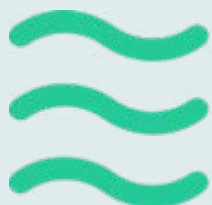




Grays Bay Road and Port Project Impact Statement

Volume 4 – Effects Assessment Methodology



**WEST
KITIKMEOT
RESOURCES
CORP**



Grays Bay Road and Port Impact Statement



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Proponent

- **West Kitikmeot Resources Corp. (WKR):** established by the Kitikmeot Inuit Association in 2014 as an Inuit-owned and Inuit-led company to conduct mineral exploration, primarily on Inuit Owned Lands (IOL) in the Kitikmeot Region of Nunavut

Location

- **Grays Bay Port** is located at approximately 67° 48' 21.62" N, 10° 52' 17.69" W
- Nearest communities to the port: Kugluktuk (approximately 180 km west) and Cambridge Bay (approximately 280 km northeast)
- Southern end of **Grays Bay Road** is located at Jericho Station; approximately 66° 01' 6.36" N, 111° 28' 28.27" W

Components and Activities

- Development and operation of a **deep water port** at Grays Bay on the Coronation Gulf including two large vessel wharves, a medium vessel wharf, a barge landing area with two berths, and a small craft harbour for approximately 24 vessels
- Construction and operation of an **Aerodrome** at the port
- Construction and operation of a 230 km **all-season controlled access road** (Grays Bay Road), including the construction and operation of Jericho Station
- Construction and operation of a **winter road** connecting Jericho Station to the Tibbitt Contwoyto Winter Road (TCWR) alignment on Contwoyto Lake (*Tahikyoak*)

Phases

- **Construction phase** of the Project will take approximately five years to complete (both pre-construction and construction) with a proposed starting date in September 2029
- **Operations and Maintenance phase** of the Project will start in 2035 and will continue in perpetuity

Knowledge Perspectives

- WKR, as well as the previous proponents, the Government of Nunavut and the Kitikmeot Inuit Association, have been engaging on the Project since 2016
- one primary source: *Kitikmiut Knowledge of the Proposed Kogloктоаkyok (Grays Bay) Port and Road Project* (Banci and Spicker 2024) that was compiled by the Kitikmeot Inuit Association and its consultants from the Naonaiyaotit Traditional Knowledge Project (NTKP), a repository of Inuit Knowledge maintained in a Geographic Information System (GIS)-based database
- Inuit, Indigenous, and community knowledge, as well as feedback from engagement, has been reviewed, considered, and integrated where appropriate into project planning and the IS

Environment

- Two years of baseline studies building on decades of baseline work completed by previous proponents
- 11 volumes totalling over 7,000 pages of analysis
- With the implementation of mitigation, management, and enhancement measures, residual project and cumulative effects are predicted to be not significant
- Monitoring programs and ongoing engagement will inform adaptive management strategies

Benefits

- **Economic – Transformative Benefits**
 - approximately **\$750 million** additional annual GDP growth by 2040 because of the Project
 - an estimated **670 jobs** in Nunavut each year during construction
 - an estimated **390 jobs** during operations and maintenance created by the Project and related expenditure
- **Community and Social – Supply Chain Resilience**
 - new transportation route to the western Arctic will strengthen supply chain resiliency by creating alternative access to essential goods
 - enhanced safety for both marine and land travel, supporting more reliable and secure movement within the Coronation Gulf and throughout the Northwest Passage
- **Sovereignty and Security – Strategic Presence**
 - first deep water port in the western Arctic
 - critical year-round strategic presence in the region

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Abbreviations

AESC.....	Arctic Economic and Security Corridor
AOPS	Arctic and Offshore Patrol Ships
BIPR.....	Bathurst Inlet Port and Road
CE	cumulative effect
CEA	cumulative effects assessment
CIRNAC.....	Crown-Indigenous Relations and Northern Affairs Canada
E	east
GN	Government of Nunavut
GNWT	Government of the Northwest Territories
IS	Impact Statement
ISR	Inuvialuit Settlement Region
LAA.....	Local Assessment Area
LASR	Lockhart All-Season Road
MMG.....	Minerals and Metals Group
N	north
NIRB.....	Nunavut Impact Review Board
NSA	Nunavut Settlement Area
NT.....	Northwest Territories
PDA	Project Development Area
PIL	Project Inclusion List
RAA	Regional Assessment Area
RF.....	reasonably foreseeable
RFI.....	reasonably foreseeable induced
RHO	Regional Historic Overview

S	south
SGPC	Slave Geological Province Corridor
TCWR.....	Tibbit to Contwoyto Winter Road
VC	Valued Component
W	west
WKR.....	West Kitikmeot Resources Corp.

Symbols and Units of Measure

%	percent
<	less than
ft	foot
ha	hectare
KL.....	kilolitre
km.....	kilometre
L	litre
m	metre
ML	megalitre

9 Effects Assessment Methodology

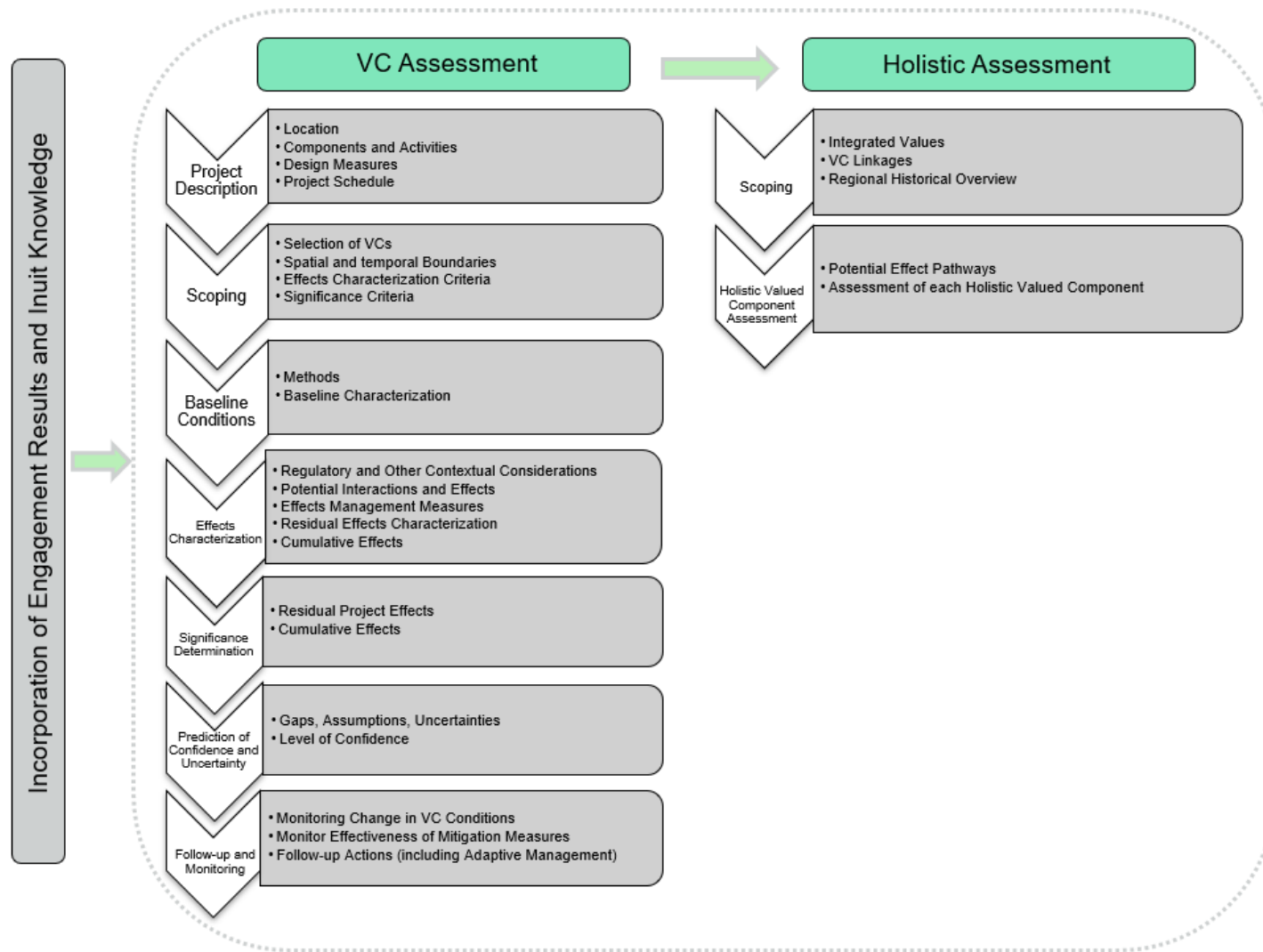
9.1 Overview

The approach and methods used to prepare the Impact Statement (IS) follow the *Guidelines for the Preparation of an Impact Statement for West Kitikmeot Resources Corp's Grays Bay Road and Port Proposal* (NIRB File No. 24XN030; IS Guidelines), issued by the Nunavut Impact Review Board (NIRB) (NIRB 2026), and were developed to address the factors outlined in Section 7.1 of the IS Guidelines. In addition to aligning with NIRB's IS Guidelines and regulatory guides, the approach draws on experience with the regulatory process, information requirements, and impact assessment precedents both within and outside Nunavut.

West Kitikmeot Resources Corp. (WKR) recognizes that Inuit experience and culture reflect a holistic Inuit view of the 'environment' as land, ocean, wildlife and resources that are connected by lifeways. WKR's approach to the assessment reflects this Inuit perspective foremost, supplemented by the western approach to assessing Valued Components (VC) separately, as has been the approach in previous NIRB assessments.

The methods for assessment focus on evaluating effects on individual VCs, while also incorporating a holistic assessment that addresses the interconnections between biophysical and human environments, including the meaningful consideration of Inuit Knowledge (Section 9.6). As shown in Figure 9.1, Engagement and Inuit Knowledge are integral to the assessment, from project design and scoping through to follow-up and monitoring and informs the linkages and interpretation of the VC assessments in the context of the holistic assessment that follows.

Figure 9.1 Overview of Assessment Methodology



9.2 Scope of the Impact Assessment

This section describes the initial steps in establishing the scope of the assessment, specifically the two key components of scoping: the VCs and the assessment boundaries (spatial and temporal).

9.2.1 Valued Components

The ecosystemic and socio-economic components within the Project region underwent an initial screening process using the following criteria (based on the IS Guidelines) to identify a preliminary list of VCs:

- Identification of the VC by local Inuit communities
- Identification of the VC by government authorities (e.g., resource management) or designated for regulatory protection (e.g., rare or endangered species)
- Potential to occur within the region surrounding the Project and the Project vicinity
- Potential for the VC to interact with the Project

The resulting selection of VCs largely reflects the list provided in the IS Guidelines, but is based on multiple factors, including ongoing engagement, Inuit Knowledge, understanding of effects pathways and receptors, and professional judgment. The list of VCs which form the basis of the assessment is provided below, with detailed rationale for the selection of each VC provided in the VC-specific assessments of the IS (Volume 5 through Volume 9).

The ecosystemic VCs for the Project are:

- Air Quality (Volume 5, Section 11)
- Climate (Volume 5, Section 12)
- Noise and Vibration (Volume 5, Section 13)
- Terrain, Soils and Permafrost (Volume 6, Section 14)
- Vegetation (Volume 6, Section 15)
- Caribou (Volume 6, Section 16)
- Birds (Volume 6, Section 17)
- Terrestrial Wildlife (including wolverine, moose, grizzly bear, and muskox; Volume 6, Section 18)
- Water Resources (including groundwater, surface water quantity, and surface water quality; Volume 7, Section 19)
- Freshwater Fish and Fish Habitat (Volume 7, Section 20)
- Marine Water and Sediment (Volume 8, Section 21)
- Marine Fish and Fish Habitat (Volume 8, Section 22)
- Marine Mammals (Volume 8, Section 23)

The socio-economic VCs are:

- Traditional Land, Marine and Resource Use (“lifeways”) [Volume 9, Section 24]
- Food Security and Food Sovereignty (Volume 9, Section 25)
- Community Health and Wellbeing (Volume 9, Section 26)
- Employment and Economy (Volume 9, Section 27)
- Infrastructure and Services (Volume 9, Section 28)
- Non-Traditional Land, Marine, and Resource Use (Volume 9, Section 29)
- Heritage Resources (Volume 9, Section 30)

In addition to a VC-based assessment, the IS presents a Holistic Assessment (Volume 10, Section 31), which examines key interconnections between the biophysical and human environment VC assessments. Section 9.6 provides additional context for the Holistic Assessment approach. The assessment also addresses additional factors not proposed as VCs, which include accidents and malfunctions, and effects of the environment on the Project. These additional assessments, including the approach to assessing effects of the environment on the Project, are discussed in Volume 10, Sections 34 and 35.

9.2.2 Regulatory and Policy Setting

Each VC assessment in the IS considers contextual factors relevant to the VC, such as the following:

- Applicable legislation, authorizations, or regulatory licensing/permitting requirements
- Standards, plans, and policies
- Inuit Owned Land, administrative boundaries, land leases, rights-of-way and land tenure
- Ecological or social limits and thresholds
- Vulnerability and resiliency of social and/or ecological systems and components
- Political and cultural setting

Additional context identified or provided through ongoing engagement are considered as appropriate in the VC assessments.

9.2.3 Incorporation of Engagement and Inuit, Indigenous, and Community Knowledge

The IS Guidelines (Section 7.2) note that the scope of the impact assessment includes the need to define the components of the ecosystemic and/or the socio-economic (including health, social, economic, and cultural) environments that could potentially be impacted by the proposed project, through all planned stages of the development, and for which there is public concern. In addition, the IS Guidelines (Section 7.3) state that the final list of VCs to be presented in the IS needs to be validated through engagement with the potentially affected communities, residents, public and knowledge holders, local organizations, applicable Inuit organizations, relevant Indigenous groups, other governments or organizations, and interested individuals, and through respectful incorporation of Inuit Knowledge.

As indicated above, it is important that the selection of VCs reflects an understanding of the regional and local context, as well as the concerns of those who live in, use, or manage the area. It should be noted that the Project is substantially similar in scope and location to the Grays Bay Road and Port Project previously proposed by the Government of Nunavut and Kitikmeot Inuit Association in 2017 (NIRB File 17XN011). As a result, considerable work has been carried out to-date to understand the existing environment and people and communities in the Project area, and the potential effects of the Project, including:

- Project-specific Inuit Knowledge, and Inuit Knowledge of the Naonaiyaotit Traditional Knowledge Project used by agreement with the Kitikmeot Inuit Association
- Baseline studies and effects assessments, including extensive studies previously conducted for the Kitikmeot Inuit Association, Government of Nunavut, MMG Limited and other previous owners of the Grays Bay Road and Port Project, and the Izok Corridor Project. Previous field, desktop and Inuit Knowledge studies of the biophysical environment were completed in the region between 2004 and 2018
- Wildlife data collected and managed by the Government of Nunavut and the Government of the Northwest Territories
- Engagement with Inuit and Indigenous governments, Inuit and Indigenous organizations, and other potentially affected parties inside and outside the Kitikmeot Region related to the Project, since 2016
- Feedback from federal and territorial governments, and Institutions of Public Government
- Internal scoping workshops conducted by WKR
- Information and findings of recent, relevant NIRB reviews of other projects

Information on knowledge gained, including through engagement activities, is provided in Volume 3, including a summary of engagement details and outcomes in Volume 3, Section 6.4.

