430-28. From the gravel road a new 20 m wide by 1.7 km long access road will be put in place. This new access road is currently under a licence to occupy application through Crown Lands under the Department of Fisheries, Forestry and Agriculture with application number 163887.

The quarry lease application area is currently set at **176.0 ha** in size, with the boundary being finalized upon the completion of a legal survey should the site be approved under a quarry lease (**Figure 2**). The lease application area is flanked by the Atlantic Ocean, Middle Arm/Keppel Island near the southwestern boundary. The Atlantic Ocean inlet, known as Port Saunders, is located to the north and a heavily wooded area is located to the southeast (**Figure 3**).

As depicted in **Figure 4** the project area is located in a relatively remote area for being located within a municipal boundary and **Figure 5** presents the preliminary layout.



**FIGURE 1: Project Location Map (N.T.S. 12I/11)**

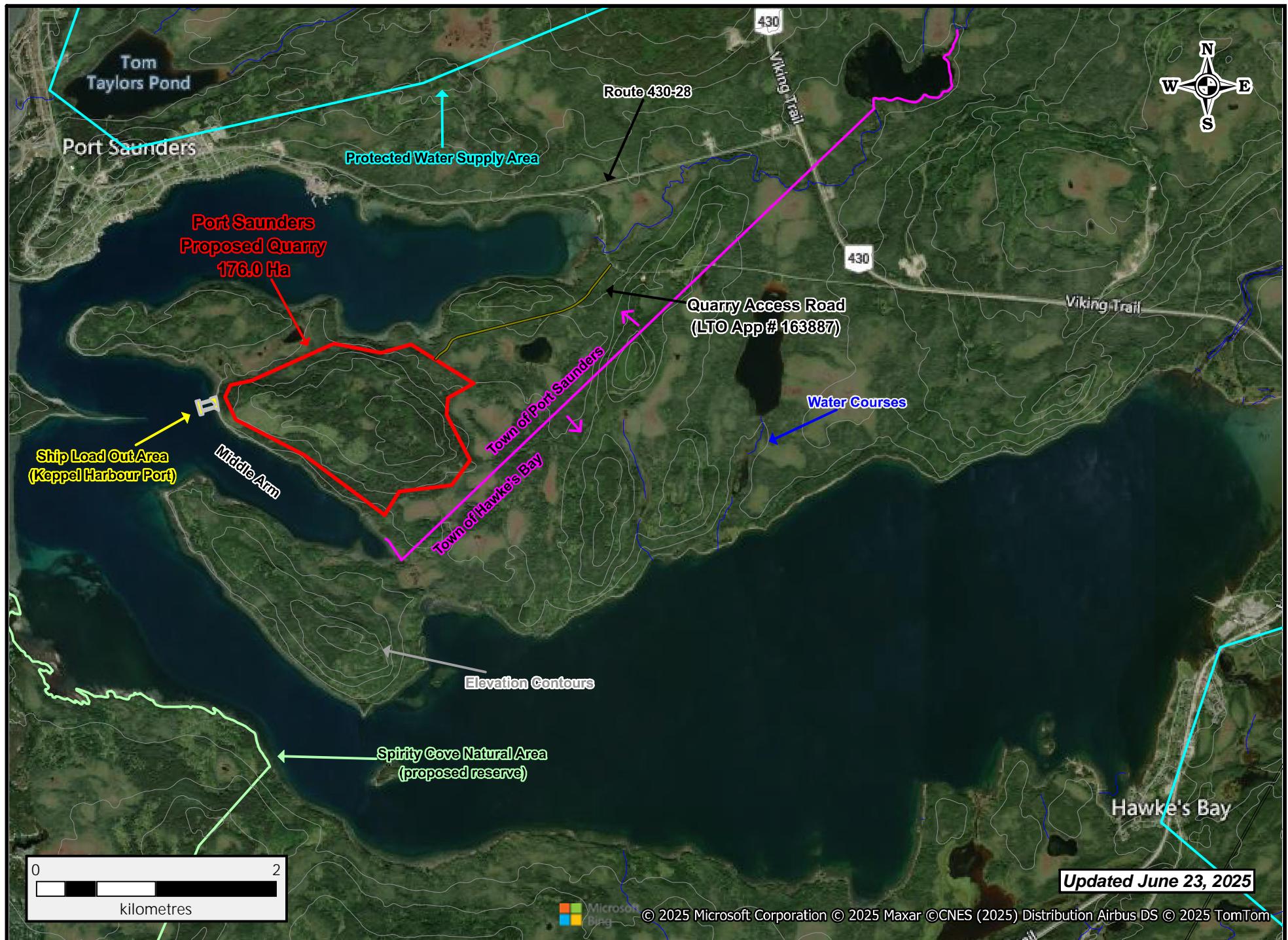


Figure 2: Project Area Map

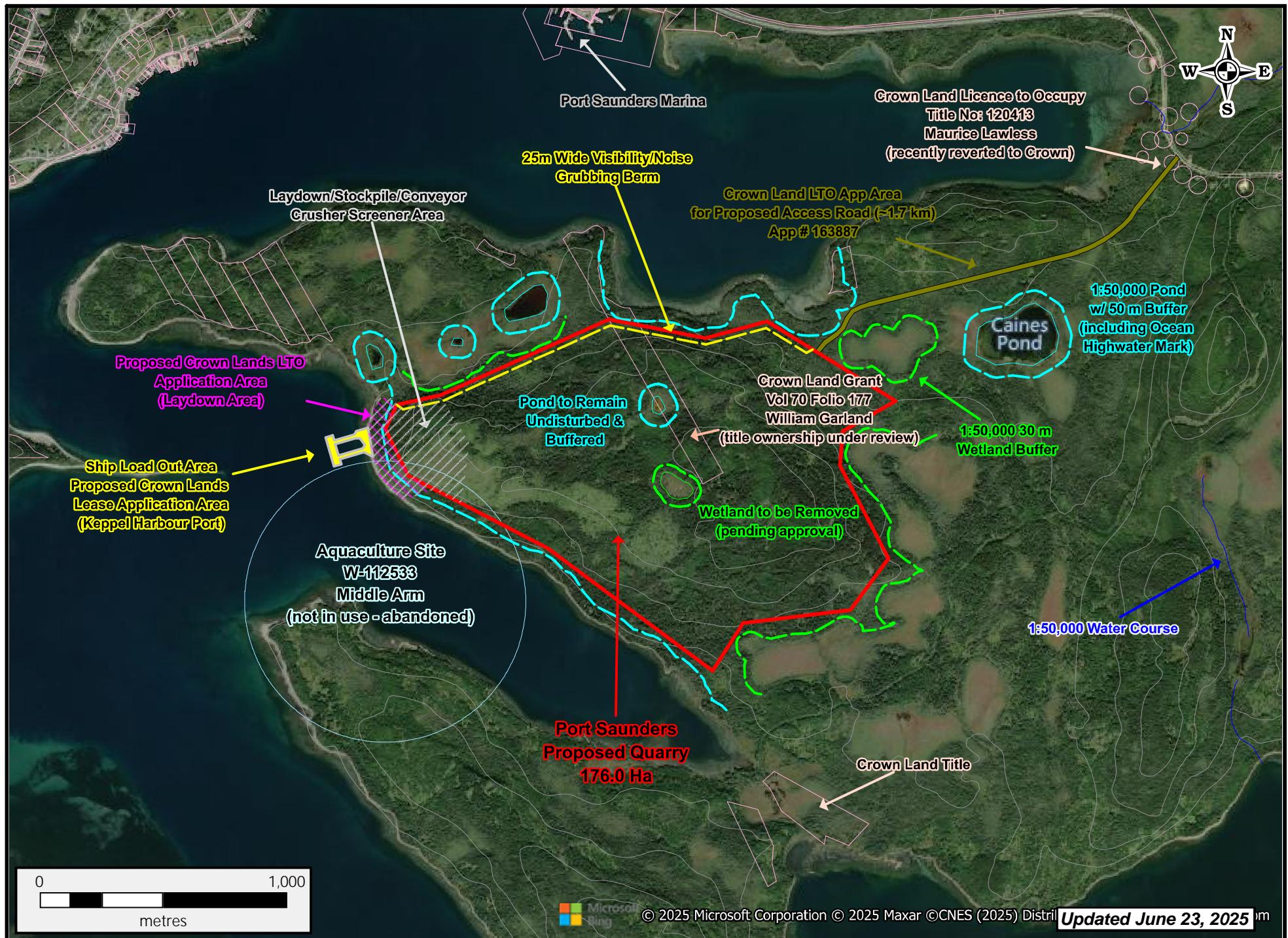
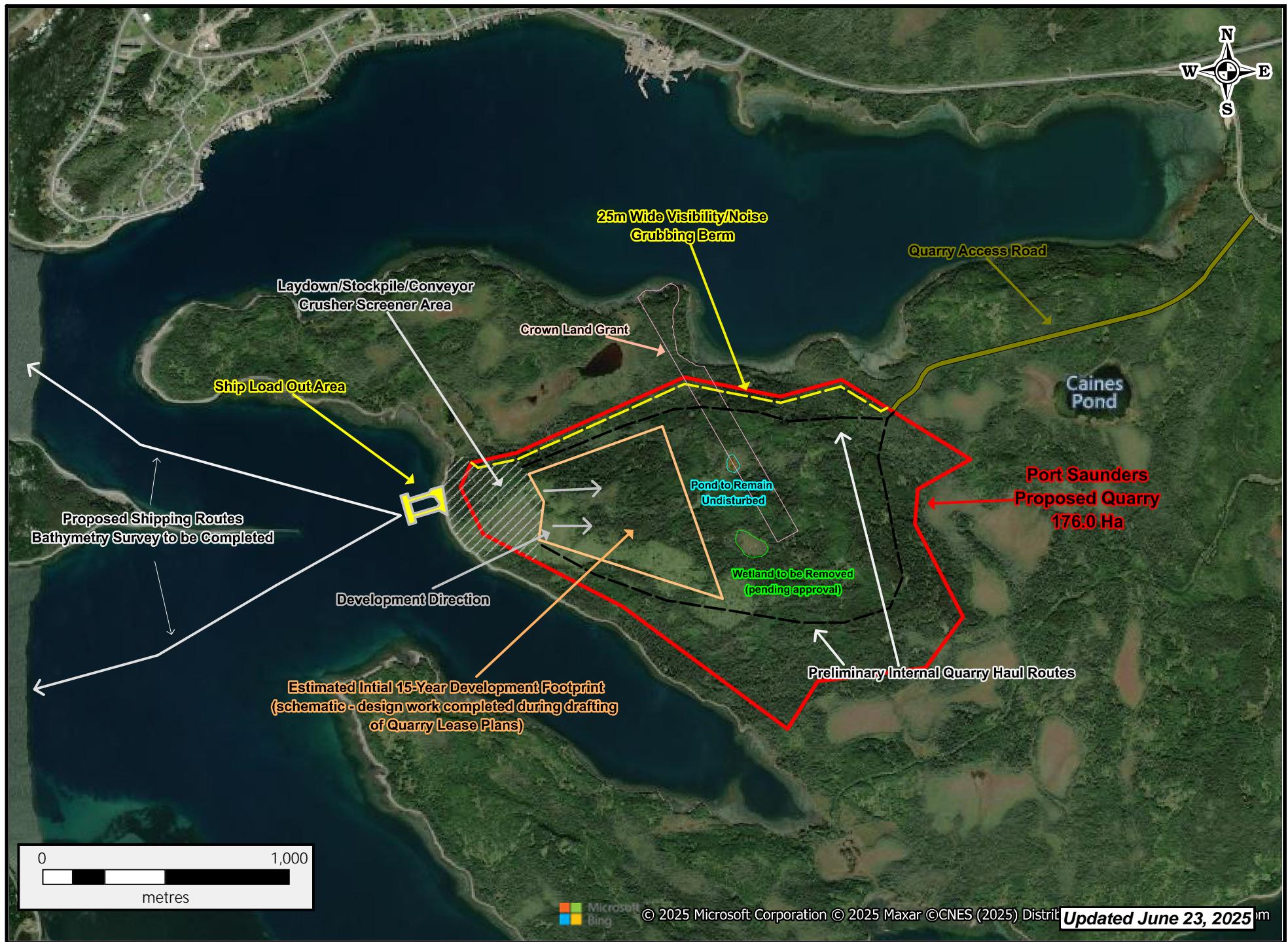


