

Activities

Location	Activity Type	Land Status	Site history	Site archaeological or paleontological value	Proximity to the nearest communities and any protected areas
Lot 264 Plan 4689	Quarry/Borrow pit	Municipal	N/A	N/A	2.1 km
Lot 267 Plan 4689	Quarry/Borrow pit	Municipal	N/A	N/A	2 km
Lot 269 Plan 4689	Quarry/Borrow pit	Municipal	N/A	N/A	1.7 km
Lot 270 Plan 4689	Quarry/Borrow pit	Municipal	N/A	N/A	3 km

Community Involvement & Regional Benefits

Community	Name	Organization	Date Contacted
Kugaarjuk	Blandina Kakkianium - PLA	Hamlet of Kugaaruk	2021-09-01
Kugaarjuk	Chantal Dowden - SAO	Hamlet of Kugaaruk	2021-09-01

Authorizations

Indicate the areas in which the project is located:

Kitikmeot

Authorizations

Regulatory Authority	Authorization Description	Current Status	Date Issued / Applied	Expiry Date
Government of Nunavut, Community and Government Services	CGS Authorization letter	Active	2021-09-02	

Project transportation types

Transportation Type	Proposed Use	Length of Use
Land	access to the sites will be through the currently established dirt roads	

Project accommodation types

Community

Material Use

Equipment to be used (including drills, pumps, aircraft, vehicles, etc)

Equipment Type	Quantity	Size - Dimensions	Proposed Use
Loader	1	5.7m x 2.7m	excavate quarry material
Dump Truck	1	2.5mx3.4m	Haul quarry material
Water Truck	1	10 tons	Dust control

Detail Fuel and Hazardous Material Use

Detail fuel material use:	Fuel Type	Number of containers	Container Capacity	Total Amount	Units	Proposed Use
Gasoline	fuel	1	1	1	Liters	Fuel will be provided by the Hamlet's facilities and supplies. There will be no storage of fuel on site.
NA	hazardous	1	0	0	Liters	There will be no storage of hazardous material on site.

Water Consumption

Daily amount (m3)	Proposed water retrieval methods	Proposed water retrieval location
0		

Waste

Waste Management

Project Activity	Type of Waste	Projected Amount Generated	Method of Disposal	Additional treatment procedures
Quarry/Borrow pit	Overburden (organic soil, waste material, tailings)	unknown	will be spread on land at the site	n/a

Environmental Impacts:

Accidental leaks and spillages of substances such as fuel or petroleum-based lubricants - if this occurs the Hamlet will call the NU 24-hour spill report line at (867) 920-8130 and immediately extract and remove the aggregate at the point of the spill. The contaminated soil will be relocated to the community land farm. Noise and vibration effects from rock crushing/breaking and machinery.

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

No known carving stone deposits are located in this area. If a carving stone deposit is located then extraction of aggregate will cease until the Municipality decides what they wish to do. The extraction of the aggregate will go down 1-3 meters. Should flooding become an issue, drainage ditches will be constructed to promote drainage away from the pit. Hamlet will continually monitor erosion or potential for erosion and implement control measures to minimize erosion. Minor slumping may occur to the landscape due to the extraction of aggregate but will be levelled off once the quarry is depleted. No evidence of ice lenses in the area. Hamlet does not blast and do not foresee having to blast. We will inform the public about the sight, and post signs around the site about the safety. Staff will also follow WSCC safety regulations around the site and area. Once this site is depleted of essential aggregate, the quarry will be levelled off to avoid any steep ditches using sand, silt and any other undesirable aggregate.

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

Description of Existing Environment: Physical Environment

Air quality – Appears excellent. There is no reason to believe that air quality should not be excellent. Climate conditions and predicted future climate trends – The arctic is undergoing apparent raise in average temperature in the long term. This will have no incidence of this quarry. Noise levels – Noise level is of low concern but will be typical of such heavy equipment.

Description of Existing Environment: Biological Environment

Wildlife, including habitat and migration patterns – No wildlife observed, although any wildlife observed will be respected at all times during the work. Birds, including habitat and migration patterns – No birds observed, although any wildlife observed will be respected at all times during the work.

Description of Existing Environment: Socio-economic Environment

Archaeological and culturally significant sites (e.g. pingos, soap stone quarries) in the project and adjacent areas – None observed. Land and resource use in the area, including subsistence harvesting, tourism, trapping and guiding operations – The area surrounding the quarry areas is used as a gravel extraction activity. There are no subsistence harvesting or tourism activity within the surrounding quarry areas.

Miscellaneous Project Information

Identification of Impacts and Proposed Mitigation Measures

Excavation of material at the identified sites will expose underlying permafrost to warming and may cause permafrost thaw and slumping. Mitigation measures will be in place to limit or prevent excessive thaw such as: ensuring positive drainage away from the pit face and restricting excavation to the active layer in shallow sources.

Cumulative Effects

The overall cumulative effects are good: a good source of granular material was found, its development will provide a good source of gravel for the Hamlet and its development will provide employment in Kugaaruk. No negative regional or cumulative economic effects associated with the quarries were identified.