9.2.4 Assessment Boundaries

Spatial and temporal boundaries have been established to support the development of the VC assessments, informed by the current understanding of potential project effects and other relevant factors.

9.2.4.1 *Spatial Boundaries*

Spatial boundaries are defined to support the assessment of both the Project-related and cumulative environmental effects for each VC. These boundaries were selected based on the geographical extent over which project activities and their effects are likely to occur (i.e., the zone of influence) and may vary among VCs. The following spatial boundaries for assessing project and cumulative effects have been developed:

- The Project Development Area (PDA) encompasses the physical footprint of all project components, including both permanent and temporary disturbances (e.g., extent of project infrastructure, planned clearing, and laydown areas). The PDA includes six sub-areas based on the types of components to be developed: the Port (which is further divided into marine and landside infrastructure), Road, Aerodrome, Jericho Station, and Winter Road PDAs. The boundaries of the PDAs were created by applying buffers around where the Project components will be sited and varies by each of the sub-areas depending on necessary flexibility for final siting of certain project components based on conditions on the ground. For the Road PDA and Winter Road PDA, a 75 metre (m) buffer was applied to the roads centreline, for the Port PDA and the Aerodrome PDA, the areas were subdivided based on the conceptual project component locations and then buffered approximately 1,000 m for the landside Port PDA, approximately 300 m for the marine Port PDA, and 500 m for the Aerodrome PDA. The Jericho Station PDA was buffered based on the existing development from the old Jericho Mine site that will be used for the Project and the need for additional space to accommodate the Project components that will be developed as part of the Project for this location. The Winter Road PDA will only exist annually between the beginning of February and end of March, will be built on land where the existing Jericho Station road ends, at the southeastern portion of Jericho Station, to the shoreline of Contwoyto Lake where it will connect to the Tibbitt to Contwoyto Winter Road. For the purposes of the impact assessment, the PDA is the same as the Site Study Area identified in the IS Guidelines.
- A Local Assessment Area (LAA) has been developed for each VC to represent the area where direct and/or indirect project-related effects are expected to occur and can be reasonably measured, quantified, or discerned (i.e., secondary or further links in cause-effect pathways excluding cumulative effects). The LAA includes the PDA and adjacent areas where environmental effects may reasonably be expected to occur. Generally, each VC has a distinct LAA; however, in certain circumstances, related VCs use the same LAA. Some VCs also use a Local Study Area to define the area in which baseline data has been characterized. For the purposes of the impact assessment, the LAA is the same as the Local Study Area identified in the IS Guidelines.
- A Regional Assessment Area (RAA) has been developed for each VC, which establishes the context (environmental setting) for evaluating the Project-related effects. It is also an area in which cumulative effects of the Project's interactions with other past, present and reasonably foreseeable future activities are assessed. For the purposes of the impact assessment, the RAA is the same as the Regional Study Area identified in the IS Guidelines. The Caribou, Birds and Other Terrestrial Wildlife VCs also use a Regional Study Area to define the area in which baseline data has been contextualized.

Each VC assessment includes mapping which depicts the VC-specific assessment areas relative to key features that informed boundary delineations. A description of these areas, along with rationale for the selection of the boundaries, is also provided.

Spatial boundaries have been selected in consideration of engagement feedback and Inuit Knowledge, where available. The VC assessments also include a summary of relevant input received from Inuit about these spatial boundaries and their appropriateness, and where Inuit have identified alternative spatial boundaries, provide a rationale if they were not adopted.

9.2.4.2 Temporal Boundaries

Temporal boundaries define the timeframe over which an environmental effect may occur in relation to specific project phases and activities. The temporal boundaries for the assessment are based on the timing and duration of project activities and the nature of the interactions with each VC. The following Project phases have been defined to provide context for the temporal boundaries:

- Construction
- Operations and Maintenance

Subject to receipt of all required regulatory approvals, onsite works for the Project are scheduled to begin in 2029, with major construction commencing in 2030. The Construction phase (both pre-construction and construction) is anticipated to span approximately five years, with the Operations and Maintenance phase projected to begin in 2035 and continue indefinitely. Additional details regarding the Project schedule and rationale are discussed in Volume 2, Section 1.2.1 of the IS.

As the Project components are considered permanent infrastructure, there are no plans for closure and reclamation, other than areas used solely for pre-construction/construction activities that are not required for ongoing operations and maintenance. The Project may be placed in a state of temporary care and maintenance if there is an unexpected period of time where third-party users are not yet prepared to use the Project infrastructure. The temporary care and maintenance phase is not assessed in the IS, as it is assumed that the activities occurring would be similar to operations and maintenance, but at lower levels.

The primary reference point against which the detailed characterization and measurement of changes resulting from the Project is the time at which the baseline data was collected. This baseline reference point represents a contemporary baseline, although historical changes which have shaped the landscape and human use are recognized as applicable within the VC assessments and the Regional Historic Overview (RHO; Volume 3, Section 7).

The IS Guidelines (Section 7.2.2.2) state that the temporal boundaries shall also be developed for the temporal bounds of project alternatives under assessment, noting where they differ from those for the preferred option, and the temporal boundaries associated with the potential influence of climate change. These are discussed in Volume 2, Section 2.2, and Volume 10, Section 33, respectively.

9.3 Description of the Environment and Baseline Information

Each VC assessment includes a description of baseline conditions within the specified spatial and temporal boundaries. The baseline conditions are used to understand the range and/or rate of change or variability in VC conditions and establish the condition against which future VC conditions are evaluated.

The RHO provides a qualitative narrative of the regional natural and human history of the western Kitikmeot Region of Nunavut, recognizing changes that have occurred in the region over approximately 13,000 years of history. The RHO supplements the baseline conditions described for each VC, providing a broader context to help inform the assessment of project, transboundary, and cumulative effects, particularly the identification of past and continued stresses.

The approach used to collect baseline data is summarized within each VC-specific assessment of the IS (Volume 5 through Volume 9), and where necessary, references an appended baseline report. The characterization of baseline conditions may include information from Inuit Knowledge, past research and studies conducted in the region, traditional and ecological knowledge (if applicable and available), and knowledge gained from literature reviews, qualitative and quantitative analyses, and field programs. The status and characteristics of each VC within its defined spatial and temporal boundaries for the assessment are described in each VC section of the IS. In many cases, existing conditions implicitly include those environmental effects that may have been or may be caused by other past or present projects or activities that have been or are being carried out.

As noted in Section 9.2.1, the Project is substantially similar in scope and location to the Grays Bay Road and Port Project previously proposed in 2017 by the Government of Nunavut and Kitikmeot Inuit Association (NIRB File 17XN011). As a result, considerable work has been carried out to-date to understand the existing environment and people and communities in the Project area, and the potential effects of the Project, as described in Volume 3, Section 6.

9.4 Impact Assessment Approach

Based on the impact assessment scoping and the baseline information, the impact assessment then involves the following components that are discussed in this section:

- Impact prediction
- Effects of the environment on the Project
- Climate change
- Cumulative effects assessment
- Transboundary impacts
- Indicators, criteria, and parameters
- Significance determination
- Certainty

9.4.1 Project Effects Assessment and Characterization

A key aspect of the assessment process is drawing on engagement and describing how Inuit Knowledge, scientific evidence, Indigenous Knowledge, and/or Community Knowledge informed the prediction of impacts, including discussion on any differences.

9.4.1.1 Project Interactions, Potential Effects, and Effects Pathways

Section 8 of the IS Guidelines provides a preliminary outline of potential effects and effects pathways for each VC. The guidelines represent a starting point for the discussion of potential effects and effects pathways, although the VC assessments also integrate input from Inuit and Indigenous Peoples through engagement.

Potential effects, effects pathways, and measurable parameters are identified for each VC, and the effects and effects pathways are explicitly linked to specific project activities. Table 9.1 presents the template to be used in each VC assessment. This template provides a list of project activities by phase to help identify potential interactions. This table appears in each VC assessment, and a check mark is used to indicate the interaction between a project activity/component and an effect for that VC. The VC assessment then discusses these interactions as it assesses each effect. These project components and activities are described in detail in the Project Description (see Volume 2).

Table 9.1 Template to Identify Potential Project Interactions and Effects in VC Assessments

Project Activities	Effects			
	Effect 1	Effect 2	Effect 3	Effect 4
Construction				
Mobilization/demobilization of machinery / equipment, vehicles, materials, and fuel (e.g., by barge, sea lift, boat, or road)				
Staging and storage of materials, fuel, equipment and pre-fabricated components				
Chemical and hazardous material transport, storage and management (including explosives)				
Establishment and operation of camps (e.g., mobile camps and permanent accommodations), maintenance yards, and laydowns				
Machinery/equipment and vehicle refuelling / fuel storage handling				
Site preparation and earthworks of disturbance area (e.g., vegetation clearing, stripping and stockpiling of organic and overburden materials, grading, blasting, drilling)				
Construction of port landside facilities, aerodrome, road, and Jericho Station (e.g., buildings/facilities, fuel storage, laydown areas; public use area; access roads; water intake; power generation - diesel [may include wind turbine or solar array]; all-season gravel airstrip)				

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Project Activities	Effects			
	Effect 1	Effect 2	Effect 3	Effect 4
Borrow source and quarry development (e.g., blasting, crushing, sorting, stockpiling of temporary and permanent areas)				
Water withdrawal to support construction activities (e.g., winter road construction, dust control, material compaction)				
Watercourse crossing construction (e.g., bridge and culvert installation)				
Ground based transportation (e.g., workforce, materials, supplies)				
Air transport (e.g., personnel transport, resupply)				
Waste management and sewage facilities (e.g., development and use of a permanent waste management facility and onsite landfill; handling and storage of hazardous and non-hazardous waste; incineration of domestic waste; open air burning; management of black and grey water)				
Construction of marine-based infrastructure (e.g., construction of large vessel wharves, medium vessel wharf, small craft harbour, barge landing area, desalination line, vessel refuelling line / fuel line to bulk fuel storage, including nearshore dredging, infilling, pile driving; blasting)				
Taxes, contracts, purchases (e.g., procurement of goods and services; employment of workers)				
Closure and reclamation of temporary borrow sources/quarries, camps, workspaces, laydowns (e.g., erosion stabilization, revegetation, restoration of natural drainage patterns, prevention of future vehicular access)				
Operations and Maintenance				
Port landside operations (e.g., use and maintenance of accommodations, borrows, roads, power generation; aerodrome operations including use and maintenance of airstrip and facilities; and Jericho Station operations and maintenance).				
Marine port use and operations (e.g., vessels and cargo loading/unloading, barge landing operations, small craft harbour operations, maintenance dredging)				
Borrow source and quarry operations (e.g., blasting, crushing, sorting, and stockpiling of permanent areas)				
Desalination operation and wastewater treatment (e.g., marine water use and effluent discharge)				
Water withdrawal / use (e.g., potable water, dust control, maintenance)				
Road maintenance / use (e.g., transport of equipment, workers, and supplies; maintenance of bridge/culverts; snow clearing; grading and gravel replacement; dust control)				
Bulk Fuel Storage (e.g., operation of permanent fuel facilities)				

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Project Activities	Effects			
	Effect 1	Effect 2	Effect 3	Effect 4
Vessel Fuel Line / Refuelling (e.g., directly offloading from east wharf or use of floating fuel pipeline; above-ground insulated pipeline to bulk fuel storage tanks)				
Equipment maintenance				
Chemical and hazardous material transport, storage and management (including explosives)				
Winter road construction and use (e.g., annual winter road construction and maintenance)				
Air transport (e.g., personnel transport, resupply)				
Waste management (e.g., use of a permanent waste management facility and onsite landfill; handling and storage of hazardous and non-hazardous waste; incineration of domestic waste; open air burning; management of black and grey water)				
Taxes, contracts, purchases (e.g., procurement of goods and services; employment of workers)				

Notes:

✓ = Potential interaction

– = No interaction

Each VC section also describes the analytical approach used (e.g., modelling) to support the effects assessment, including the rationale for selecting the approach or method. Where potential approaches to assessing effects have been suggested through engagement for the Project, the VC section describes how they have been incorporated into the VC assessment, with rationale provided if this information is not provided.

The assessment of environmental effects considers the Construction and Operations and Maintenance phases of the Project. The construction phase includes site preparation for project components, construction of project components, construction-related transportation within the LAA, and any site cleanup and reclamation of temporary construction sites.

The Operations and Maintenance phase includes the operation and maintenance of the Project components and transportation associated with maintenance and operation activities. Project operations do not include third-party use of the Project facilities such as the movement of concentrate; where appropriate, third-party uses of project facilities will be subject to separate regulatory review processes.

The Project is intended to be permanent, and as a result, there are no plans for closure and reclamation other than areas used solely for construction activities that are not required for ongoing operations and maintenance.

The description of the potential effects and effects pathways includes concerns or potential effects pathways identified through Inuit Knowledge or engagement for the Project. Where possible, the spatial and temporal extent of these changes (i.e., where and when the environmental effect might occur) are also described. Rationale is provided where an examination of potential effects pathways (or concerns identified by Inuit) that were identified during the scoping process revealed there was no valid effects pathway with project activities, and further assessment was not carried out.

9.4.1.2 Mitigation Measures

Mitigation measures that reduce or eliminate an environmental effect are described (by project phase, timing and duration, as applicable), with an emphasis on how these measures help to reduce or eliminate the environmental effect. In addition, mitigation can include specialized measures such as habitat compensation, replacement, or offsetting, as well as planned environmental management and response measures such as environmental and social management systems, management plans – including methods, equipment, procedures, policies and training, as well as who will be responsible for implementing the mitigation measures. Measures to enhance project benefits for local communities are also included. Where applicable, existing legislative requirements or guidelines are cited to help mitigate potential effects. In addition, the anticipated effectiveness of the proposed mitigation measures is described, including, where feasible, where mitigation measures have been used effectively at other similar projects. Information will also include how Inuit, Indigenous, and Community Knowledge or engagement has informed the development of mitigation measures for the Project, and rationale for why some proposed measures were not selected.

9.4.1.3 Residual Project Effects

Residual effects or benefits (i.e., those that remain after mitigation or enhancement has been applied) are described during each project phase and include a discussion of both direct and indirect effects. In consideration of the application of mitigation measures, residual effects are described relative to baseline conditions established for the VC and in the context of different project phases. Each potential effect and effect pathway includes the identification of one or more measurable parameters (quantitative or qualitative) that are used to characterize the effects of the Project. Measurable parameters can be quantitative or qualitative, but the changes are evaluated using the measurable parameters identified for each effect for the VC, including rationale for selection. Where relevant, the discussion incorporates engagement outcomes and Inuit Knowledge in the assessment of effects and identifies how it has informed the assessment of effects for the VC. The effects assessment incorporates Inuit Knowledge along with other analytical methods (e.g., modelling) to predict project effects with the inclusion of mitigation measures.