Figure 3: Detailed Quarry Area Map



Figure 4: Receptor Location Map



## 4.2 Physical Features

### 4.2.1 Project Description

The layout presented in **Figure 5** is preliminary in nature and is provided to give the reader an idea of how the site most likely will be developed. Detailed design work is to be completed, at a later date, during the drafting of a set of quarry lease plans. The new quarry access road will extend from an existing gravel road ~1.7 km to the west and intersect the eastern quarry lease boundary. Internal quarry haul roads will either extend across the northern lease area or the southern lease area as shown depending on the final layout. The laydown/stockpile area will be developed first with the 15-year development footprint starting in the west. This is based on an estimated 2 million tonne per year export rate. The ship load out area will be put in place during the first year or two of construction. The entire 176 ha quarry area will not be developed all at once and it is anticipated that in the first 15 years of development a ~40 ha area will be utilized/disturbed within the quarry boundary with an overall ~55 ha footprint including the access road and Keppel Harbour Port. The requirement for a land holding of 176 ha is dictated by aggregate purchasers requiring a supplier to have secured a large resource. This allows the purchaser to enter long-term supply contracts with NML spanning decades. The level of assurance is further enhanced by the stable and proactive mining and quarrying industry in NL's politically stable jurisdiction.

After access is established to the project area the overlying grubbing/organic matter will be stripped from the laydown/stockpile and development area. This material will be stockpiled in a ~25 m wide berm along the northern quarry boundary reducing the visibility and reducing noise projection to the north from the quarry. The preserved grubbing/organic material will be utilized at a later date to reclaim the site during reclamation when resources are depleted. Drilling and blasting will commence after the overburden has been stripped to allow for site development.

Elevations in the overall project area range from sea level to ~65 m above sea level (asl). The higher points of land are in the central and eastern portions of the lease area. Also, it is anticipated that a quarry floor elevation will be set at 10 m above sea level and development will occur above that elevation.

Initially power will be provided by generators and subsequently as the site is established power will be sourced from nearby NL Hydro powerlines with overhead lines extending adjacent to established access routes. Typical power requirements for a crushing/screening setup at a quarry site requires a 600 to 1,200 kW generator depending on the setup and office/lunch trailers will require a 70 kW generator. Depending on the existing electrical infrastructure it is anticipated that in year 2 or 3 a transition will be made to cleaner electrical power where possible.

Currently there is no intention of completing the washing of aggregates on site. Should this become required at a later date approval would be requested from the Department of Industry, Energy and Technology and any discharge of effluent/wastewater from the site would be subject to the Environmental Control Water and Sewage Regulations under the Water Resources Act. If aggregate washing is required, the setup would include a closed loop system that would only require additional water from outside sources to replenish the system when needed. The layout of such a setup would be completed by a qualified person and presented in a set of quarry lease plans.

Onsite fuel storage will be required, and this will be approved under a Gasoline and Associated Products (GAP) registration issued by the Department of Digital Government and Service NL.

A new marine terminal/load out area will be constructed adjacent to the quarry development and the initial concept includes the installation of two rock fingers extending ~ 100 m from shore to a loading barge with mooring bollards along the adjacent shoreline. Ships would be loaded with aggregate material via a conveyor which runs from the product stockpile areas to the edge of the loading barge, this would then connect to a telescopic conveyor situated on the barge itself which would in turn load the bulk carrier docked to the barge.

The nearest piece of occupied land is 1.2 km from the northern quarry boundary extending to the Port Saunders Marina. Sensitive receptors near the project area are typically greater than 1.5 km from the development and the quarry operations are designed to occur from the western lease boundary inland to the east in a horseshoe shaped manner (**Figure 5**).

All development will follow the Town of Port Saunders Municipal Plan and Development Regulations ([www.gov.nl.ca/mpa/registry/community/port-saunders/](http://www.gov.nl.ca/mpa/registry/community/port-saunders/)) which contain provisions regarding mineral workings (i.e. quarry development) and the related activities within the municipal boundary.

#### ***4.2.2 Existing Biophysical Environment***

The site is located within the Northern Peninsula Forest Ecoregion in the Coastal Plain Subregion. The Northern Peninsula Forest Ecoregion has low summer temperatures compared to the remainder of Newfoundland, with a mean of 11°C, and a shorter growing season. The mean winter temperature is -4.5°C and precipitation ranges from 1,000 to 1,100 mm. The ecoregion has an Atlantic high boreal ecoclimate and where rocky outcrops are exposed to wind these areas are predominantly vegetated with dwarf stands of black spruce and dwarf evergreen shrubs.

The geology of the area is underlain by limestone and carbonate rocks of the Humber Zone. Balsam fir is the dominant forest cover with some black spruce tree growth. Overlying the bedrock is undulating to ridged, sandy morainal to loamy marine deposits. The soils in the ecoregion are predominately Humo-Ferric Podzols with exposed bedrock throughout. Within the Coastal Plain Subregion, which the project area is located in, the land is dominated by bogs and scrub forests except for the area around Hawke's Bay and Port Saunders, including the project area.

