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ᓂᓂᓴᓪᓴᓪ ᓂᓂᓴᓪᓴᓪ: Pits and Quarries
ᓂᓂᓴᓪᓴᓪ ᓂᓂᓴᓪᓴᓪ: Wednesday, September 24, 2025
Period of operation: from 2026-04-23 to 2031-10-23
ᓂᓂᓴᓪᓴᓪ: Jennifer
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Crown Indigenous Relations and Northern Affairs Canada	Type A Land Use Permit	Not Yet Applied		
Crown-Indigenous Relations and Northern Affairs Canada	Quarrying Permit	Not Yet Applied		
Government of Nunavut, Department of Culture, Language, Elders, and Youth	Class 2 Archaeological Permit - 2024-32A	Active	2024-06-01	

Project transportation types

Transportation Type	ᐱᓂᓐᑕᐱᑦ ᐱᓂᓐᑕᐱᑦ	Length of Use
Land	Quarry locations will be accessed by land.	

Project accomodation types

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5	Water use will be from Municipal water facilities per the Hamlet's water licence (3BM-GJO1828).	Water will be obtained from Swan Lake in accordance with the municipal water licence.

Additional Information

SECTION A1: Project Info

SECTION A2: Allweather Road

SECTION A3: Winter Road

SECTION B1: Project Info

SECTION B2: Exploration Activity

SECTION B3: Geosciences

SECTION B4: Drilling

SECTION B5: Stripping

SECTION B6: Underground Activity

SECTION B7: Waste Rock

SECTION B8: Stockpiles

SECTION B9: Mine Development

SECTION B10: Geology

SECTION B11: Mine

SECTION B12: Mill

SECTION C1: Pits

The Project is to develop four quarries surrounding the Hamlet of Gjoa Haven, which will serve the current and future aggregate needs of the Hamlet. The quarry operation will occur on an as-needed basis, with operation beginning in 2026. Project activities for the quarry include excavation of quarry material crushing and sorting aggregate, stockpiling and hauling material, water management, and waste disposal. Fuel is not anticipated to be stored at the quarries, and equipment will be properly cleaned and fueled prior to being operated. Water usage on site is anticipated for dust control. Once quarry material has been depleted, operations will cease. The quarry will be leveled and regraded to the quarry base, and all mobile equipment will be removed from the site. Waste and debris will be removed from the quarry, and revegetation may occur. A Borrow/Quarry Management Plan will be developed for each quarry, and will include environmental management details (e.g., water management, mitigation protection measures, ARD/ML testing procedures). It will also include a conceptual plan for reclamation and closure of the quarry, which will outline the abandonment of an active quarry face, waste disposal, stockpile removal, and soil remediation for contamination soils, if present. A framework of a Borrow/Quarry Management Plan has been included in Attachment 4 and will be further updated as part of the permitting process. The Borrow/Quarry Management Plans will be submitted to the regulator for approval. Geochemical sampling was completed in August 2025 to assess for ARD/ML potential and results will be used to inform monitoring and management protocols within the Borrow/Quarry Management Plans. The Spill Contingency Plan (Attachment 1), developed and approved in 2014 to support the Hamlet of Gjoa Haven's Municipal Water Licence (3BM-GJO1318) will be enacted to support the proposed quarries. This outlines general reporting and procedures for accidental spills to limit soil or water contamination. Field assessments were conducted in 2024 and 2025 to support the proposed quarry development. Geotechnical investigations carried out in 2024 focused on evaluating the potential sites for terrain conditions, dimensions and quality of the deposits (Attachment 2). Archaeological assessments were completed in both 2024 and 2025 to evaluate the quarry sites for archaeological significance and designate high-sensitivity areas, where appropriate. The quantity and type of aggregate anticipated to be extracted is dependent on quarry. Quarry source GH-105 has an estimated 140,000 m³ of sandy gravel and cobbles, GH-106 is estimated to have 100,000 m³ of sand and gravel, 2N is estimated to have 250,000 m³ of sand, gravel, and cobbles, and GH-107 has an estimated 43,000 m³ of sand, gravelly sand, and gravel.