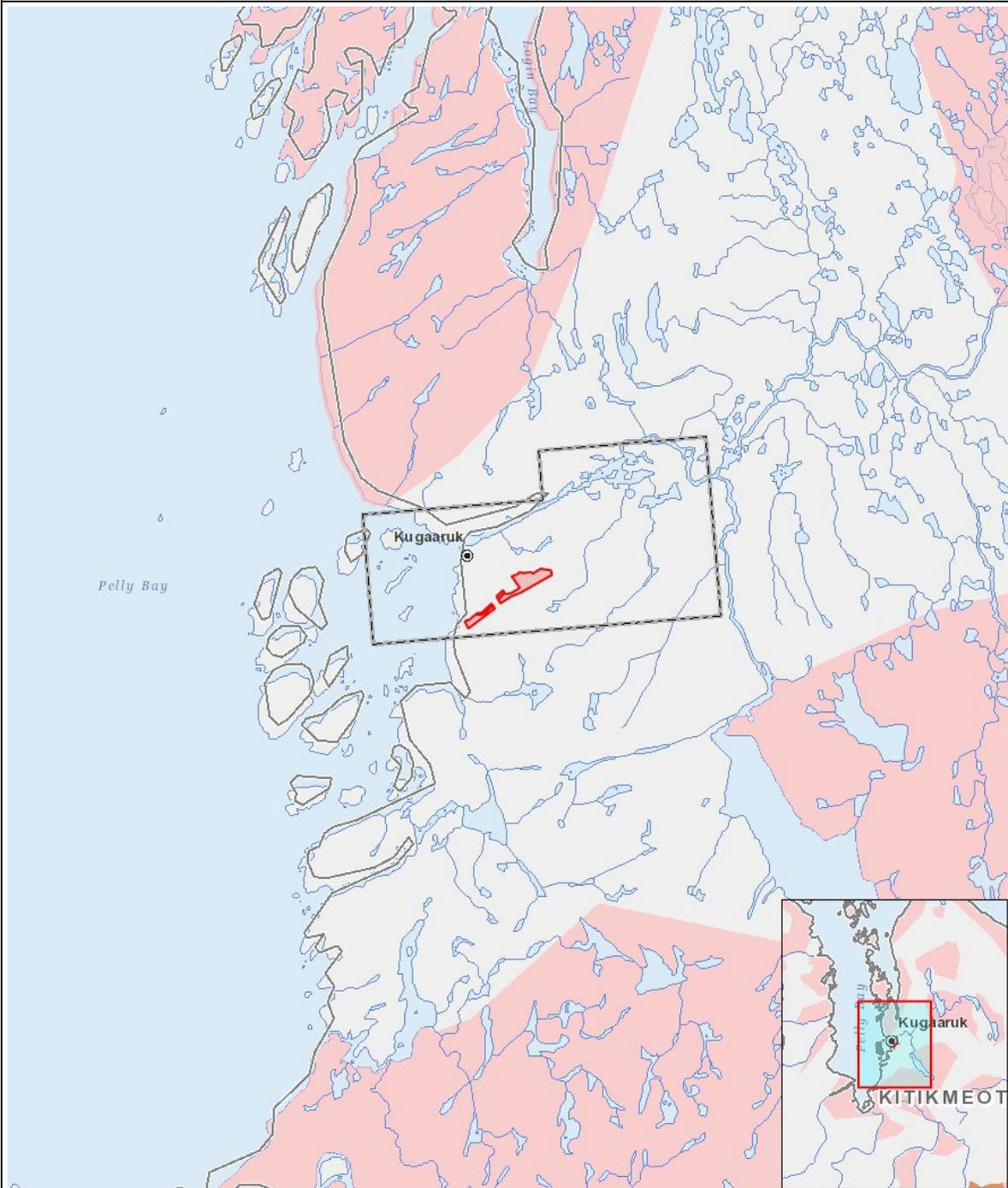
Impacts

Identification of Environmental Impacts

	PHYSICAL	Designated environmental areas	Ground stability	Permafrost	Hydrology / Limnology	Water quality	Climate conditions	Eskers and other unique or fragile landscapes	Surface and bedrock geology	Sediment and soil quality	Tidal processes and bathymetry	Air quality	Noise levels	BIOLOGICAL	Vegetation	Wildlife, including habitat and migration patterns	Birds, including habitat and migration patterns	Aquatic species, incl. habitat and migration/spawning	Wildlife protected areas	SOCIO-ECONOMIC	Archaeological and cultural historic sites	Employment	Community wellness	Community infrastructure	Human health
Construction																									
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Operation																									
Quarry/Borrow pit	-	M	-	-	-	-	-	-	-	-	-	M	M	-	-	-	-	-	-	U	P	-	P	-	-
Decommissioning																									
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

(P = Positive, N = Negative and non-mitigatable, M = Negative and mitigatable, U = Unknown)

Project Location



List of Project Geometries

1	polygon	Lot 264 Plan 4689
2	polygon	Lot 267 Plan 4689
3	polygon	Lot 269 Plan 4689
4	polygon	Lot 270 Plan 4689