Residual effects are described using established effects characterization criteria for each VC, including:

- Direction of change - the long-term trend of the environmental effect (i.e., positive, neutral, adverse or a combination of positive and adverse)
- Magnitude - the intensity of change in a measurable parameter or variable relative to existing conditions, defined for each VC as low, medium, high, or other qualifier as deemed appropriate

- Duration - the period required until the VC returns to its existing condition (before project activities) or the environmental effect can no longer be measured or otherwise perceived (e.g., short-term, mid-term, or long-term)
- Frequency - the number of times during a specific project phase or activity that an environmental effect might occur (e.g., one time or multiple times) in a specified time period
- Geographic extent - the area where an environmental effect of a defined magnitude occurs, defined for each VC based on definitions of PDA, LAA, and RAA, as appropriate
- Reversibility - the likelihood that a measurable parameter will recover from an environmental effect, including through active management techniques (e.g., habitat restoration)
- Timing - the sensitivity of the VC to activities during critical stages: periods of time where residual effects from project activities could affect the VC (e.g., time of day, seasonal, restricted activity periods)
- Likelihood - the probability that an adverse effect will occur

Quantitative and/or qualitative definitions have been developed for each criterion within the VC assessments, with VC-specific definitions customized for magnitude, timing, and duration.

9.4.1.4 *Significance Determination*

Although NIRB will ultimately determine the significance of likely adverse project effects, for the purpose of the IS, threshold criteria or standards are defined within the VC assessments beyond which a residual adverse effect would be considered undesirable and/or unacceptable (i.e. 'significant'). These thresholds are defined in consideration of territorial and federal regulatory requirements, standards, objectives, and/or guidelines where applicable. Where thresholds are not set by regulatory requirements, thresholds may be based on engagement and/or professional judgement. Residual positive effects are not carried forward to a significance determination.

The VC sections include discussion on how Inuit Knowledge and scientific evidence, were used to inform the significance determination, and highlight, where available, where culturally relevant thresholds have been identified and applied.

Each VC assessment section concludes with a clear summary and understanding of how the Project may result in effects on the VC, and based on the analysis, includes a conclusion of whether effects on the VC are considered to be significant.

9.4.2 Transboundary Impacts

The IS Guidelines (Section 7.4.4) state that “where feasible, the potential for transboundary impacts should be considered for all valued components identified by the Proponent, with specific consideration given to the potential for transboundary impacts associated with marine transportation on marine mammals, migratory birds and seabirds, and their habitat, as well as the large migration range of land mammals such as caribou. This shall include direct, indirect, and induced impacts on the socio-economic environment, including land and/or aquatic uses, and other harvesting and cultural uses, food security and associated well-being. Any residual impacts which have the potential to occur outside of the designated area shall also be included in the Proponent’s evaluation of transboundary impacts.”

Potential transboundary impacts are discussed in Volume 10, Section 33. As indicated, transboundary considerations include both geographic proximity to transboundary areas as well as shared resources (e.g., water, air, and migratory species such as caribou, marine mammals, fish, and birds) or harvesting rights of other Indigenous groups. Given the design of the Project and its location entirely within Nunavut, relatively few VCs have the potential for transboundary effects; however, for some species (e.g., caribou), this requires careful consideration.

Transboundary impacts are those effects linked directly to the activities of the Project inside the Nunavut Settlement Area (NSA), which occur across provincial, territorial, or international boundaries or may occur outside of the NSA.

9.4.3 Cumulative Effects Assessment

The IS Guidelines require an assessment of cumulative effects in consideration of changes caused by human activities (e.g., past, existing, and reasonably foreseeable activities, including activities associated with the Project under assessment) and natural processes such as climate change. In general, the approach for carrying out a cumulative effects assessment (CEA) follows the same steps used for the assessment of residual project effects. Each VC assessment includes a CEA that considers the effects of past, present, and reasonably foreseeable projects and activities within their respective RAAs and how these interact with the effects of the Project. Residual positive effects are not carried forward to a cumulative effects assessment.

In recognition of the interest and importance of cumulative effects for the Project, a consolidated overview of cumulative effects is provided in Volume 10, Section 32 (Cumulative Effects Assessment Overview) to compile CEA information in one place, versus throughout the IS, to support accessibility and provide an additional way to understand this information. The CEA Overview explains why and how cumulative effects were assessed, what has and may happen that causes cumulative effects in the region, and general outcomes of the assessment of cumulative effects completed for each VC.

9.4.3.1 *Scoping the Cumulative Effects Assessment*

The IS Guidelines (Section 7.4.3 a) state that the “Proponent shall scope the cumulative impact assessment by describing the valued components, spatial and temporal boundaries, and baseline conditions considered for the assessment. These may necessarily differ from those established for the impact assessment.”

Each VC section of the IS includes a subsection discussing VC-specific cumulative impacts (where they exist). As with the Project-specific effects assessment, the analytical approach used to predict cumulative effects are described, including modelling approaches, assumptions, data and calculations, or the use of professional judgement. As with the Project residual effects assessment, relevant engagement outcomes and Inuit Knowledge were incorporated in the assessment of cumulative effects, including an explanation of how it has informed the assessment of effects for each VC.

An evaluation of potential project-related interactions with the environment was completed to determine if an assessment of cumulative impacts is required (i.e., there is potential for an interaction) for that specific project environmental effect that interacts with those of other projects or activities that have been or will be carried out. The residual environmental impacts of the Project in combination with other projects or activities that have been or will be carried out were then evaluated for cumulative effects, including the contribution of the Project to those cumulative effects. Two conditions must be met to initiate an assessment of cumulative effects on a VC:

- The Project is assessed as having adverse residual environmental effects on a VC.
- The adverse residual effects from the Project overlap spatially and temporally with residual effects of other projects or physical activities on a VC.

If these conditions are not met, there is no expectation that the Project will contribute cumulatively to the residual effects of other projects or physical activities on the VC, and further assessment is not warranted. If the two conditions are met, then an assessment of cumulative effects on the VC was initiated.

9.4.3.2 Identification of Other Projects and Activities

A Project Inclusion list (PIL; Appendix 9A) was developed to identify past, present, and reasonably foreseeable projects and activities (referred to as physical activities) for consideration when preparing the cumulative effects assessment for the IS.

The intent of the PIL is that the assessment of each VC would involve an examination of it to determine the potential for spatial and temporal overlap for any identified residual effects. As a precautionary measure a broad spatial boundary was used to assemble the PIL, with the approximate extents of this area, by compass direction, being northwards to Victoria Island, southwards to Yellowknife, westwards to Great Bear Lake and eastwards to Cambridge Bay. The Project's remote location in a largely undisturbed landscape (both terrestrial and marine) reduces the potential that the Project's residual effects will interact with the effects of most other projects in a cumulative way. The categorization of physical activities included in the PIL is described as follows:

- Past - no longer operational but still do or may have visible physical works and/or effects that contribute to the characterization of the existing environment (e.g., abandoned and decommissioned sites, such as old mines or exploration camps).
- Existing - active with effects ongoing in the region at the time of the assessment (e.g., operational mines, projects under construction, and ship movements).

- Reasonably foreseeable - publicly announced, approved, under regulatory review or approved in concept in a policy or plan.
- Reasonably foreseeable induced - projects and activities that would likely only advance if the Project were approved and operational.

The Project is considered permanent infrastructure with a design life of 75 years. Within this period of time, major construction of the Project is anticipated to occur for five years, though geographically limited at different times within the year (for example, certain activities may only occur during open water season). The temporal limit of the cumulative effects assessment has been selected at 20 years into the future, which is assumed as an approximate extent to which reasonably foreseeable future and induced development activities can be predicted with a level of certainty that allows for assessment.

For each physical activity, the PIL includes a brief description of the activity, temporal status, and approximate distance to the Project PDA. Each VC assessment considers selected physical activities of the PIL to highlight interactions from other physical activities with the potential to contribute to cumulative effects on the VC.

9.4.3.3 Cumulative Effects Pathways

Following the identification of which physical activities may interact cumulatively with project effects on the VC, the pathways through which cumulative effects may occur are described. This discussion explores how residual project effects may overlap spatially and/or temporally with effects of the applicable past, present, and reasonably foreseeable physical activities. In some cases, past and present physical activities may already be influencing the existing VC conditions, providing important context for the assessment of project effects.

9.4.3.4 Cumulative Effects Mitigation Measures

Where appropriate, the CEAs identify mitigation measures, within WKR's control, that could eliminate, reduce, or control significant environmental or socio-economic cumulative effects. These may be in addition to project-specific effects management measures that WKR is implementing.

9.4.3.5 Residual Cumulative Effects

In consideration of the application of effects management measures, residual cumulative effects are then described. Where possible, through engagement, residual cumulative effects are considered in an Inuit context. This analysis integrates Inuit Knowledge and reflects issues and concerns raised during engagement and may be linked to the Holistic Assessment (see Section 9.6), which assesses selected VCs based on their inter-linkages and hence provides further consideration of Inuit views.

The VC CEAs conclude with a clear summary paragraph of how the Project will (or will not) result in cumulative effects to the VC, and incorporates relevant characterization terms (direction, magnitude, geographic extent, timing, duration, frequency, and reversibility), as appropriate, for each change assessed.

Finally, the Project's contribution to cumulative effects is placed in the context of the overall effects (i.e., to what degree is the Project proportionately affecting change to the VC relative to all the other anthropogenic effects).

9.4.3.6 *Significance of Residual Cumulative Effects*

Each VC CEA includes a conclusion on the significance of predicted project residual cumulative effects as compared to the VC's significance definition (Section 9.4.1.4), and input on effects significance provided through Inuit Knowledge or engagement is highlighted in the discussion. The Project's contribution to cumulative effects, again placed in the context of the overall effects, is considered to provide additional context for the assessment.

9.4.4 Prediction Confidence and Certainty

The purpose of the impact assessment is to predict future environmental and socio-economic conditions that result from the Project. Each VC assessment includes a statement on any gaps, assumptions, or uncertainties encountered and assigns a level of confidence in the final effects conclusion. Where applicable, a discussion on any sensitivity and uncertainty analysis measures that were used is provided. Where quantitative methods are not feasible, uncertainty is determined qualitatively and may be discussed in terms of:

- assumptions made in the assessment
- quantity and quality of baseline data used in the assessment
- confidence in measurements and analytical techniques (e.g., modelling)
- confidence in the success of mitigation measures
- potential changes in future environmental conditions, where applicable (e.g., climate change)
- any conservative measures used to increase the level of confidence

If conservative measures have been used to increase the level of confidence in an effect's prediction, this is identified in the VC assessment.

In cases where prediction confidence is low, the precautionary approach is applied, and follow-up and monitoring are proposed (see Section 9.5). Adaptive management plans are also proposed for implementation to provide a framework to act on follow-up and monitoring feedback and implement corrective management options as appropriate.

9.5 Monitoring and Adaptive Management

Monitoring and adaptive management form part of WKR’s commitments to verify the accuracy of effects predictions and effectiveness of mitigation measures. Monitoring may also identify any unanticipated effects that can inform adaptive management measures. VC assessments describe any proposed follow-up programs, including monitoring and management plans, where adverse effects are likely to occur and/or where there is uncertainty and low confidence in effects predictions or mitigation measures. Follow-up measures specify indicators to be monitored for understanding VC conditions and management measures’ effectiveness, and reflect preliminary input obtained from Inuit. WKR is committed to involving affected Inuit in the development and execution of effective monitoring and management measures. If follow-up and monitoring is not proposed for a VC, rationale is provided to justify the exclusion.

9.6 Holistic Assessment

In addition to a VC-based assessment, the impact assessment presents a Holistic Assessment (Volume 10, Section 31) which examines key interconnections between the biophysical and human environment VC assessments. The Holistic Assessment contextualizes the VC assessments in recognition of their potential interconnected nature and is intended to better reflect the interwoven complexities of nature and human relationships, and as such, the consideration of Inuit Knowledge is an integral part of the Holistic Assessment.

Three Holistic VCs form the basis of the Holistic Assessment:

1. Land and Freshwater Environment
2. Ocean Environment
3. Human Environment

These Holistic VCs facilitate a systems-based evaluation of project and cumulative effects on terrestrial, marine, and social, cultural and health systems.

The assessment of these Holistic VCs requires an understanding of project effects on both the biophysical and human environments and the linkages among them. The RHO and CEAs, along with engagement results and Inuit Knowledge, provide additional context for understanding these relationships.

Interpreting the VC assessments (including the VC CEAs), in the context of the Holistic VCs, the Holistic Assessment provides a plain-language narrative on the causal relationships between VC assessments with an aim to more accurately depict the holistic nature of project effects on integrated values of importance to Inuit. Additional details on the Holistic Assessment methods and approach can be found in Volume 10, Section 31.

10 Knowledge and Literature Cited

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Appendix 9A

Project Inclusion List

9A.1 Introduction

The purpose of the Project Inclusion List (PIL) is to identify projects and activities (physical activities) that may have effects that interact (as cumulative effects) with potential effects of the Grays Bay Road and Port Project (the Project).

9A.1.1 Study Area

The general spatial boundary of the study area used to prepare the PIL (i.e., identify physical activities) is the map area in Figure 9A3.3 (Attachment 9A3). The approximate extent of this area is northwards to Victoria Island, southwards to Yellowknife, westwards to Great Bear Lake and eastwards to Cambridge Bay.

More specifically, within that area, the study area reflects the following considerations:

- Inclusion of communities in the West Kitikmeot sub-region within the Kitikmeot region (completed by an eastern sub-region)
- Northwest Territories generally extending southwestwards to Yellowknife from the Territorial border
- Mining related activity in the Slave Geological Province
- Marine activity in and through the Coronation Gulf

9A.1.2 Use

Use and interpretation of the PIL is based on the following. Section 9A.2 provides further details, including definitions.

9A.1.2.1 General

- Identification of a physical activity does not imply that it has potential interacting (cumulative) effects with Grays Bay Road and Port Project. Prior to confirmation in a Valued Component (VC) assessment, a physical activity identified in the PIL is only a candidate to be considered for possible such effects.
- Physical activities to be assessed are those that occur within a VC's Regional Assessment Area (RAA) or in some cases reside outside but cause effects that transport to within the RAA. As such, physical activities substantially distant from Grays Bay Road and Port Project otherwise offer possible context to assist characterization of regional/landscape-scale effects of potential relevance to an assessment of potential cumulative effects for each VC.
- Only some physical activities have a clear and known physical presence that can be mapped and the disturbance area determined. Many physical activities can only generally be characterized.
- Areas of tenure, such as leases, do not represent physical disturbance, but only, if exists, surface facilities within.

- In addition to the spatial dimension (location), the PIL has an additional temporal (time) dimension. Generally, there are overall two major temporal groupings: past/present, and future. Within future, there are two sub-groupings: reasonably foreseeable and reasonably foreseeable induced. This separation in time must be considered to reflect when a physical activity was, is, or may be present.
- The degree of certainty associated with the characterization of future physical activities is low to moderate, with certainty decreasing the further ahead in time. While some reasonably foreseeable physical activities may have some degree of useful descriptive information, that certainty becomes low and largely conceptual for reasonably foreseeable induced. These uncertainties have an implication to the extent and nature of assessing potential cumulative effects associated with them.

9A.1.2.2 Figures

The following guidance supports interpretation of the figures, particularly regarding map features.

The use of tables, legends, numbering, and symbol placement is intended to facilitate accurate identification and understanding of project locations, physical activity types, and temporal context within the mapped area.