SECTION D1: Facility

SECTION D2: Facility Construction

SECTION D3: Facility Operation

SECTION D4: Vessel Use

SECTION E1: Offshore Survey

SECTION E2: Nearshore Survey

SECTION E3: Vessel Use

SECTION F1: Site Cleanup

SECTION G1: Well Authorization

SECTION G2: Onland Exploration

SECTION G3: Offshore Exploration

SECTION G4: Rig

SECTION H1: Vessel Use

SECTION H2: Disposal At Sea

SECTION I1: Municipal Development

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Air quality is consistent with sub-arctic conditions in rural areas. Noise levels are relatively low, consistent with sparsely populated areas. Regional surficial geology is typical of sub-arctic conditions and is dominated by glaciofluvial and glaciomarine sand and gravel sediments occurring as beach ridges, as well as till sediments occurring as a till blanket or reworked into beach ridges (Attachment 2). The Project is located in King William Island Watershed management area, which encompasses the King William Island and surrounding Arctic Archipelago. A geochemical sampling field program was conducted in 2025 to determine the potential of acid rock drainage (ARD) and metal leaching (ML) at the quarries.

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Wildlife present in the area is typical of sub-arctic conditions and mainly consists of ground squirrels, lemmings, weasels, arctic hares, arctic foxes, and arctic species of birds. Additionally, the Project is located within the M'Clintock Channel polar bear subpopulation range (GOC 2021), as well as the Dolphin and Union range of barren-ground caribou. A table of SARA and COSEWIC species is included as an attachment to this submission (Attachment 5). No wildlife has been observed at the site during field visits but will likely be encountered during construction and operation activities. Vegetation in the area is consistent with sub-arctic conditions, including moss and other Arctic plants.

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Archaeological sites were identified at all four quarry sites during the 2024 and 2025 field programs. A community engagement program was completed in February 2025 alongside a Gjoa Haven Quarry Engagement Summary Report (Attachment 3), consisting of a community meeting between the Hamlet and other community members, as well as meetings with both the local Hunters and Trappers Organization and Kitikmeot Inuit Association. These activities were undertaken following Guiding Inuit Qaujimajatuqangit Principles, as set out by the NIRB (2025). Community members expressed an urgent need for a long-term gravel source. There was a shared understanding that gravel is essential for key infrastructure projects, including road repairs, drainage improvements, and new construction such as homes and community buildings, including the planned Women's Shelter.

Miscellaneous Project Information

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The proposed quarries are intended to replace the depleted existing quarries and provide continual material for municipal developments (e.g., roads) and will be operated in a similar manner. Quarries will be owned and/or operated by the Hamlet only. Aggregate extraction will follow requirements outlined in the CIRNAC Quarry Permit for the three quarries on Crown land (GH-105, GH-106, and a portion of GH-107). For quarries located on commissioners land (2N and portion of GH-107), mitigation will follow the permits and agreed upon methods outlined in the Municipal Quarry Administration Agreement. Aggregate extractions at the four quarries will also follow the mitigation measures and conditions of approval as part of permitting and with requirements of the Nunavut Water Board Water Licence (No. 3BM-GJO1828). A Borrow/Quarry Management Plan will be developed for each quarry, and will include environmental management details (e.g., water management, mitigation measures, ARD/ML testing procedures) and a conceptual plan for reclamation and closure of the quarry. A framework of the Borrow/Quarry Management Plan is included in Attachment 4 and will be updated as part of the permitting process, as needed. Quarry operation will comply with the Spill