The project area contains predominately dense to open coniferous tree growth with some deciduous trees including more open low shrub areas in the initial development area to the west. Common wildlife in the area include black bear, moose, lynx, coyote, red fox, snowshoe hare and caribou in the higher elevations.

#### ***4.2.3 Wetlands, Water Courses and Water Bodies***

All 1:50,000 CanVec wetlands, water courses and water bodies located beyond the quarry boundary have been buffered except for a small wetland and small isolated pond in the central quarry area. Wetland buffers are maintained at a minimum of 30 m and water course and water body buffers, including the ocean shoreline buffers, are to be maintained at 50 m (**Figure 3**).

It is proposed that a small 0.93 ha wetland within the quarry area be removed as development progresses to that area. This would be approved under Section 48 of the Water Resources Act by the Water Resources Management Division. Also, a very small 0.28 ha isolated pond, with no in flow or out flow, maybe temporarily converted to a stormwater retention pond and would be converted to its original state during rehabilitation if required for water retention. If not, the pond will remain undisturbed with a 50 m buffer around it. There is currently no avenue to request to have this pond removed through the regulatory process. Should the regulatory framework change in the coming decades, and there is the ability to request the removal of the small pond, this will be pursued.

It should also be noted that there will be disturbance in the 50 m ocean shoreline buffer where the laydown and load out area is developed. In this case several permits will be acquired from the Water Resources Management Division. These include a permit to alter a body of water, development in shore water permit and infilling within 15 meters of the ocean shoreline, for the ship load out area as depicted in **Figure 3**.

#### ***4.2.4 Site Visibility***

The construction of a large 25 m wide berm will be completed along the northern quarry lease boundary which will block the view of most of the operations at the quarry. Due to the long-term nature of the quarry development this berm will be continuously monitored as development progresses to ensure that the grubbing/organics are piled high and wide

enough to block the project from the view of the residents of Port Saunders when looking to the south. Also, as the development extends below the current topographic profile it will become increasingly concealed over time.

#### **4.2.5 Land Tenure**

A review of the landownership in the area has indicated two areas of concern. One is at the start of the quarry access road where a Licence to Occupy (LTO) was issued historically, but it was determined that the licensee had passed (Former Title #120413). A request was submitted to Crown Lands to review the validity of the LTO based on current requirements and subsequently the land was returned to the Crown.

A second piece of private land extends through the central portion of the quarry area near the small pond and wetland noted above (**Figure 3**). This Crown Grant dated 1912 is issued to Mr. William Garland under Volume Number 70, Folio Number 177 and Grant # 12776. Through personal communication with the Town of Port Saunders it has been determined thus far that no descendants of the family remain in the region and no municipal tax has been paid to the Town. A request has been submitted to the Minister of Crown Lands to review the ownership of the property and determine if the grant is in fact an abandoned property. If so the parcel of land could be reverted to the Crown. Also, by means of this document, a meeting with Town officials held in Port Saunders on June 19, 2025 and public review of the project/EA document, these three initiatives add several layers of advertising of the possible abandoned property designation of Grant # 12776.

#### **4.2.6 Ship Load Out Area**

The ship load out area is positioned on the west side of the project area for several reasons. One is to restrict the visibility of the quarry and reduce the noise from the industrial activity from affecting the residents of the Town of Port Saunders. Also, the development of the quarry, which will be lower than the height of land and berm, will emit equipment noise to the west towards the Atlantic Ocean. Another reason is the presence of deep-water channels directly seaward from the load out area to the open ocean. An initial review of publicly available bathymetry data will be followed up with a detailed site-specific bathymetry survey to determine the maximum size of the bulk carrier to be utilized to ship the aggregate.

There is also an issued Crown Land Aquaculture Site under identification W-112533 south of the load out area in Middle Arm (**Figure 3**). Through personal communication with the Town of Port Saunders it was indicated that the aquaculture site was initially issued in the early 1990's to attempt to produce farmed cod. After a couple of seasons, the cod farming experiment was deemed unsuccessful, and the aquaculture site has been inactive since. It is understood that there will be limited interference with any current commercial fishing operations as the bulk carrier will require the deepest water available

in the middle of the shipping channel and activities, such as lobster fishing, are located in shallower water near the shorelines (**Figure 5**).

## 4.3 Construction, Operation and Maintenance

The project sits within an undeveloped area and represents a new industrial activity that is currently being carried out elsewhere in Newfoundland. There are other very similar aggregate export projects, one being the Point Rousse Project operated by Shoreline Aggregates on the Baie Verte Peninsula and another being the Belleoram Quarry on the south coast of NL which is being developed by Continental Stone adjacent to the Town of Belleoram. With the project area being a greenfield site the construction aspect of this proposed quarry will be somewhat significant compared to an established quarry site. Activities include the construction of a quarry access road, the development of the quarry site and laydown area, and the construction of a new ship load out area (**Figure 5**).

A significant portion of the initial development will be the clearing of trees and the stripping of grubbing and surficial soils which will be used to construct the visibility/noise reduction berm. The clearing of treed areas and organics/subsoils, post the initial development, will happen in yearly phases and not all at once, as dictated by development and demand. This will be completed in a phased approach in order to minimize disturbances of the land within the quarry area and allow for exhausted areas to be rehabilitated.

The initial development operations of this quarry over the first 5 years will see yearly production phase blocks developed in ~ 10 m high lifts with the anticipated 15-year footprint outlined on **Figure 5**. It is anticipated that 750,000 m<sup>3</sup> (or ~2,000,000 tonnes) of insitu rock will be drilled, blasted and processed each year. Processing on site will consist of crushing, screening and possibly washing of extracted material before it is stockpiled and eventually loaded onto shipping vessels for transport to market (see **Section 4.3.4**).