- Top Legend: Figure 9A3.2 and Figure 9A3.3A-C (Attachment 9A3) each include two reference elements:
 - The top legend categorizes each project by physical activity type (mineral explorations, mines, roads, and marine) and assigns a number to each.
 - The bottom legend shows base map features and temporal categories of the mining activities.
- Numbering:
 - Each physical activity listed in the top legend of Figure 9A3.2 and Figure 9A3.3A-C (Attachment 9A3) is assigned a unique number provided purely for identification within the map.
 - These numbers correspond to numbered symbols on the map, allowing one to locate and distinguish individual physical activities.
 - The numbering system used in the top table is independent of Table 9A1.1 (Attachment 9A1) and does not imply a concordance between the two.
- Proximity of Physical Activity Symbols:
 - When two physical activity symbols are placed adjacent to each other, arrows are used to point from each symbol to its approximate location. The arrows help to avoid overlapping symbols and indicate separate physical activities located in close spatial proximity.
- Mapped Representation of Aspatial Physical Activities:
 - If a physical activity is currently only locatable as a land use designation, for which the most common of these are mineral exploration claims or leases, the location shown on the map is the centroid (generally, the “center”) of the claim or lease boundary polygon (if available).

Further identification and description of land use features are provided in Volume 9, Section 29 Assessment of Potential Effects on Non-Traditional Land, Marine, and Resource Use.

9A.1.3 Organization

The PIL is organized as follows:

- Section 9A.2: Defines the various physical activity categories (i.e., major groupings of types), the temporal boundaries, and morphology (spatial nature of the physical activity)
- Section 9A.3: Identifies information sources
- Attachment 9A1: Description of Physical Activities (Table 9A1.1)
 - Physical activities are organized by temporal category (from past to future), then, by project/activity name in alphabetical order (with proponent name if applicable)
- Attachment 9A2: Spatial Metrics and Descriptive Information for RFI Physical Activities
 - A compilation of spatial metrics and descriptive information detailing the Cumulative Effects Case for the Construction and Operations phases of RFI Physical Activities
- Attachment 9A3: Figures
 - Figure 9A3.1: Physical Activities Overview (Attachment 9A3)
 - o Shows entire PIL Study Area
 - Figure 9A3.2: Physical Activities Details (Attachment 9A3)
 - o Shows portion of Study Area with majority of physical activities, each identified by name
 - Figure 9A3.3A: Past and Present Physical Activities (Attachment 9A3)
 - o This and the next two figures provide a “time-series” showing only the physical activities in each of the three temporal states
 - o Figure 9A3.3B: Reasonably Foreseeable Physical Activities (Attachment 9A3)
 - Figure 9A3.3C: Reasonably Foreseeable Induced Physical Activities (Attachment 9A3)

9A.2 Physical Activity Attributes

The following defines certain details provided in Table 9A1.1 (Attachment 9A1).

9A.2.1 Type

Physical activities are identified in one of the following types, each representing a generalized grouping of similar physical activities.

- Aircraft [includes helicopters]
- Community
- Marine [shipping/vessels]
- Mine

- Mineral Exploration
- Power Utility
- Renewable Resource Harvesting
- Research
- Road
- Supply Cache
- Tourism

The following provides further description for mineral exploration due to their typically minor extent of surface disturbance, if any.

Mineral exploration is an activity that individuals or mining companies do to evaluate the potential for a mineral and/or mine. This activity can include multiple components such as rock or sediment sampling from the surface, subsurface drilling using a heli-portable drill, geophysical surveys (surface based temporary analysis), and possibly include temporary or semi-permanent camps and bulk sampling of rock using explosives. Exploration activities can happen anytime throughout the year and can last days to weeks to months at a time.

Activities are usually completed over mineral claims (areas that provide proponents exclusive rights to evaluate the mineral potential) or mineral leases (more permanent agreement with the crown to further evaluate an area for mineral potential). However, such claim or lease areas do not in their entirety represent disturbed areas for the purposes of this PIL. Mineral exploration that has advanced such that proponents have built semi-permanent facilities / structures to conduct regular activities are identified; otherwise, the description in the table states “no semi-permanent footprint” (i.e., there are no actual surface features to map).

9A.2.2 Temporal Status

The temporal states of each physical activity are categorized as follows (i.e., temporal category):

- **Past:** no longer operational (e.g., closed and reclaimed) but may still have visible physical works and/or effects that contribute to the characterization of the existing environment (e.g., abandoned and decommissioned sites, such as old mines or exploration camps).
- **Present:** active with effects ongoing in the region at the time of the assessment (e.g., operational mines, projects under construction, and ship movements).
- **Past/Reasonably Foreseeable:** was operational, later paused, and may return again into operations
- **Reasonably Foreseeable (RF):** publicly announced, approved, under regulatory review or approved in concept in a policy or plan, excluding Reasonably foreseeable induced.
- **Reasonably Foreseeable Induced (RFI):** already known by name as conditional to advance only if the Grays Bay Road and Port project is first approved and then operational.

The assumed future timeline for assessment of RF and RFI Physical Activities is at least 20 years from now; as such, into the mid-2040's. Note that the Grays Bay Road and Port Project is considered permanent infrastructure with a design life of 75 years.

The following provides further description of RFI Physical Activities associated with the Grays Bay Road and Port Project:

- Expansion of fuel storage facilities at Grays Bay Port and/or Jericho Station
- Public and commercial vehicle use of Grays Bay Road
- Public and commercial vessel use of port
- Public and commercial aircraft use of airstrip
- Access roads from Grays Bay Road to existing mine exploration camps, followed by development of mines at those locations
- Access roads from Grays Bay Road to existing mines (currently unconnected by all-season road)

9A.2.3 Morphology

Morphology is the spatial nature of the physical activity, indicative of its dominant form of anthropogenic disturbance on the landscape. This characterization is reflected in the manner by which the physical activity is assessed, including surface area disturbed (footprint) and location.

The following are the morphology types. Each physical activity is identified by one footprint and/or one activity movement attribute, as relevant:

- Footprint
 - Spatial Site: one contiguous footprint as a relatively well-defined single location, or a collection of a few such footprints within relatively close proximity (represented on maps by actual certain or estimated area)
 - Aspatial Site: no defined physical dimensions and boundary (represented on maps as a “dot” symbol” to only indicate its location)
 - Linear: a “right-of-way” or generally a length over substantial distances with a relatively small width
 - Regional: activity dispersed broadly over the landscape
- Activity Movement
 - Random: most travel generally occurs randomly dispersed across the landscape
 - Routed: most travel generally occurs along common established paths

9A.3 Information Sources

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- Aker Arctic: <https://akerarctic.fi/news/international-voyages-on-the-northwest-passage-in-2025/>
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- Geological Map: https://www.researchgate.net/figure/Simplified-geological-map-of-the-Slave-craton-in-the-Northwest-Territories-and-Nunavut_fig1_303486134
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- Government of Nunavut (GN) – Economy: https://www.gov.nu.ca/sites/default/files/documents/2021-11/gn_info_package_-_economy.pdf.
- GN - Transportation: <https://www.gov.nu.ca/en/transportation/sealift-services>
- GN, Department of Environment. 2023. Summary of Nunavut Hunting Regulations 2023 | 2024: https://www.gov.nu.ca/sites/default/files/documents/2024-03/Nunavut_Hunting_Guide_2023-24%20ENG.pdf

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- Government of the Northwest Territories (GNWT). Arctic Economic & Security Corridor: <https://www.inf.gov.nt.ca/en/AESC>
- GNWT. Slave Geological Province Corridor Project Information Sheet: <https://www.inf.gov.nt.ca/sites/inf/files/resources/factsheet-sgpc-1pg-oct2024.pdf>
- GNWT. Tłı̨chų Highway Project: <https://www.inf.gov.nt.ca/en/Tlı̨choHighway>
- Mackenzie Valley Land and Water Board Public Registry: <https://mvlwb.com/registry/mv2019c0029>
- Mackenzie Valley Review Board: <https://new.reviewboard.ca/en/registry/1961/documents/664>
- Mining North. https://www.miningnorth.com/_rsc/site-content/newsletters/2024-12_16_Chamber_Mines_Newsletter%20November.pdf
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- Nunavut Impact Review Board (NIRB) Public Registry: <https://www.nirb.ca/application?strP=r>
- Nunavut Mineral Exploration, Mining, and Geoscience Overview (2023) (https://publications.gc.ca/collections/collection_2024/rcaanc-cirnac/R71-39-2023-eng.pdf)
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- Tyhee NWT Corp, Developers Assessment Report: https://new.reviewboard.ca/sites/default/files/project_document/EA0809-003_04_YGP_DAR_Development_Description_326-403_.PDF

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- Viridis Mining & Minerals: <https://www.listcorp.com/asx/vmm/viridis-mining-and-minerals-limited/news/viridis-earns-51-percentage-interest-in-south-kitikmeot-gold-project-2897735.html>
- West Kitikmeot Resources Corp.: <https://www.westkit.ca/properties>

Attachment 9A1 Description of Physical Activities

Table 9A1.1 Description of Physical Activities

Project/Activity ¹	Type ²	Status ³	Distance ⁴	Morphology ⁵	Description
Past					
Bathurst Inlet (community of Kingaok)	Community	Abandoned	170 km SE	Spatial	Established in 1925 and abandoned in the 1960's, Bathurst Inlet is now seasonally accessed by boat or snowmobile as a seasonal harvesting site.
Omingmaktok	Community	Abandoned	130 km E	Spatial	Omingmaktok, once a permanent settlement, is now seasonally accessed by boat or snowmobile as a seasonal harvesting site.
Snap Lake Mine (De Beers Canada)	Mine	Closed	Northwest Territories (NT) 273 km S	Spatial Site	Diamond Mine closed in 2015. The underground mine workings were allowed to flood in 2017 and in 2020, Snap Lake received a new 15-year water license, to move the site into closure and rehabilitation in the coming years.
Present					
Arcadia Bay Project (West Kitikmeot Resources Corp.)	Mineral Exploration	Ongoing	24 km SW	Aspatial Site	Mineral Exploration – no semi-permanent footprint.
B2Gold ⁶ George Property (B2Gold)	Mineral Exploration	Ongoing	168 km E	Spatial Site(s)	Exploration activities mobilized from 2 camps. As production continues at B2Gold's Goose Mine, exploration will occur at George Property. George camp is located at the southern end of George Lake and supports a 60-person camp and two helicopter pads.
B2Gold ⁶ Marine Laydown Area (B2Gold)	Marine	Ongoing	144 km E	Spatial Site	Marine Laydown Area along the western shore of Bathurst Inlet (<i>Kiligiktokmik</i>). Includes the seasonally operated camp. No in-water footprint as vessels are brought into the shoreline for offloading. Current activities include maintenance and preparation of the winter ice road construction and material staging for the Goose Mine site.
Bulk Carriers	Marine	Ongoing	< 10 km	Linear, Routed	Includes ships transporting bulk goods such as ore concentrate, oil, timber or large equipment (as sealifts).
Cambridge Bay	Community	Ongoing	280 km NE	Spatial Site	Cambridge Bay, the largest community within the Kitikmeot Region, with access to the Coronation Gulf and Northwest Passage. Access facilitated by a marine port and airport, with supplies transported each year by sealift.
Chuk and Fire Shear Blocks (West Kitikmeot Resources Corp.)	Mineral Exploration	Ongoing	Chuk 0 km Fire Shear 2 km E	Aspatial Site	Mineral Exploration – no semi-permanent footprint.
Commercial Cargo	Marine	Ongoing	< 10 km	Linear, Routed	Includes ships that carry materials in truck-sized containers for community re-supply.
Commercial and Domestic Harvesting	Renewable Resource Harvesting	Ongoing	Nonspecific	Regional, Random	Fish, wildlife and marine mammal harvesting.
Coppermine Project (Somerset Minerals Ltd.)	Mineral Exploration	Ongoing	171 km W	Aspatial Site	Mineral Exploration – no semi-permanent footprint. Copper-silver exploration program including drilling, geochemical surveys, and geophysical surveys
Coppermine River Project (Tundra Copper Corp.)	Mineral Exploration	Ongoing	176 km W	Aspatial Site	Mineral exploration – no semi-permanent footprint. Copper exploration program including drilling and geophysical surveys.
Diavik Diamond Mine (Rio Tinto)	Mine	Operating	NT 175 km S (300 km NE of Yellowknife)	Spatial Site	Diamond mine uses a combination of open pit and underground mining. Commercial operations are scheduled to end in early 2026.
Ekati Diamond Mine (Burgundy Diamond Mines)	Mine	Operating	NT 152 km S (310 km NE of Yellowknife)	Spatial Site	Diamond mine, including the Sable open pit, Misery underground mine and Point Lake, supporting a mine life to 2029. Point Lake operations were paused in July 2025. A conceptual mine plan potentially extends Ekati's mine life towards 2040.
Epworth Project (Aston Bay Holdings Ltd.)	Mineral Exploration	Ongoing	122 km W	Aspatial Site	Mineral Exploration – no semi-permanent footprint.
Fishing Vessels	Marine	Ongoing	< 10 km	Linear, Random	Includes small and medium-sized vessels (up to 100 m in length) involved in commercial fishing activities such as trawling, whaling and fish processing.