Contingency Plan (Attachment 1) which outlines general reporting and procedures for accidental spills, in accordance with the Water Licence (No. 3BM-GJO1828). Waste (e.g., cardboard, batteries) will be disposed of at the Gjoa Haven Solid Waste Disposal Facility. Mitigation measures, including best management practices outlined in the Northern Land Use Guidelines (INAC 2009), that will be conducted to limit impacts to the physical environment will include:

- Dust suppression (i.e., water) will be used to limit short-term release of particulate matter during excavation
- Maintain vegetation and stabilize exposed soils where possible to limit erosion and sedimentation
- Limit the extent of grading and vegetation clearing to where is necessary
- Stockpile soil away from watercourses, drainage features, and tops of steep slopes
- Assess erosion and sediment control measures after significant rainfall and snowmelt events to confirm they are still operating as needed
- Excavation will not be conducted in a manner that disturbs or diverts natural drainage
- Re-contouring of the quarries will be conducted in a manner that allows material to naturally drain and does not cause pooling to occur
- Material will be tested for ARD/ML potential. If ARD/ML is determined to be present, mitigation will be developed in consultation with the regulator
- Heavy machinery and will only be in operation during approved times throughout the life of the quarry to mitigate for noise emissions
- Extracting and stockpiling of material will occur during summer months when surface material is thawed, to limit impacts caused by permafrost thaw. Given that quarry material is largely gravel and sand, any thawed runoff will drain and pooling is unlikely to occur.

During engagement, community members indicated concerns around protection of both the community's drinking water supply (Swan Lake) near GH-107/2N and a lake used for drinking water and fishing activities near GH-105 from contamination due to quarry operations, such as oil spills from equipment and dust from gravel extraction. Best management practices for dust suppression during excavation and spill control measures identified in the Spill Contingency Plan will be implemented to minimize impacts to water quality. Additionally, gravel extraction will avoid the southeasternmost portion of the 2N site located within the Swan Lakes watershed buffer for the Gjoa Haven water intake. Quarry operations will be conducted in a manner that limits impacts to biological environment and will follow previously approved mitigation. Mitigation measures that may be conducted include the following:

- Waste will be stored in appropriate animal-proof containers to reduce animal attraction to the active quarry sites
- If animals enter the quarry during operation activities, work will stop until the wildlife leaves the area
- Progressive reclamation will occur following decommissioning of the quarry, including re-vegetation, as outlined in the detailed Borrow/Quarry Management Plan. Additional site-specific mitigation measures for wildlife, including species at risk, are included in Section 4.6 of Attachment 4.

No concerns around mitigating impacts to archaeological resources were raised by the community during engagement. Archaeological sites have been identified in and around the quarries, and best management practices will be conducted to limit the impacts to archaeological resources, including the following:

- Identified archaeological sites have been ground-truthed, mapped, and flagged for avoidance with a 30-metre buffer
- Identified archaeological resources will be avoided and remain undisturbed during quarry operation
- If any chance archaeological finds are identified during quarrying activities, work will stop and Nunavut's Department of Culture and Heritage will be contacted immediately.

During engagement, community members raised concerns regarding public safety, and access to hunting areas near quarry site GH-107, highlighting the need for incorporating IQ into the planning to balance environmental protection, cultural values, and infrastructure development. The Hamlet will continue discussions with the community regarding traditional use areas near the prospective quarry sites to minimize disturbance of traditional land use activities during quarry operations.

Cumulative Effects

A search of the NIRB registry returns 28 results for projects, the majority of which were submitted more than five years ago. Of the projects, seven are scientific research (five occurring since 2020), nine are tourism (three occurring since 2020), and one power plant (2022). The Hamlet is currently operating two quarries within the municipal boundary of the Hamlet, with similar impacts to the proposed quarry operations. As the existing quarries are depleted, the proposed quarries will be used, extending the duration of the existing impacts. There is potential that additional roads will be built, or existing access improved to access the quarries, which will improve access to those areas by people. However, the roads will not be extensive and many trails in these areas already exist. Other anticipated effects of the quarrying are mitigable.