The overall layout allows for the grubbing and overburden to be windrowed to the northern boundary creating a berm that will reduce the visibility of the site and suppress noise from the industrial activity. This will limit the impact on the community of Port Saunders. The windrowed material will also be utilized to complete quarry rehabilitation at a later date.

### 4.3.1 Road Maintenance

Northern Minerals Limited will utilize a constructed quarry access road extending ~ 1.7 km to the east side of the quarry should it be approved under the current LTO application. Both the constructed road and the existing gravel road connecting to Route 430-28 will be maintained by NML. Access to the quarry site will be restricted where the quarry access road meets the quarry boundary. This will include gated access.

All gravel roads both internal and external to the quarry will, over time, require maintenance. This will be completed by utilizing an excavator and/or grader to smooth or fill in ruts, settled areas and potholes as required. This may require the additional placement of aggregate material from the quarry for the purpose of road upkeep (for a list of required personnel/equipment see **Section 4.6**).

#### **4.3.2 Site Clearing**

Of the entire **176.0 ha** quarry area, plus the external laydown and access road, it is anticipated a **~55 ha** area will need to be disturbed in the first 10-15 years.

During the onset of construction, treed areas, organics and surficial soils will be removed from the quarry access roads, development footprint and laydown area. All tree covered areas will be cleared either by handheld chainsaws or mechanical harvesting equipment. Tree cutting will be completed under a commercial cutting permit issued by the Department of Fisheries, Forestry and Agriculture. Forested areas will typically be mulched while some merchantable timber may be stacked in 6 to 8 feet lengths for use in the nearby communities as firewood.

The thickness of the subsoil and grubbing layer within the lease area is unknown at this time but will be determined during a currently permitted diamond drilling program. The overburden material will be stripped and stockpiled within the designated visibility and noise reduction berm (**Figure 5**). To the best of their ability, Northern Minerals will stockpile the upper layer of organic/grubbing material separate from the underlying subsoils in order to reduce any dilution of the organic components of the grubbing material. Subsoils/mineral soil may be used for the laydown development and other site infrastructure requirements.

Subsoils may also be used to create windrows for perimeter berms as required to temporarily secure the crest of quarry faces during development operations and also to restrict access to the quarry. All the remaining grubbing and subsoil material will be preserved in the grubbing berm area shown on **Figures 3 and 5** for future rehabilitation of the site.

#### **4.3.3 Water Management**

Some of the overland water drainage will be naturally controlled by the topographic profile of the project area. Due to the topographic high being located east of the initial development area, some overland water will naturally drain away from the production footprints, running towards the vegetated areas at lower elevations in the east. Alternatively, some flow will also drain to the west towards the production area. This water drainage will be controlled with individual  $\sim 0.5$  m - 1 m deep drainage channels within the footprint of the disturbance. These drainage channels will be lined with rock check dams, silt fence and hay bales. This will be done should the filtering of site water be

required before discharge into vegetated areas within the 50 m ocean shoreline buffer to the west.

Northern Minerals Limited will utilize a closed wash plant system for the washing of various aggregate products on site if required. The wash plant setup would most likely consist of a slurry tank, a sand washer, and multiple wash screens and stackers for the placement of washed aggregate in stockpile. Although the washing of aggregates may not initially be required, it is presented here as it most likely will become a future processing activity at the site. Water would likely be sourced from the ocean or via an artesian well to access fresh water with all required permits being obtained from the Water Resources Division. Also, silt from the settling ponds, when cleaned out, would be used to complete reclamation and would be topped with grubbing.

The development of settling ponds to retain silt, if required, would follow typical industry design parameters where they would be excavated into the subsurface and lined with an impermeable membrane. The top of the settling pond would be flush with the quarry floor and a raised berm would surround the edge of the small settling pond. This berm would most likely either be constructed of blast rock, armor stone or jerseys barriers and would provide a safety barrier.

Several waterbodies, including the Atlantic Ocean, identifiable on a 1:50,000 NTS scale map, are located in the immediate area of the proposed quarry lease boundary. There are no 1:50,000 streams or brooks and the internal small, isolated pond is discussed above. The Atlantic Ocean, and more specifically Middle Arm, is located towards the west with the shoreline located over 50 m from the quarry boundary. The one exception to this is the area where the laydown and ship load out area will be constructed. To the north, there are 3 small ponds and to the east there is a small pond referred to as Caines Pond. Northern Minerals commits to no overland runoff or directed quarry drainage entering into these freshwater waterbodies, beyond the quarry boundary, and the 50 m buffer to all waterbodies required by the Department of Industry, Energy and Technology (IET) will be maintained at all times, as shown on **Figure 3**.

During the first 15 years of production the quarry floor is anticipated to extend down to 10 m above sea level (asl). An upcoming diamond drilling program will help with determining if the water table will be intersected. Based on the limestone geology in the area and possible karst weathering it is unlikely that the water table will be breached.

#### **4.3.4 Quarry and Port Construction, Development and Operation**

The quarry construction work will consist of clearing the site from trees and grubbing while removing, windrowing, and stockpiling organics as mentioned in **Section 4.3.2**. The proposed direction of development is from the west to the east and may be adjusted slightly during the later detailed design stages for production. A preliminary layout is provided to give the reader a rough idea of how the site most likely will be developed.

The port/ship load out area will have the adjacent shoreline area backfilled to 10 m asl with two rock fingers extending out to deeper water. The rock/armourstone required for backfill/construction will be sourced from the adjacent quarry operation. Cribbing or caissons will be constructed at the end of each rock finger and backfilled with rock from the quarry. A barrage will be put in place spanning the gap between both rock fingers and butting up against the end/cribbing of each rock finger. The rock/armourstone will be placed using dump/haul trucks, loaders and excavators.