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Project/Activity ¹	Type ²	Status ³	Distance ⁴	Morphology ⁵	Description
Gahcho Kué Diamond Mine (De Beers Canada)	Mine	Operating	NT 303 km S (280 km NE of Yellowknife)	Spatial Site	Diamond mine with mine life to 2030. The open-pit mine comprises of three pits.
Goose Mine ^{6, 7} (B2Gold)	Mine	Operating	228 km E	Spatial Site	An open pit gold mine comprised of two main development areas with a winter ice road connecting the Goose Mine with B2Gold's Marine Laydown Area located at Bathurst Inlet ⁷ (<i>Kiligiktokmik</i>). Mining started Q3 2025 and is projected to operate for at least 10 to 15 years.
Hackett River Project ⁸ (Glencore Canada Corp)	Mineral Exploration	Ongoing	129 km E	Spatial Site	Camp located at Hackett River ⁸ .
High Lake ⁹ (Izok Corridor Project) (MMG)	Mineral Exploration	Ongoing	1 km W	Spatial Site	Mineral Exploration – camp (semi-permanent structures, sleeps 50), gravel airstrip, re-opening in 2026; anticipated annually from April to September annually.
High Lake East (MMG)	Mineral Exploration	Ongoing	39 km E	Aspatial Site	Mineral Exploration – no current footprint; previous exploration camp was removed.
Hood River Gold Project (Blue Star Gold Corp.)	Mineral Exploration	Ongoing	0 km	Aspatial Site	Mineral Exploration – no semi-permanent footprint.
Hope Bay Project ¹⁰ (Agnico Eagle)	Mineral Exploration	Ongoing	177 km E	Spatial Site	Advanced mineral exploration ¹¹ is ongoing at the Hope Bay Project, which includes the Doris, Madrid North, Madrid South, and Boston deposits. The Doris North Mine, originally approved in 2006 as a standalone underground gold mine, included development at Doris and Boston, along with supporting infrastructure such as a 6,000 ft (1,830 m) gravel airstrip, port facilities at Roberts Bay, an all-weather road network, a diesel power plant, and a processing plant. In 2022, the site transitioned from active mining to care and maintenance, with a focus on mineral exploration. The Doris North Mine is now integrated into the broader Hope Bay Project. Mine infrastructure remains non-operational.
Hydroelectric	Power Utility	Ongoing	NT	Spatial Site	The Bluefish Hydro dam and Snare Hydro system supply power to the City of Yellowknife and other North Slave communities. Together they include eight hydro generators and approximately 150 km of transmission lines.
Icebreakers	Marine	Ongoing	< 10 km	Linear, Routed	Includes Canadian Coast Guard vessels.
Itchen Lake Property (West Kitikmeot Resources Corp.)	Mineral Exploration	Ongoing	45 km SW	Aspatial Site	Mineral Exploration – no semi-permanent footprint.
Izok Lake ⁹ (Izok Corridor Project) (MMG)	Mineral Exploration	Ongoing	73 km SW	Spatial Site	Mineral Exploration – camp (semi-permanent structures, sleeps 75), 3,000 ft (914 m) gravel airstrip, fuel storage, re-opened to support exploration activities in 2025; anticipated annually from April to September annually.
Jericho Mine (CIRNAC)	Mine	Closed mine; Ongoing post-closure surveillance and monitoring	1 km SW	Spatial Site	Closed (2014) and decommissioned open pit diamond mine under the management of CIRNAC. Closure activities ongoing. An airstrip, roads connecting site infrastructure and a decommissioned fuel tank farm remain on site.
Kennady North - Exploration (Mountain Province Diamonds Inc.)	Mineral Exploration	Ongoing	NT 300 km SW (280 km NE of Yellowknife)	Spatial Site	Part of the Gahcho Kué Joint Venture with De Beers Group (Mine expansion). Includes the operation of two exploration camps, winter road construction and maintenance, fuel and explosives storage, a sewage treatment plant; a maintenance shop, an airstrip and apron.
Kugluktuk	Community	Ongoing	180 km W	Spatial Site	Kugluktuk, the western-most community in Nunavut and the second largest community in the Kitikmeot Region. Access facilitated by a small public-use airport, with supplies transported each year by sealift.
Lupin Mine (Lupin Mines Inc.)	Mine	Closed mine; Ongoing decommissioning and reclamation	26 km S	Spatial Site	Closed (2005) and decommissioned underground gold mine. Buildings, an airstrip and mill remain onsite.
Muskox Nickel Property (SPC Nickel Corp.)	Mineral Exploration	Ongoing	184 km W	Aspatial Site	Mineral Exploration – no semi-permanent footprint.
Nunavut Community Infrastructure	Community	Ongoing	Regional	Spatial Site	Community-based infrastructure development (buildings, utilities, local roads, etc.).

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NT Community Infrastructure	Community	Ongoing	NT Regional	Spatial Site	Community-based infrastructure development (buildings, utilities, local roads, etc.).
Overflights	Aircraft	Ongoing	Nonspecific	Linear, Routed	Non-Grays Bay Road and Port Project aircraft/helicopter flights (e.g., commercial support, community transit and supply).
Passenger Ships and Pleasure Craft	Marine	Ongoing	< 10 km	Linear, Routed	Marine tourism (both pleasure craft and passenger ships). Typically involve expedition style ships carrying around 200 tourists and a similar number of crew, with cruises typically occurring in September. Pleasure craft are non-commercial vessels often characterized as yachts that typically carry between 1 (sail boats) and 50 people (luxury yachts).
Pistol Lake Project (Leeward Capital Corp.)	Mineral Exploration	Ongoing	88 km E	Spatial Site	Mineral Exploration – Camp (semi-permanent structures, sleeps 20) open from July to October annually. Includes fuel storage, limited mobile vehicles other than tundra airplane access and helicopters.
Rae Copper Exploration Project (White Cliff Minerals Ltd.)	Mineral Exploration	Ongoing	239 km W	Spatial Site	Mineral Exploration – camp (sleeps up to 45), airstrip, excavator onsite, fuel storage. Camp assumed open from May 1 to Sept 5 annually. Activities include temporary accommodations/generator power, heli-supported drilling and exploration, airplane access
Rockinghorse (Koamaogaktok) Project	Mineral Exploration	Ongoing	13 km W	Spatial Site	Camp with 16-person fly-in tent camp including 15 wall tent structures. Exploratory drilling program screened by NIRB in 2002.
Roma Project (Blue Star Gold Corp.)	Mineral Exploration	Ongoing	0 km	Aspatial Site	Mineral Exploration – no semi-permanent footprint.
Scientific Research	Research	Ongoing	Nonspecific	Regional, Random	Involves the establishment of temporary camps or the use of existing camps used for mining development.
South Kitikmeot Gold Project (Viridis Mining & Minerals)	Mineral Exploration	Ongoing	167 km SE	Spatial Site	Mineral Exploration – no semi-permanent footprint.
Tanker Ships	Marine	Ongoing	< 10 km	Linear, Routed	Includes bulk carriers of liquids and compressed gases for community annual resupply.
Tibbit to Contwoyto Winter Road (TCWR; Winter/ Ice Road)	Road	Ongoing	0 km SW and NT	Linear, Routed	Winter road system of approximately 400 km operated between January and early April. Currently connects three diamond mines near Lac de Gras to the public highway system, has previously supported activities at Lupin and Jericho mines near Contwoyto Lake. Approximately 87% of the road is routed over frozen lakes. Three seasonal maintenance camps are located along the route.
Tourism	Tourism	Ongoing	Nonspecific	Regional, Random, Routed	Includes eco-tourism, sport hunting, fishing, cultural, adventure, camping, kayaking, hiking, fishing, canoeing, dogsledding, bird watching, hotels, lodges, bed and breakfasts, outpost camps, outfitters, and cruise ships.
Tree River Lodge (Plummer's Arctic Lodges)	Tourism	Ongoing	48 km W	Spatial Site	Tourism – fishery, accommodations, and airstrip supporting fly-out excursions and seasonal fishing between July and August.
TTMG Project (Bathurst Metals Corp.)	Mineral Exploration	Ongoing	56 km E	Aspatial Site	Mineral Exploration – no semi-permanent footprint
Tugs/Barges	Marine	Ongoing	< 10 km	Linear, Routed	Tugs include vessels designed for towing or pushing larger vessels; barges are typically non-propelled vessels that transport bulk or mixed cargo. Frequency of use is closely aligned with trends in tanker ships, bulk carriers, etc.
Ulu Gold Project (Blue Star Gold Corp.)	Mineral Exploration	Ongoing	1 km W	Spatial Site	Mineral Exploration – camp (sleeps 50), 1,200 m airstrip.
Wolf/Mistake Lake Property (West Kitikmeot Resources Corp.)	Mineral Exploration	Ongoing	Wolf Lake 24 km NW Mistake Lake 15 km NW	Aspatial Site	Mineral Exploration – no semi-permanent footprint
Yellowknife City Gold Project (Gold Terra Resources Corp.)	Mineral Exploration	Ongoing	NT 413 km S (Within 10 km north, south and east of the City of Yellowknife)	Spatial Site	Mineral exploration – advanced exploration including active drilling. Close to vital infrastructure, including all-season roads, air transportation, service providers, hydro-electric power and skilled tradespeople.

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Project/Activity ¹	Type ²	Status ³	Distance ⁴	Morphology ⁵	Description
Past, Reasonably Foreseeable					
Indin Lake Gold Project - Exploration (STLLR Gold Inc.)	Mineral Exploration	Historic activity suspended, but possibly re-initiating	NT 246 km SE (220 km north of Yellowknife)	Spatial Site	Historic gold camp. The property has 3 historic mines (e.g., Colomac), accessed via 1,500 m gravel airstrip or by winter road spurs from the existing Tłı̄ch̄o All-Season Road.
Mon Mine (Sixty North Gold)	Mine	Historic activity suspended, but possibly re-initiating	NT 372 km SW (40 km N of Yellowknife)	Spatial Site	Underground gold mine with previous production between 1989 and 1997. Permits to mine and mill are in place and operations will commence once the infrastructure is in place and/or operating.
Yellowknife Gold Project (GoldMining Inc.)	Mine	Historic activity suspended, but possibly re-initiating	NT 334 km S (Properties distributed between 17 km N of City of Yellowknife up to 100 km)	Spatial Site	Past producer / present mineral exploration - the Yellowknife Gold Project includes the historic Discovery Mine on Ormsby property. Development of a proposed open pit and underground mine with supporting infrastructure was paused in 2013, and no active mining is currently underway. However, exploration activities – suspended in 2012 – resumed in June 2025, with a focus on drilling, underground development, and screening for lithium-bearing pegmatites. Existing infrastructure includes a winter road and nearby hydro-electrical power at Bluefish Station.
Reasonably Foreseeable					
Arctic Economic and Security Corridor ¹² (GNWT)	Road	Proposed	NT	Linear, Routed	The Arctic Economic and Security Corridor project is proposed to provide all-season road access from Yellowknife, Northwest Territories, to the Nunavut border, with the potential to link to the proposed Grays Bay Port and Road Project. GNWT's priority is to advance the Lockhart All-Season Road which would extend access from the end of Highway 4 at Tibbitt Lake to Lockhart Lake. This will replace the need for approximately 180 km of the seasonal Tibbitt to Contwoyto Winter Road.
Courageous Lake Mine (Seabridge Gold Inc.)	Mine	Proposed	NT 214 km S (240 km NE of Yellowknife)	Spatial Site	Proposed open pit gold mine in a deposit ranked as one of Canada's largest undeveloped gold projects. Updated preliminary feasibility study and development plan for the project announced in 2024. Estimated mine life of 15 years. Currently, access is by air or the Tibbitt to Contwoyto Winter Road.
NICO (Fortune Minerals Ltd.)	Mine	Proposed	NT 371 km SW (50 km NE of Whati)	Spatial Site	Proposed open pit and underground mine (Cobalt-gold bismuth-copper), with a proposed mine life of 20 years. Updated feasibility study is currently underway.
Reasonably Foreseeable Induced					
Grays Bay Road and Port: Bulk Fuel Storage Expansion, Grays Bay Port (Proponent Pending)	Supply Cache	Future	0 km	Spatial Site	Expansion of 10 ML fuel storage up to 160 ML
Grays Bay Road and Port: Bulk Fuel Storage Expansion: Jericho (Proponent Pending)	Supply Cache	Future	0 km	Spatial Site	Expansion of 250 KL fuel storage up to 20 ML
Grays Bay Road and Port: Runway Expansion (Proponent Pending)	Runway	Future	0 km	Spatial Site	Expansion of the currently proposed 6,000 ft (1,829 m) gravel airstrip up to 8,000 ft (2,438 m) to accommodate larger aircraft.
Grays Bay Road and Port: Road Traffic (Proponent Pending)	Road	Future	0 km	Linear, Routed	Non-Grays Bay Road and Port Project vehicle use of road (e.g., public, commercial, security ¹³).
Grays Bay Road and Port: Port Traffic (Proponent Pending)	Marine	Future	0 km	Spatial Site, Random	Non-Grays Bay Road and Port Project vessel use of port (e.g., public, commercial, security ¹³).
Grays Bay Road and Port: Air Traffic (Proponent Pending)	Aircraft	Future	0 km	Spatial Site, Random	Non-Grays Bay Road and Port Project aircraft/helicopter use of road (e.g., public, commercial, security ¹³).
Grays Bay Road and Port Phase 2 – Jericho Mine to NT Border (Proponent Pending)	Road	Future	0 km	Linear, Routed	A future phase of the Grays Bay Road and Port Project includes the potential to extend the all-season road access from the southern terminus of the Grays Bay Road at Jericho Station to the territorial border.

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Project/Activity ¹	Type ²	Status ³	Distance ⁴	Morphology ⁵	Description
Hackett River Project ⁸ (Glencore Canada Corp.)	Mine	Under NIRB review	129 km E	Spatial Site	Proposed base metal mine consisting of one underground and two open pit mines. Estimated 15-year mine life. Requires access to logistical infrastructure – specifically an all-season road and open water port – for the transport of goods, materials, and concentrate. Access to the site could be provided via a spur road connecting to the Project (Grays Bay Road) ⁸ .
Hackett and Back River Access Road (Proponent Pending)	Road	Future	0 km	Linear, Routed	An approximately 260 km access road from the Grays Bay Road near Jericho Station terminus that would support a possible Glencore Canada Corp. Hackett River Project mine (currently exploration site) and B2Gold's existing Goose Mine.
High Lake Mine ⁹ (Izok Corridor Project) (MMG)	Mine	Paused NIRB review (Izok Corridor Project)	1 km W	Spatial Site	Potential future base metal (zinc/copper) mining and milling project using both open pit and underground methods. Proposal called for a temporary winter road for construction, several lesser roads access roads between facilities, and an airport 10 km north of the mine. Camp would house 200-250 during construction and 100-200 during operation.
Izok Lake Mine ⁹ (Izok Corridor Project) (MMG)	Mine	Paused NIRB review (Izok Corridor Project)	73 km SW	Spatial Site	Potential future mine base metal (zinc/copper) mining and milling project using both open pit and underground methods. Proposal called for a temporary winter road for construction, several lesser roads access roads between facilities, use of an existing 900 m airstrip located 11 km NW of the mine, and a camp with 700-800 workers during construction and 500 during operations.
Izok Lake Access Road (MMG)	Road	Future	0 km	Linear, Routed	All-season road from the southern terminus of Grays Bay Road to Izok Lake Mine.

Notes:

- ¹ Project/Activity: Owner/proponent name in brackets.
- ² Type: as defined in Section 9A.2.1.
- ³ Status: General characterization of operational state.
- ⁴ Distance: Approximate closest distance and direction from Grays Bay Road and Port Project. "NT" stated if in that Territory.
- ⁵ Morphology: as defined in Section 9A.2.3.
- ⁶ The B2Gold Goose Mine, George Property, and Marine Laydown Area are all components of B2Gold's broader Back River Gold District – planned as a long-life mining complex. Goose Mine is the first project in production within the Back River Gold District.
- ⁷ The proposed Bathurst Inlet Road and Port (BIPR) Project (NIRB File No.: 03UN114, May 2003) – a year-round 217 km all weather road with related deep water port facilities – has not advanced. Select logistical components of BIPR are now assumed to be functionally replaced by B2Gold's Goose Mine infrastructure, including a winter ice road and the Marine Laydown Area at Bathurst Inlet, which supports sealift operations during the open-water season. No all-season road currently exists in this area.
- ⁸ The Hackett River Project (NIRB File No.: 08MN006, April 2009) is identified as a reasonably foreseeable induced mine. It was originally designed with road access via a 23 km all-season road to the proposed BIPR Project, to be constructed, operated, and maintained by Sabina (the former proponent). In the absence of BIPR, Sabina indicated it would construct its own all-weather road and deep water port at Bathurst Inlet (*Kiligiktokmik*). By 2017, Sabina confirmed the Hackett River Project was not advancing toward development at that time, and no alternative access was proposed. The Hackett River Project is now solely owned by Glencore Canada Corp. In February 2024, Glencore expressed support for the Grays Bay Road and Port Project, noting the Hackett River Project requires access to logistical infrastructure, including an all-season road and open water port. Glencore stated that, with a spur road from the Hackett River site, the Grays Bay Road could connect Hackett River to tide water, reducing construction and operational risks and costs.
- ⁹ A component of the Izok Corridor Project (NIRB File No.: 12MN043, September 2012), proposed by MMG, is currently on hold. Originally designed to include development of the Izok Lake and High Lake mines and a 350 km all-season road to port facilities at Grays Bay, the project was paused in April 2013 due to economic feasibility concerns. MMG has since resumed mineral exploration activities in the Izok and High Lake areas. It is assumed MMG does not intend to advance the current application in its existing form before NIRB but may instead submit a revised version focused on development of the Izok Lake and High Lake mines and related exploration. The road and port components would only be reconsidered if the Grays Bay Road and Port Project is not approved or does not proceed. Additional details on the development history of the Grays Bay Road and Port Project are provided in Volume 2, Section 1.3.
- ¹⁰ Formerly a standalone operation, the Doris North Mine was placed into care and maintenance in 2022 and is now part of the broader Hope Bay Project. Although mining activities are currently inactive, the focus has shifted to advanced mineral exploration across the Hope Bay property, which includes the Doris, Madrid, and Boston deposits. Reflecting this expanded scope and shift toward exploration, the operation is now referred to as the Hope Bay Project.
- ¹¹ Advanced Exploration: Sites with substantial exploration activity, including drilling, resource exploration, and environmental baseline studies, but not yet under development or construction.
- ¹² The initiative now known as the Arctic Economic and Security Corridor (AESC) has evolved to include several strategic northern infrastructure projects, notably the Slave Geological Province Corridor (SGPC) and the Grays Bay Road and Port Project. Both are now considered key components of the broader AESC, which aims to establish an all-season overland connection between southern Canada and the Arctic Ocean. This includes an all-season road from Yellowknife, Northwest Territories, to the Nunavut border, where it would initially tie into the route of the Tibbitt to Contwoyto Winter Road (TCWR) before ultimately linking to the Grays Bay Road and Port Project. The SGPC is a proposed 413 km all-season road corridor extending from Tibbitt Lake (the terminus of Highway 4) to the Nunavut border. Its first phase, the Lockhart All-Season Road (LASR), would extend access from Tibbitt Lake to Lockhart Lake, replacing approximately 180 km of the TCWR. The Grays Bay Road and Port Project would form the northern segment of the AESC.
- ¹³ Security: Including Canadian Coast Guard and military.