Ships will dock in this area and a conveyer system will load the vessel. On land mooring bollards will be used to secure the ship during loading. This is a preliminary design as a detailed design of the load-out facility will be subsequently completed by a qualified professional.

Northern Minerals has determined that a reasonable average annual rate of extraction is ~750,000 m<sup>3</sup> or ~2,000,000 (tonnes). This expected annual resource volume is estimated based on NML's anticipated business demands. However, a change in the production schedule or increases/decreases in the annual production volumes may occur in cases where significant changes to market demand or future contract requirements arise. The production volumes and development layout presented in this document are preliminary in nature.

The initial quarry development operations of this quarry will see yearly production phase blocks developed in a top-down approach to the 10 m asl quarry floor elevation in the area depicted on **Figure 5**. Each stage of vertical, or top down, development will blast downward, creating a concealed quarry development. The lower quarry levels will daylight to the west towards the port area.

Production operations will consist of drilling and blasting the defined bedrock resource. The blasted material will be placed in the crusher feed stockpile until it undergoes crushing and screening to the various aggregate sizing depending on the end user's current material needs. The blasted material will be loaded from the crusher feed stockpile into the crusher/screener jaw box for processing by excavators and loaders (see **Section 4.6** for a complete list of anticipated employee requirements).

Once the material is crushed/screened, it will be placed into finish product stockpiles or placed in the wash plant feed stockpile until the material is eventually loaded into the wash plant. As noted above the washing of aggregates is not anticipated to be required initially. Should washing be required the material would then be added to market ready stockpiles via stackers that would be part of the wash plant setup. The final produced aggregate products can subsequently be loaded into ships docked at the loading barge at the Keppel Harbour load out area. When the quarry is fully operational it is anticipated the site will operate 24 hours a day, 7 days a week year-round with ships being loaded once per week.

All extraction activities will adhere to the Government of Newfoundland and Labrador's Occupational Health and Safety Regulations under the Occupational Health and Safety Act, including maintaining a maximum quarry face height of 10 m or less. Detailed phase plans for production within the quarry will be outlined in a set of Quarry Lease Plans (QLP) to be reviewed and approved by the Department of Industry, Energy and Technology under the Quarry Materials and Mining Act and updated every 5 years.

With the anticipated approval of the quarry development and possible release from EA review, construction activity is slated to begin early to mid-2026. This represents an aggressive timeline as there is an immediate demand for the aggregate material. It should be noted that this date may be adjusted depending on how efficiently regulatory approval can be granted for all aspects of the project.

In 2025, a currently approved diamond drilling program is to be completed in the proposed quarry area. This work is required to further confirm the rock quality in the subsurface and will require no production drilling or blasting or removal of grubbing/organics/root mater. The preparation of access trails and drilling sites will require the mulching of trees, and all drill casings and related equipment will be removed upon completion.

The equipment required for production at full capacity is anticipated to be a crusher/screener set up, with multiple pieces of additional equipment including cone crushers, a jaw crusher, multiple screeners and numerous conveyors. The screener setup would be supplied by the crusher jaw box with a nearby crusher control tower (see **Section 4.6** for a list of required personnel and equipment to run the site). Equipment, tools and site maintenance materials will be located in the laydown area within maintenance trailers, including adjacent shipping containers for storage and office trailer buildings located nearby. There will also be staff trailers and a storage trailer on site.

#### **4.4 Potential Sources of Pollution During Construction and Operation**

The construction and operational phases of the development will utilize equipment such as chainsaws, timber harvesting equipment, excavators, bulldozers, dump/haul trucks and crushers/screeners. The equipment and related activities represent a potential source of noise and vibrational disturbance, exhaust emissions, the potential release of petroleum hydrocarbons, the generation of dust, domestic waste, and general refuse. Also, blasting operations within the quarry during production represents a source of noise and vibration.

#### **4.4.1 Air**

Air pollution will be controlled by having all equipment on site fitted with the appropriate emission-control equipment. Site clearing will be completed in phases, with only areas required for production cleared, reducing the overall potential of excessive dust and pollution. Thus, the entire 176 ha area will not be stripped of its organic cover. Dust created by equipment operations along roads will be kept at a minimum by the watering of roads as required. If required, water suppression can be used during crushing activities should dust become a problem. All activities within the quarry will be conducted in a manner that respects the province's *Air Pollution Control Regulations (2022) under the Environmental Protection Act*.

#### **4.4.2 Noise and Vibration**

The extraction and processing operations at the quarry site are to be kept to a minimum. All equipment will be kept in good operating order to ensure that maximum manufacture decibel levels produced are not exceeded. Workers will have proper hearing protection, and the work site will be a controlled and restricted work environment.

Blasting operations will be conducted by a contracted third-party licensed blaster. The explosives will not be manufactured or stored on site and will be trucked to site as required. Blasting frequency will be based on the expected rate of production with blast sizes corresponding to the material demand. Blasting will only be completed during daylight hours and possibly bi-weekly to once per month depending on demand. Anticipated 100 mm diameter blasting holes will be drilled in horizontally spaced patterns of 3 m x 3 m, and at depths of 10 m or more. As the closest human receptor is located over 1.2 km away, noise disturbance is anticipated to be minimal and vibrational disturbances during blasting are expected to be negligible. All production operations and quarry faces/bench layouts throughout the development area will comply with Occupational Health and Safety Regulations (OHS) and maintain a maximum face height of 10 m.

It should be noted that before any blasting activities are carried out at the quarry, the Town of Port Saunders will be notified before they occur. In turn, local residents will be notified through a notice posted at the town office and via social media.

#### **4.4.3 Domestic Waste and Sewage**

Domestic waste generated on site will be regularly collected and disposed of in accordance with the Environmental Protection Act 2002 by a local waste management service provider.