Attachment 9A2 Spatial Metrics and Descriptive Information for RFI Physical Activities

9A2.1 Overview

Attachment 9A2 presents key spatial metrics and descriptive information for RFI Physical Activities. The information reflects the Cumulative Effects (CE) Case for the Construction and Operations phases of RFI Physical Activities and associated infrastructure.

9A2.2 RFI Physical Activities Included

Metrics are provided for the following RFI Physical Activities/Projects:

- The Izok Corridor Project (Izok Lake and High Lake mines)
- The Hackett River Project (mine)
- The Grays Bay Road and Port Phase 2 – Jericho Mine to NT Border (road)

9A2.3 Spatial Metrics of RFI Mines and Roads

Spatial metrics define the physical extent of project components, including road widths and lengths, and mine site areas. These values are based on current design assumptions and may be updated as further engineering and environmental information becomes available. Road lengths reflect planned connections to proposed mines, and mine areas are derived from project applications submitted to the NIRB.

Access Roads:

- Width: assumed as 28 m (matching the average width of most, about 75%, of the Grays Bay Road)
- Lengths:
 - Grays Bay Road and Port Phase 2 – Jericho Mine to NT Border: 68.6 km
 - Hackett and Back River Access Road: 260.5 km
 - Izok Lake Access Road: 101 km

Mines:

- Izok Lake: 290 ha
- High Lake: 78 ha
- Hackett River Project: 290 ha (provisional value; assumed same area as Izok Lake mine; subject to revision pending additional information)

9A2.4 Traffic Types and Frequency of RFI Mines and Roads

This section summarizes anticipated activity metrics for the CE Case, including fuel consumption, labour requirements, equipment usage, and traffic (air, marine, and road) associated with RFI Physical Activities. Metrics are provided separately for the Construction and Operations phases.

For this assessment, the CE Case refers only to reasonably foreseeable induced activity and does not include the Project-related vessels or ground-based traffic.

9A2.4.1 Construction (Cumulative Effects Case)

This subsection presents anticipated Construction phase activity metrics for the time period 2032-2043 for each RFI Physical Activity. Metrics include equipment requirements, fuel consumption, labour hours, and traffic associated with mine and spur/access road construction.

Table 9A2.1 Anticipated Construction (CE Case) Equipment – Izok Corridor Project

Construction Activity	Equipment Type	Avg Number/Year	Avg Hours/Year
Spur Road (Jan 1, 2032 – Dec 31, 2034)	Dozer (D6/D9)	5	7,445
	Excavator (Cat 349)	6	8,000
	Haul Truck (Cat 773)	10	20,992
	Loader (Cat 966)	5	6,428
	Grader (Cat 14)	1	1,322
	Packer (CS563)	1	1,508
	Sand / Gravel / Water Truck	2	1,600
	Fuel / Fuel Lube Truck	6	8,750
	Light Vehicle (F-350)	27	37,500
Mine (Jan 1, 2033 – Dec 31, 2035)	Crane (75-ton class)	1	1,278
	Loader (Cat 966)	7	13,500
	Haul Truck (Cat 773)	5	15,744
	Winch Tractor Trailer	1	1,792
	Dozer (D6/D9)	3	6,700
	Excavator (Cat 349)	2	2,400
	Rock Truck (Cat 740)	4	7,012
	Plow / Sand / Gravel / Water Truck	1	1,200
	Packer (CS563)	1	2,262
	Grader (Cat 14)	1	1,983
	Skid steer / Bobcat	2	4,379
	Manlift - 60' / 80' Boom	2	4,800
	Light Vehicle (F-350)	15	15,000

Table 9A2.2 Anticipated Construction (CE Case) Fuel Consumption – Izok Corridor Project

Construction Activity	Fuel Type	Avg L/Year (Fuel Burn)	Avg Hours/Year	Avg L/Hour
Spur Road (Jan 1, 2032 – Dec 31, 2034)	Diesel	1,846,800	56,045	33
	Jet-A	80,000	400	200
Mine (Jan 1, 2033 – Dec 31, 2035)	Diesel	1,846,800	63,050	29
	Jet-A	60,000	300	200

Table 9A2.3 Anticipated Construction (CE Case) Labour – Izok Corridor Project

Construction Activity	Avg Labour Hours/Year	Avg Management FTE ¹ /Year	Avg Skilled FTE ¹ /Year	Avg Unskilled FTE ¹ /Year
Spur Road (Jan 1, 2032 – Dec 31, 2034)	280,226	13	64	51
Mine (Jan 1, 2033 – Dec 31, 2035)	315,249	14	72	58

Notes:

¹ Full Time Equivalent (FTE)

Table 9A2.4 Anticipated Construction (CE Case) Aircraft Traffic – Izok Corridor Project

Period (Jan 1 to Dec 31)	Type	Number/Year	Years of Use
2032	Helicopters	4	1
2033	Helicopters	6	1
2034	Helicopters	6	1
2035	Helicopters	4	1
2032-2035	Small Aircraft (AGN II ¹) - e.g., Twin Otter	10	4
2032-2033	Medium Aircraft (AGN IIIA ²) - e.g., Dash 7	24	2
2033-2035	Medium Aircraft (AGN IIIA ³) - e.g., Dash 7	48	2

Notes:

¹ Aircraft Group Number II (AGN II)

² Aircraft Group Number IIIA (AGN IIIA)

³ Aircraft Group Number IVA (AGN IVA)

Table 9A2.5 Anticipated Construction (CE Case) Vessel Traffic – Izok Corridor Project

Open Water Season ¹ (Jun to Oct)	Type ²	Number/Season	Years of Use
2032-2034	Barges / Tugs	2	3
2035-2036	Barges / Tugs	1	2
2035	Fuel Tankers	1	1
2032-2034	Cargo Ships (e.g., freighter)	2	4

Notes:

- ¹ The annual open water season typically extends from late June through October, although the number of ice-free days suitable for navigation varies from year to year.
- ² Two berths at the Grays Bay Port will be available for large vessels, but specific berth users (e.g., Canadian Coast Guard, Sealifts) at any given time are not defined.

Table 9A2.6 Anticipated Construction (CE Case) Equipment – Hackett River Project

Construction Activity	Equipment Type	Avg Number/Year	Avg Hours/Year
Spur Road (Jan 1, 2037 – Dec 31, 2039)	Dozer (D6/D9)	10	14,890
	Excavator (Cat 349)	12	16,000
	Haul Truck (Cat 773)	20	41,983
	Loader (Cat 966)	10	12,857
	Grader (Cat 14)	2	2,644
	Packer (CS563)	2	3,016
	Sand / Gravel / Water Truck	4	3,200
	Fuel / Fuel Lube Truck	12	17,500
	Light Vehicle (F-350)	30	45,000
Mine (Jan 1, 2038 – Dec 31, 2040)	Crane (75-ton class)	1	1,278
	Loader (Cat 966)	7	13,500
	Haul Truck (Cat 773)	5	15,744
	Winch Tractor Trailer	1	1,792
	Dozer (D6/D9)	3	6,701
	Excavator (Cat 349)	2	2,400
	Rock Truck (Cat 740)	4	7,012
	Plow / Sand / Gravel / Water Truck	1	1,200
	Packer (CS563)	1	2,262
	Grader (Cat 14)	1	1,983
	Skid steer / Bobcat	2	4,379
	Manlift - 60' / 80' Boom	2	4,800
	Light Vehicle (F-350)	15	15,000

Table 9A2.7 Anticipated Construction (CE Case) Fuel Consumption – Hackett River Project

Construction Activity	Fuel Type	Avg L/Year (Fuel Burn)	Avg Hours/Year	Avg L/Hour
Spur Road (Jan 1, 2037 – Dec 31, 2039)	Diesel	3,693,600	112,091	33
	Jet-A	80,000	400	200
Mine (Jan 1, 2038 – Dec 31, 2040)	Diesel	1,846,800	63,050	29
	Jet-A	80,000	400	200

Table 9A2.8 Anticipated Construction (CE Case) Labour – Hackett River Project

Construction Activity	Avg Labour Hours/Year	Avg Management FTE ¹ /Year	Avg Skilled FTE ¹ /Year	Avg Unskilled FTE ¹ /Year
Spur Road (Jan 1, 2037 – Dec 31, 2039)	560,453	26	128	103
Mine (Jan 1, 2038 – Dec 31, 2040)	315,249	14	72	58

Notes:

¹ Full Time Equivalent (FTE)

Table 9A2.9 Anticipated Construction (CE Case) Aircraft Traffic – Hackett River Project

Period (Jan 1 to Dec 31)	Type	Number/Year	Years of Use
2037	Helicopters	4	1
2038	Helicopters	6	1
2039	Helicopters	6	1
2040	Helicopters	4	1
2037-2040	Small Aircraft (AGN II ¹) - e.g., Twin Otter	10	4
2037-2040	Medium Aircraft (AGN IIIA ²) - e.g., Dash 7	24	2

Notes:

¹ Aircraft Group Number II (AGN II)

² Aircraft Group Number IIIA (AGN IIIA)

Table 9A2.10 Anticipated Construction (CE Case) Vessel Traffic – Hackett River Project

Open Water Season ¹ (Jun to Oct)	Type ²	Number/Season	Years of Use
2037-2040	Barges / Tugs	2	4
2040	Fuel Tankers	1	1
2037-2040	Cargo Ships (e.g., freighter)	2	4

Notes:

- ¹ The annual open water season typically extends from late June through October, although the number of ice-free days suitable for navigation varies from year to year.
- ² Two berths at the Grays Bay Port will be available for large vessels, but specific berth users (e.g., Canadian Coast Guard, Sealifts) at any given time are not defined.

Table 9A2.11 Anticipated Construction (CE Case) Equipment – Grays Bay Road and Port Phase 2 – Jericho Mine to NT Border

Construction Activity	Equipment Type	Avg Number/Year	Avg Hours/Year
Road Construction (Jan 1, 2041 – Dec 31, 2043)	Dozer (D6/D9)	10	14,890
	Excavator (Cat 349)	12	16,000
	Haul Truck (Cat 773)	20	41,983
	Loader (Cat 966)	10	12,857
	Grader (Cat 14)	2	2,644
	Packer (CS563)	2	3,016
	Sand / Gravel / Water Truck	4	3,200
	Fuel / Fuel Lube Truck	12	17,500
	Light Vehicle (F-350)	30	45,000

Table 9A2.12 Anticipated Construction (CE Case) Fuel Consumption – Grays Bay Road and Port Phase 2 – Jericho Mine to NT Border

Construction Activity	Fuel Type	Avg L/Year (Fuel Burn)	Avg Hours/Year	Avg L/Hour
Road Construction (Jan 1, 2041 – Dec 31, 2043)	Diesel	3,693,600	112,091	33
	Jet-A	80,000	400	200

Table 9A2.13 Anticipated Construction (CE Case) Labour – Grays Bay Road and Port Phase 2 – Jericho Mine to NT Border

Construction Activity	Avg Labour Hours/Year	Avg Management FTE ¹ /Year	Avg Skilled FTE ¹ /Year	Avg Unskilled FTE ¹ /Year
Road Construction (Jan 1, 2041 – Dec 31, 2043)	560,453	26	128	103

Notes:

- ¹ Full Time Equivalent (FTE)

9A2.4.1.1 Anticipated Direction of Vessel Transit and Ground-based Traffic during Construction (Cumulative Effects Case)

Vessel activity associated with the RFI Physical Activities during the anticipated CE Case Construction period (2032–2040) is expected to include barges, tugs, fuel tankers, and cargo vessels operating through the Grays Bay Port.

Vessel movements are described as transits, representing one-way navigation events (e.g., travelling to or from Grays Bay Port). Each vessel is assumed to complete one round trip per season, resulting in one inbound and one outbound transit.

In addition to RFI Physical Activity vessel traffic, security vessels, such as Arctic and Offshore Patrol Ships (AOPS) operated by the Canadian Coast Guard, may also utilize Grays Bay Port during the CE Case Construction period. It is anticipated that one security vessel transit eastbound toward Quebec and one transit westbound toward the Inuvialuit Settlement Region (ISR) may occur per open water season.

Table 9A2.14 Anticipated Vessel Direction of Transit and Frequency during the Construction (CE Case¹) phase of RFI Physical Activities/Projects

Vessel Type	Approximate Annual Frequency (2032-2040 ²)	
	Via East / Quebec ³	Via West / ISR ³
Barges/Tugs ⁵	-	2 per season
Fuel Tankers	1 per season	-
Cargo Ships (e.g., freighter)	2 per season	-
Security Vessels (e.g., AOPS ⁴)	1 per season	1 per season

Notes:

- 1 "CE Case", or Cumulative Effects Case, represents only reasonably foreseeable induced vessel traffic.
- 2 The annual open water season typically extends from late June through October, although the number of ice-free days suitable for navigation may vary from year to year.
- 3 "Via Quebec/East" and "Via ISR/West" refer to the anticipated directional routes of vessel traffic—either eastbound toward Quebec or westbound toward the Inuvialuit Settlement Region (ISR).
- 4 AOPS = Arctic and Offshore Patrol Ships (operated by the Canadian Coast Guard; represents non-Grays Bay Road and Port Project vessel use of the Port)

Table 9A2.15 Anticipated Ground-Based Traffic Direction of Travel and Frequency during the Construction (CE Case)¹ phase of RFI Physical Activities/Projects

Ground-Based Traffic Type	Approximate Annual Frequency (2032-2040)	
	Via TCWR ^{2,3}	Via ISR ³
Truckloads (e.g., materials and equipment)	-	90 per year ⁴

Notes:

- 1 "CE Case" or Cumulative Effects Case, represents only reasonably foreseeable induced ground-based traffic.
- 2 Seasonal construction of the Tibbitt to Contwoyto Winter Road (TCWR) typically begins in December/January and operates until the end of March or beginning of April, based on ice conditions.
- 3 "Via TCWR" and "Via ISR" refer to the anticipated directional routes of ground-based traffic to or from the Project—either on the TCWR or within the Inuvialuit Settlement Region (ISR).
- 4 For each barge staged at Inuvik or Tuktoyaktuk, it is expected to require approximately 45 inbound truckloads, transported through the ISR from the Yukon border to the respective staging facilities.