Employee washroom facilities will be located in a site office complex. The washroom will function on a septic tank setup which will be regularly inspected to maintain compliance

with the Environmental Protection Act 2002. Sewage held within this septic system will be regularly emptied by an approved sewage service provider.

#### **4.4.4 Fuel**

It is anticipated that a ~20,000 L diesel fuel tank will be located on site, as diesel fuel will be required to operate the development and processing equipment located within the quarry area. This tank will be registered under a Gasoline and Associated Products (GAP) registration, and it will be placed in a spill tray that exceeds the capacity of the storage tank placed within it.

The fuel storage tank will be regularly checked, and emergency spill kits will be available on site for containment and cleanup of any hydrocarbon leaks. All equipment will be kept in good operating order with regular inspections in an effort to proactively prevent spill incidents and identify leaks. Any leaks or spills in excess of 70 liters or any amount of fuel interacting with any of the watercourses/waterbodies in the area will be immediately reported to the Provincial Environmental Emergency Telephone Line and cleaned up.

#### **4.4.5 Effluent**

There is a potential for erosion and the transport of fine-grained particles during construction activities in relation to clearing of the land. This will be monitored on a constant basis while clearing takes place and, if required, appropriate mitigating measures in line with industry best management practices will be utilized.

The first step will be to create erosion control ditches with rock check dams, hay bales, and silt fencing to filter water leaving the site. Site runoff will then be directed towards vegetated areas that will act as an additional filter for fine particles. Gradual phased development, after the initial development of the site, will ensure that the organic root mat layer will not be stripped all at once, this will reduce the amount of erosion.

The same process will be applied for the operational phases of the project. Site runoff will be directed to various vegetated areas depending on what stage of development is occurring. If required, drainage channels may be installed to better control and direct flow. All water released into the environment will meet the regulatory requirements of the *Environmental Control Water and Sewage Regulations (2003)* as well as provincial permits.

### **4.5 Potential Resource Conflicts During Construction and Operation**

Potential resource conflicts during construction and operation of the quarry could include the following: encounters with wildlife, domestic wood cutting, and the unlikely use of the area for recreational purposes such as big/small game hunting and hiking.

Any encounter with wildlife shall follow regulations stated in the Wildlife Regulations under the *Wildlife Act* (CC. 96-809). As the proposed quarry area is proximal to a populated area and near the coastline it is thought that wildlife would be more prevalent inland to the east of Highway 430 which extends north south along the western side of the Northern Peninsula.

Access to the quarry area will be restricted via a gated access point along the quarry access road. Also, berms will restrict access to development areas. This will limit the interaction with the public and create a restricted work environment.

The project area is located in a 1,236 ha domestic wood cutting area. It is thought that areas closer to Route 430 and a gravel road to the east, along with an old logging road to the south that transects the domestic wood cutting area, would be primarily utilized to harvest firewood and not the remote project area near the coastline.

There are numerous established hiking trails along the Northern Peninsula that would be more enticing than accessing the immediate quarry area. Thus, this recreational activity conflict is considered minimal. It should also be noted that a proposed 2,647 ha nature reserve, located to the southwest, and referred to as the Spirity Cove Natural Area is considered more appealing to hikers and provides a more favorable habitat for wildlife (**Figure 2**).

## **4.6 Occupation**

The occupations required for the proponent's site are listed below and classified as per the National Occupational Classification (NOC, 2021).

### ***Construction***

- 1 Site Supervisor/Foreman (70010)
- 6 Heavy Equipment Operators –Excavator/Bulldozer (73400)
- 3 Heavy Equipment Operators – Tree Harvester/Mulcher (73400)
- 6 Heavy Equipment Operators – Dump/Haul Trucks (73400)
- 1 Health Safety and Environment Advisor (22232)

### ***Operation***

- 1 Quarry Manager (82020)
- 2 Mobile Equipment Supervisors (82020)
- 2 Heavy Equipment Supervisors (82020)
- 2 Washing/Crushing Supervisors (82020)
- 2 Ship loading Supervisors (82020)
- 15 Heavy Equipment Operators - Ship Loading Operators (73400)
- 5 Heavy Equipment Operators – Loader/Excavator (73400)

- 12 Mobile Equipment Operators – Trucks (73400)
- 12 Heavy Equipment Operators – Crusher/Screener (73400)
- 3 Heavy Equipment Operators – Wash Plant Operators (73400)
- 6 Quarry Field Maintenance (75110)
- 1 Health Safety and Environment Advisor (22232)

The construction phase of the project will require ~ 17 employees to complete. The quarry operation when in full operation may staff up to ~ 63 employees to operate the quarry site at its maximum production capacity, although the number of employees on site at any given time will be much lower than the total staff base. There will most likely be two or three shifts per 24-hour period. This number does not include employees whose occupations are located off-site from the quarry area and are not involved in production operations. These off-site employees include administrative positions and possibly laboratory technicians. Drilling and blasting and other specialized work, when necessary, will be contracted out to third party entities. It should be noted this development will provide a new source of employment for individuals in the region as it represents a completely new industry. NML will provide local employment opportunity preference should individuals meet the employment criteria. Every effort will be made to ensure local personnel resources in the immediate area are utilized.

Typical quarrying activities and aggregate shipping will occur year-round but maybe somewhat restricted due to extreme weather conditions between January and March. Also, sea ice may impact shipping schedules depending on the seasonal severity of the ice pack flowing from the coast of Labrador through the Straits of Belle Isle. It is anticipated that bulk carries will be loaded on a weekly basis for 9 to 12 months of the year depending on sea-ice conditions and operations at the quarry will occur 24 hours a day at peak production.