9A2.4.2 Operations (Cumulative Effects Case)

This subsection summarizes anticipated operations phase RFI Physical Activity metrics between 2035 and 2055, averaged across all three RFI Physical Activities (see Section 9A.2). Metrics include equipment usage, fuel consumption, labour hours, air, marine, and road traffic associated with mine and spur/access road operations. Where applicable, values include averages, and minimum and maximum annual quantities to reflect operational variability over time. Maximum values represent a “worst case” scenario and would be the maximum operation conditions for a conservative assessment.

Table 9A2.16 Anticipated Operations (CE Case) Equipment – RFI Physical Activities/Projects

Operations Activity	Equipment Type	Avg Number/Year	Avg Hours/Year
Increased Road Operations (Jan 1, 2035 – Dec 31, 2055)	Excavator (Cat 349)	2	1800
	Grader (Cat 14)	4	14610
	Plow / Sand / Gravel / Water Truck	4	14600
	Snowcat	2	1800
	Fuel trucks	2	7305
	Light Vehicle - e.g., F-350	4	14610
Mine Operations (Jan 1, 2035 – Dec 31, 2055)	Concentrate Haul Trucks - e.g., Super B	30.71 (7, 60)	147,321 (35451, 290268)
	Loader - e.g., Cat 966	5.33 (4, 8)	19,466 (14600, 29200)
	Grader - e.g., Cat 14	2.67 (2, 4)	9,733 (7300, 14600)
	Plow / Sand / Gravel / Water Truck	5.33 (4, 8)	19,466 (14600, 29200)
	Winch Tractor Trailer	2.67 (2, 4)	9,733 (7300, 14600)
	Dozer - e.g., Cat D6 / D8	8.00 (6, 12)	14,600 (10950, 21900)
	Haul Truck - e.g., Cat 773	33.33 (25, 50)	73,000 (54750, 109500)
	Skid steer / Bobcat	5.33 (4, 8)	19,466 (14600, 29200)
	Light Vehicle - e.g., F-350	40.00 (30, 60)	73,000 (54750, 109500)
Spur Road Operations (Jan 1, 2035 – Dec 31, 2055)	Excavator (Cat 349)	2 (1, 4)	1,843 (900, 3600)
	Grader (Cat 14)	4 (2, 8)	14,948 (7300, 29200)
	Plow / Sand / Gravel / Water Truck	4 (2, 8)	14,948 (7300, 29200)
	Snowcat	2 (1, 4)	5,631 (2750, 11000)
	Fuel trucks	4 (2, 8)	14,948 (7300, 29200)
	Light Vehicle - e.g., F-350	12 (6, 24)	44,874 (21900, 87840)

Table 9A2.17 Anticipated Operations (CE Case) Fuel Consumption – RFI Physical Activities/Projects

Construction Activity	Fuel Type	Avg L/Year (Fuel Burn)	Avg Hours/Year
Road Operations (Jan 1, 2035 – Dec 31, 2055)	Diesel	4,667,049	107,040
Mine Operations (Jan 1, 2035 – Dec 31, 2055)	Diesel - Equipment	18,548,866	280,388
	Diesel – Mines	92,857,143	
Port Operations (Jan 1, 2035 – Dec 31, 2055)	Jet-A	195,541	-

Table 9A2.18 Anticipated Operations (CE Case) Labour – RFI Physical Activities/Projects

Operations Activity	Avg Labour Hours/Year	Avg Management FTE/Year	Avg Skilled FTE/Year	Avg Unskilled FTE/Year
Road Operations (Jan 1, 2035 – Dec 31, 2055)	2,140,881	10	49	39
Miner Operations (Jan 1, 2035 – Dec 31, 2055)	560,775	26	128	103

Table 9A2.19 Anticipated Operations (CE Case) Aircraft Traffic – RFI Physical Activities/Projects

Period (Jan 1 to Dec 31)	Type	Avg (Min, Max) Number/Year
2035-2055	Small Aircraft (AGN II ¹) - e.g., Twin Otter	8 (6, 12)
	Medium Aircraft (AGN IIIA ²) - e.g., Dash 7	35 (26, 52)
	Large Aircraft (AGN IVA ³) – e.g., Hercules (C-130)	2 (2, 2)
	Helicopters	5 (8, 4)

Notes:

¹ Aircraft Group Number II (AGN II)

² Aircraft Group Number IIIA (AGN IIIA)

³ Aircraft Group Number IVA (AGN IVA)

Table 9A2.20 Anticipated Operations (CE Case) Vessel Traffic – RFI Physical Activities/Projects

Open Water Season ¹ (Jul 1 to Oct 31)	Type ²	Number/Season
2035-2055	Concentrate Ships ³	Up to 30
	Barges / Tugs	3
	Fuel Tankers	1
	Cargo Ships (e.g. freighters)	2

Notes:

- ¹ The annual open water season typically extends from late June through October, although the number of ice-free days suitable for navigation varies from year to year.
- ² Two berths at the Grays Bay Port will be available for large vessels, but specific berth users (e.g., Canadian Coast Guard, Sealifts) at any given time are not defined.
- ³ The number of concentrate ships is based on an estimate of up to 15 ships loading mineral concentrates at the Port in 2035, increasing to up to 30 ships by 2040.

9A2.4.2.1 Anticipated Direction of Vessel Transit and Ground-based Traffic during Operations (Cumulative Effects Case)

During the anticipated RFI Physical Activity CE Case Operations (2035–2055), vessel traffic utilizing the Grays Bay Port is expected to include barges, tugs, fuel tankers, cargo vessels, and concentrate ships.

Vessel movements are described as transits, representing one-way navigation events (e.g., travelling to or from Grays Bay Port). Each vessel is assumed to complete one round trip per season (one inbound and one outbound transit).

Consistent with CE Case Construction phase assumptions, vessel traffic is expected to be evenly distributed between eastbound routes toward Quebec and westbound routes toward the ISR. Security vessels, such as AOPS operated by the Canadian Coast Guard, may utilize Grays Bay Port; their transits are likewise assumed to be split evenly between eastbound and westbound shipping routes.

Table 9A2.21 Anticipated Vessel Direction of Transit and Frequency during the CE Case¹ Operations of RFI Physical Activities/Projects

Vessel Type	Approximate Annual Frequency (2035-2055 ²)	
	Via East / Quebec ³	Via West / ISR ³
Concentrate Ships ⁴	Up to 15 per season	Up to 15 per season
Barges/Tugs	-	3 per season
Tugs at Grays Bay Port	-	-
Fuel Tankers	1 per season	-
Cargo Ships (e.g., freighter)	2 per season	-
Security Vessels (e.g., AOPS ⁵)	2 per season	2 per season

Notes:

- ¹ "CE Case" or Cumulative Effects Case, represents only reasonably foreseeable induced vessel traffic.
- ² The annual open water season typically extends from late June through October, although the number of ice-free days suitable for navigation varies from year to year.
- ³ "Via Quebec/East" and "Via ISR/West" refer to the anticipated directional routes of vessel traffic—either eastbound toward Quebec or westbound toward the Inuvialuit Settlement Region (ISR).
- ⁴ The number of concentrate ships is based on an estimate of up to 15 ships loading mineral concentrates at the Port in 2035, increasing to up to 30 ships by 2040. WKR estimates that half of these vessels will travel westbound and half travel eastbound, resulting in the vessel traffic estimates above.
- ⁵ AOPS = Arctic and Offshore Patrol Ships (operated by the Canadian Coast Guard; represents non-Grays Bay Road and Port Project vessel use of the Port).

Table 9A2.22 Anticipated Ground-Based Traffic Direction of Travel and Frequency during the CE Case¹ Operations of RFI Physical Activities/Projects

Ground-Based Traffic Type	Approximate Annual Frequency (2035-2055)	
	Via TCWR ^{2, 3}	Via ISR ³
Truckloads (e.g., materials and equipment)	Up to 1000 per winter road season	135 per year ⁴

Notes:

- ¹ "CE Case" or Cumulative Effects Case, represents only reasonably foreseeable induced ground-based traffic.
- ² Seasonal construction of the Tibbitt to Contwoyto Winter Road (TCWR) typically begins in December/January and operates until the end of March or beginning of April, based on ice conditions.
- ³ "Via TCWR" and "Via ISR" refer to the anticipated directional routes of ground-based traffic to or from the Project—either on the TCWR or within the Inuvialuit Settlement Region (ISR).
- ⁴ For each barge staged at Inuvik or Tuktoyaktuk, it is expected to require approximately 45 inbound truckloads, transported through the ISR from the Yukon border to the respective staging facilities.

Table 9A2.23 Summary of Annual Project-related and Reasonably Foreseeable Induced Vessel Traffic During Operations and Maintenance (2035-2055)¹

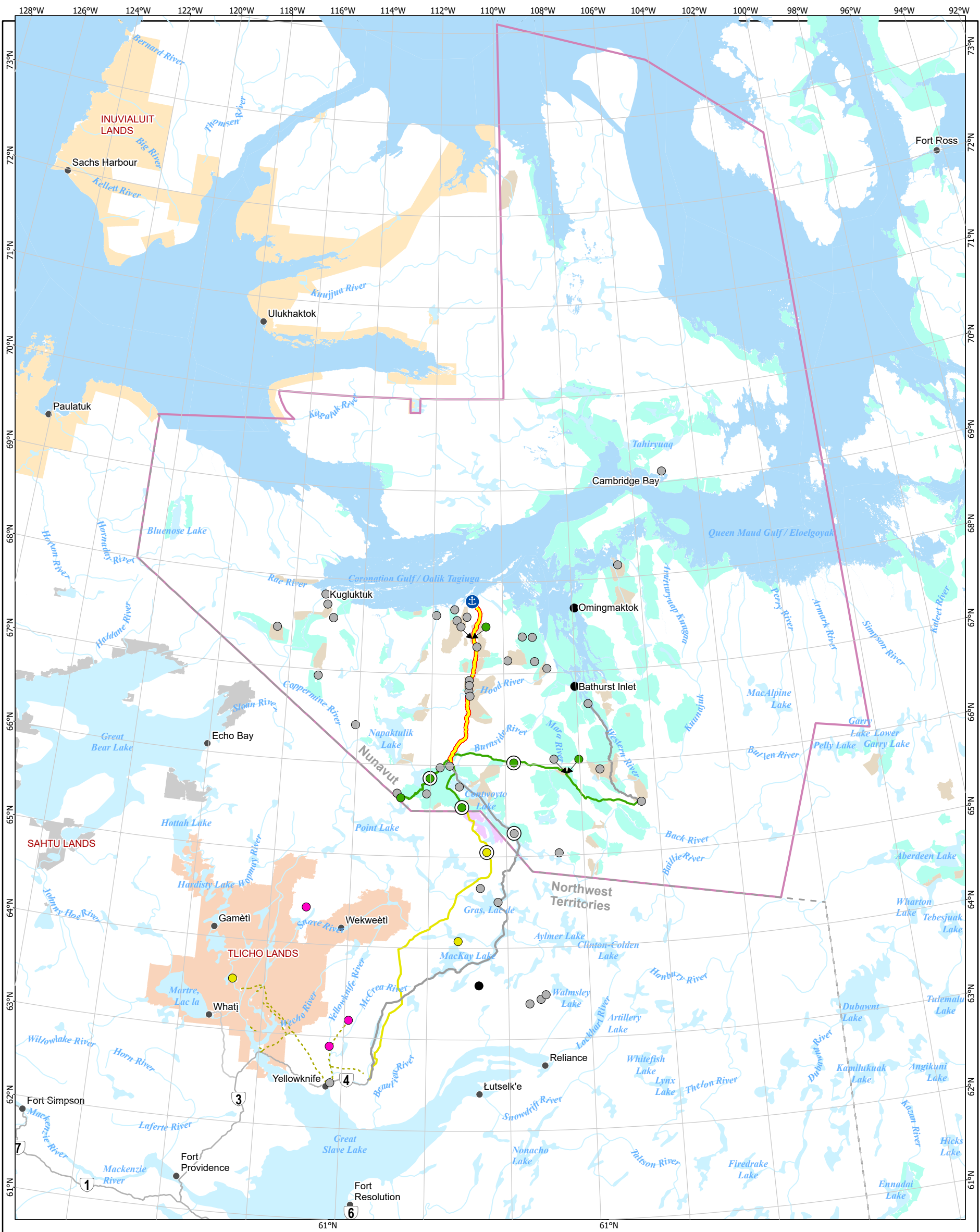
Vessel Type	Via Quebec/East ²		Via ISR / West ²		Totals	
	Project	Cumulative ³	Project	Cumulative ³	Project	Cumulative ³
Concentrate Ships ⁴	–	Up to 15	–	Up to 15	–	Up to 30
Barges / Tugs	–	–	–	3	–	3
Tugs (at the Port)	3	–	–	–	3	–
Fuel Tankers	1	1	–	–	1	1
Cargo Ships (e.g., freighter)	1	2	–	–	1	2
Security Vessels (e.g., AOPS ⁵)	–	2	–	2	–	4
Vessel Totals	5	20	–	20	5	40

Notes:

- ¹ Vessels are expected to call into Grays Bay seasonally, during the open-water period, typically from late June through October, with some annual variation.
- ² “Via Quebec/East” and “Via ISR/West” refer to the anticipated directional routes of vessel traffic—either eastbound toward Quebec or westbound toward the Inuvialuit Settlement Region (ISR).
- ³ “Cumulative” totals represent reasonably foreseeable induced vessel traffic only and exclude Project-related vessels.
- ⁴ The number of concentrate ships is based on an estimate of up to 15 ships loading mineral concentrates at the Port in 2035, increasing to up to 30 ships by 2040. WKR estimates that half of these vessels will travel westbound and half travel eastbound, resulting in the vessel traffic estimates above.
- ⁵ AOPS: Arctic and Offshore Patrol Ships (operated by the Canadian Coast Guard; represents non-Grays Bay Road and Port Project vessel use of the Port).

Attachment 9A3

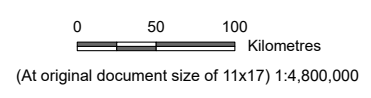
Figures: Physical Activities Overview and Details



Notes
 1. Coordinate System: WGS 1984 UTM Zone 12N
 2. Data Sources: Governments of Nunavut, Northwest Territories and Canada, Stantec, Bathurst Caribou Herd Range from Environmental Dynamics Inc.

- Mining Activity Temporal Category**
- Past
 - Present
 - Past / Reasonably Foreseeable
 - Reasonably Foreseeable
 - Reasonably Foreseeable Induced
 - Road Project
 - Reasonably Foreseeable
 - Reasonably Foreseeable Induced
 - Existing Winter Road Route
 - Existing Road
 - ⊕ Grays Bay Port
 - Grays Bay Road
 - Land Use Regional Assessment Area

- Community
- Powerline
- - - Territorial Boundary
- Watercourse
- Inuvialuit Lands
- Sahtu Lands
- Tlicho Lands
- Inuit Owned Land
 - Article 41
 - Subsurface
 - Surface Only
- Ocean
- Waterbody



Project Location: West Kitikmeot Region, Nunavut
 Prepared by DSPRY on 2026-02-05
 TR by SLEMAY on 2026-02-05

Client/Project: 123514886_040a

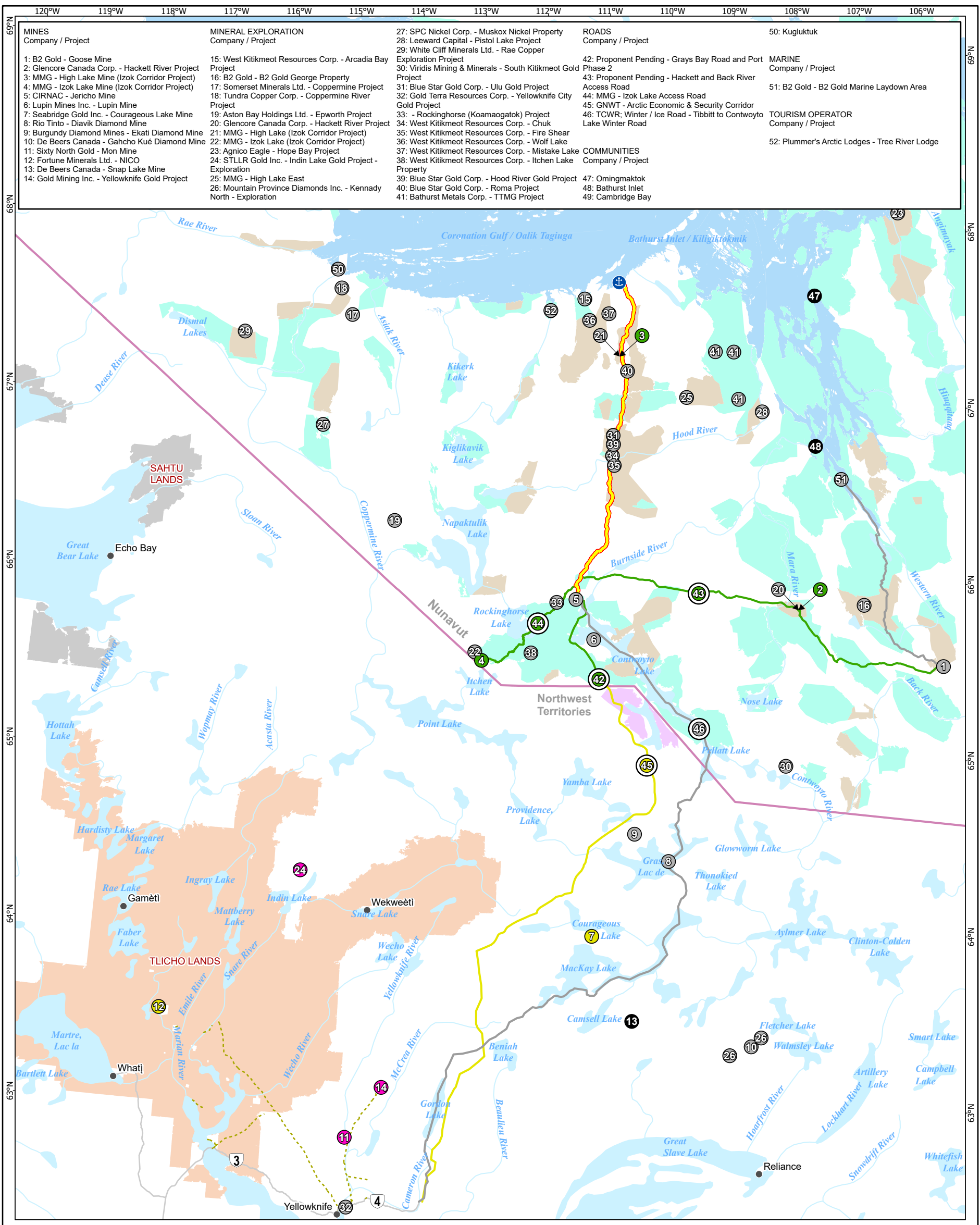
West Kitikmeot Resources Corp
 Grays Bay Road and Port

Figure No. **9A3.1**

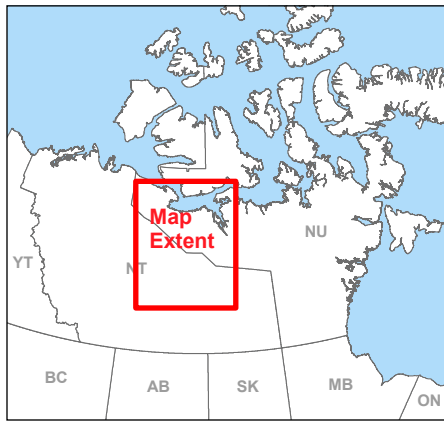
Project Inclusion List: Physical Activities Overview

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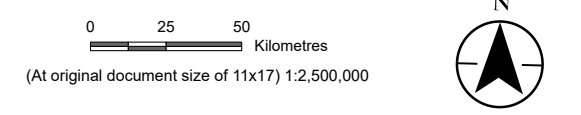
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MINES Company / Project	MINERAL EXPLORATION Company / Project	ROADS Company / Project	MARINE Company / Project
1: B2 Gold - Goose Mine	15: West Kitikmeot Resources Corp. - Arcadia Bay Project	42: Proponent Pending - Grays Bay Road and Port Phase 2	51: B2 Gold - B2 Gold Marine Laydown Area
2: Glencore Canada Corp. - Hackett River Project	16: B2 Gold - B2 Gold George Property	43: Proponent Pending - Hackett and Back River Access Road	
3: MMG - High Lake Mine (Izok Corridor Project)	17: Somerset Minerals Ltd. - Coppermine Project	44: MMG - Izok Lake Access Road	
4: MMG - Izok Lake Mine (Izok Corridor Project)	18: Tundra Copper Corp. - Coppermine River Project	45: GNWT - Arctic Economic & Security Corridor	
5: CIRNAC - Jericho Mine	19: Aston Bay Holdings Ltd. - Epworth Project	46: TCWR: Winter / Ice Road - Tibbitt to Contwoyto Lake Winter Road	
6: Lupin Mines Inc. - Lupin Mine	20: Glencore Canada Corp. - Hackett River Project		
7: Seabridge Gold Inc. - Courageous Lake Mine	21: MMG - High Lake (Izok Corridor Project)		
8: Rio Tinto - Diavik Diamond Mine	22: MMG - Izok Lake (Izok Corridor Project)		
9: Burgundy Diamond Mines - Ekati Diamond Mine	23: Agnico Eagle - Hope Bay Project		
10: De Beers Canada - Gahcho Kué Diamond Mine	24: STLLR Gold Inc. - Indin Lake Gold Project - Exploration		
11: Sixty North Gold - Mon Mine	25: MMG - High Lake East		
12: Fortune Minerals Ltd. - NICO	26: Mountain Province Diamonds Inc. - Kennady North - Exploration		
13: De Beers Canada - Snap Lake Mine			
14: Gold Mining Inc. - Yellowknife Gold Project			
	27: SPC Nickel Corp. - Muskox Nickel Property		
	28: Leeward Capital - Pistol Lake Project		
	29: White Cliff Minerals Ltd. - Rae Copper Exploration Project		
	30: Viridis Mining & Minerals - South Kitikmeot Gold Project		
	31: Blue Star Gold Corp. - Ulu Gold Project		
	32: Gold Terra Resources Corp. - Yellowknife City Gold Project		
	33: - Rockinghorse (Koamaogatok) Project		
	34: West Kitikmeot Resources Corp. - Chuk		
	35: West Kitikmeot Resources Corp. - Fire Shear		
	36: West Kitikmeot Resources Corp. - Wolf Lake		
	37: West Kitikmeot Resources Corp. - Mistake Lake		
	38: West Kitikmeot Resources Corp. - Itchen Lake Property		
	39: Blue Star Gold Corp. - Hood River Gold Project		
	40: Blue Star Gold Corp. - Roma Project		
	41: Bathurst Metals Corp. - TTMG Project		
		47: Omingmaktok	
		48: Bathurst Inlet	
		49: Cambridge Bay	
			52: Plummer's Arctic Lodges - Tree River Lodge



Mining Activity Temporal Category		Inuit Owned Land	
● Past	● Community	■ Article 41	■ Subsurface
● Present	--- Powerline	■ Surface Only	■ Ocean
● Past / Reasonably Foreseeable	- - - Territorial Boundary	■ Waterbody	
● Reasonably Foreseeable	— Watercourse		
● Reasonably Foreseeable Induced	■ Sahtu Lands		
● Road Project	■ Ticho Lands		
— Reasonably Foreseeable			
— Reasonably Foreseeable Induced			
— Existing Winter Road Route			
— Existing Road			
⊕ Grays Bay Port			
— Grays Bay Road			
— Land Use Regional Assessment Area			

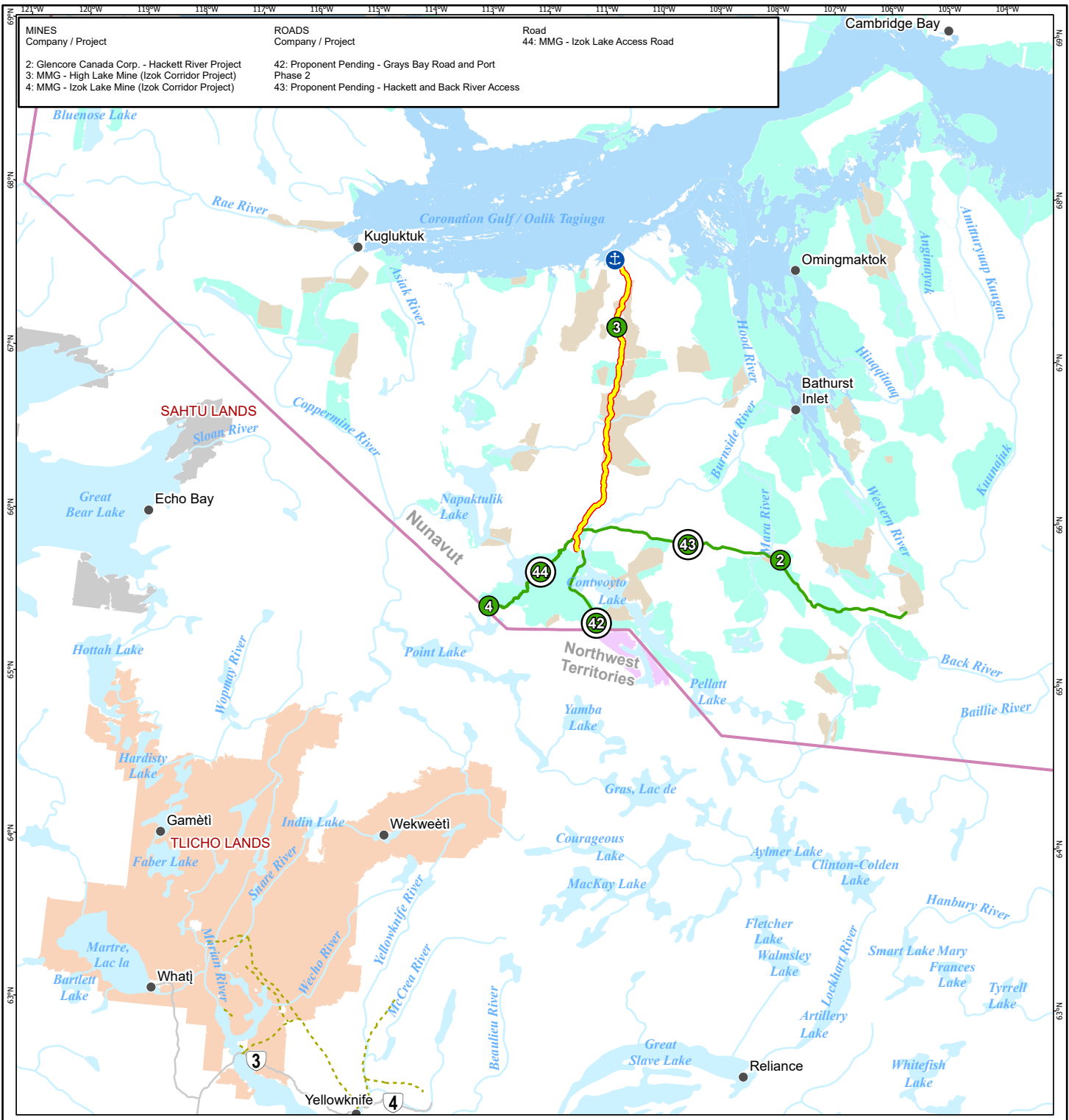


Project Location: West Kitikmeot Region, Nunavut
 Client/Project: West Kitikmeot Resources Corp Grays Bay Road and Port
 Prepared by DSPRY on 2026-02-05
 TR by SLEMAY on 2026-02-05
 123514886_040b

Figure No. **9A3.2**
 Title **Project Inclusion List: Physical Activities Details**

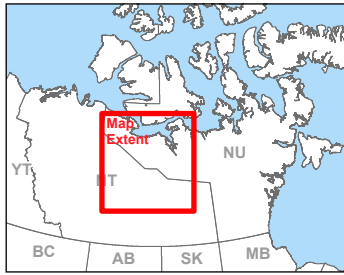
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 Revised: 2026-02-05 By: dspry

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MINES Company / Project	ROADS Company / Project	Road
2: Glencore Canada Corp. - Hackett River Project	42: Proponent Pending - Grays Bay Road and Port Phase 2	44: MMG - Izok Lake Access Road
3: MMG - High Lake Mine (Izok Corridor Project)	43: Proponent Pending - Hackett and Back River Access	
4: MMG - Izok Lake Mine (Izok Corridor Project)		

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Mining Activity Temporal Category

- Reasonably Foreseeable Induced
- Road Project
- Reasonably Foreseeable Induced
- Existing Road
- ⚓ Grays Bay Port
- Grays Bay Road
- Land Use Regional Assessment Area

Community

- Community

Powerline

- Powerline

Territorial Boundary

- Territorial Boundary

Watercourse

- Watercourse

Sahtu Lands

- Sahtu Lands

Tlicho Lands

- Tlicho Lands

Inuit Owned Land

- Article 41
- Subsurface
- Surface Only
- Ocean
- Waterbody



Project Location: West Kitikmeot Region, Nunavut
 Client/Project: West Kitikmeot Resources Corp, Grays Bay Road and Port
 Prepared by USPRV on 2026-02-05
 TR by SLSMAY on 2026-02-05
 123514888_117

Figure No.: **9A3.3C**
 Title: **Project Inclusion List: Reasonably Foreseeable Induced Physical Activities**

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