Fluctuations in material demand may lead to a change in the number of required employees and annual production rates. Northern Minerals will strive to provide equal opportunity employment with preference given to the local labor resources. The company is also committed to establishing employment goals for gender equity in order to improve employment opportunities for all individuals in the construction industry.

## 4.7 Reclamation and Closure

The project will be rehabilitated under a reclamation and closure plan to be approved under a quarry lease issued by the Department of Industry, Energy and Technology with reclamation bonding in place to cover all aspects of the rehabilitation plan. This includes

the removal of all infrastructure in the lease application area, in the unlikely event that the quarry needs to be prematurely closed and NML is no longer operational.

All subsoils and grubbing materials stripped during development activities within the quarry will be preserved through stockpiling and windrowing for use in the future rehabilitation of the site.

The reclamation process, in the event of site closure, will first consist of demolishing all concrete structures and removing fixed buildings, like the maintenance shop, from the area. Next, the filling and contouring of the areas adjacent to the development bench faces created during production will take place with preserved subsoil material to produce 30-degree sloping. The 30-degree sloping will be followed by the resurfacing of all disturbed areas inside the project boundary with a uniform layer of preserved grubbing material. The reclamation grubbing material will contain an organic component to help promote regrowth.

## 5.0 APPROVAL OF THE UNDERTAKING

**Table 1** on the following page contains a list of possible referral agencies with some anticipated responses including possible permits required for the project.

Due to the quarry application area initially being self-registered for EA review in March of 2025 by Northern Minerals with the Department of Environment and Climate Change (File Reference No. 200.20.3541), a quarry permit application submitted on May 3, 2024, and updated on February 11, 2025, was not referred out by the Quarry Materials Division until early July 2025. Due to this overlap in the referral process by the Quarry Materials Division and Environmental Assessment Division all agencies will provide comments during the EA referral process.

**Table 1: Possible Referral Agencies and Anticipated Permits Required**

<b>Department/Regulatory Agency</b>	<b>Status</b>	<b>Possible Required Approvals/Permits</b>
Digital Government & Service NL	Comments Pending EA Registration	Gasoline and Associated Products Registration
Environment and Climate Change - Pollution Prevention Division	Comments Pending EA Registration	Certificate of Approval for Project Construction
Environment and Climate Change	Comments Pending EA Registration	Certificate of Approval for Generators
Environment and Climate Change -Water Resources Management Division	Comments Pending EA Registration	Water Management Plan, Permit to Alter a Waterbody, Shoreline Infilling Permit within 15 m (wharf development & wetland removal)
Environment and Climate Change -Water Resources Management Division	Comments Pending EA Registration	Permit for Constructing a Non-Domestic Water Well
Environment and Climate Change -Water Resources Management Division	Comments Pending EA Registration	Water Use Licence
Environment and Climate Change - Environmental Assessment Division	Project Registration Required	Environmental Assessment Registration
Industry, Energy and Technology – Mineral Lands Division	Comments Pending EA Registration	Quarry Lease (Development, Reclamation & Closure Plans)
Industry, Energy and Technology – Electricity and Alternative Energy	Comments Pending EA Registration	
Municipal Affairs and Community Engagement - Land Use Planning	Comments Pending EA Registration	
Transportation and Infrastructure	Comments Pending EA Registration	
Tourism, Culture, Arts and Recreation - Tourism	Comments Pending EA Registration	
Tourism, Culture, Arts and Recreation – Historical Resources	Comments Pending EA Registration	
Tourism, Culture, Arts and Recreation - Parks	Comments Pending EA Registration	
Service NL	Comments Pending EA Registration	
Fisheries, Forestry and Agriculture - Fisheries	Comments Pending EA Registration	
Fisheries, Forestry and Agriculture - Forestry	Comments Pending EA Registration	Operating Permit & Commercial Cutting Permit
Fisheries, Forestry and Agriculture - Crown Lands	Comments Pending EA Registration	Licence to Occupy for Road (application submitted Mar. 27, 2025) & Licence to Occupy/Lease for Wharf including disturbance within the 50 m Shoreline Buffer
Fisheries, Forestry and Agriculture - Land Management	Comments Pending EA Registration	
Fisheries, Forestry and Agriculture - Wildlife	Comments Pending EA Registration	
Town of Port Saunders	Comments Pending EA Registration	Development Permit
Transport Canada – Federal	Comments Pending EA Registration	Approval of Wharf Construction
Department of Fisheries and Oceans (DFO) - Federal	Comments Pending EA Registration	

## 6.0 SCHEDULE

The proposed schedule for this project is as follows:

Submission of Registration Document	June (initial)/July (revised) 2025
Release of Submission Document (Minister of Environment and Climate Change)	Sept. 2025
Commencement of Construction and Operations	April - May 2026

## 7.0 CAPITAL COST & FUNDING OF UNDERTAKING

A capital cost estimate for the proposed development of the access road, quarry and load out area was determined by Northern Minerals to be approximately \$75 Million. This estimate is provided for the first several years of development and production. Future detailed development plans will be determined once production planning has exceeded the first several years. Providing cost estimations for development beyond the first several years would be unreasonable. At this time, the funding for the construction and operation of the project will be sourced by the proponent.

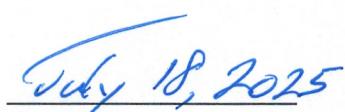
## 8.0 LIMITATIONS

This environmental registration document was prepared by NCD Consulting Ltd. in consultation with Northern Minerals Limited for their use under the terms defined in a written contract between the two parties. The information included in this document was provided by the client and relates to the scope of this project exclusively. NCD Consulting Ltd. has collaborated with the client and utilized NCD's combined extensive knowledge in quarry development and potential environment related concerns to, as accurately as possible and with the information available, present the development of the site in a safe and environmentally sustainable manner.



Name: Mr. Greg Mercer

Position: President & Chief Executive Officer (acting)  
Northern Minerals Limited



Date